Over 100 incoming freshmen and transfer students got a jump on their college career by participating in a new welcome event, titled: *Head Start: A Formal Introduction to Engineering at UH Mānoa*. The event was held just prior to the start of the Fall 2009 semester on August 21st and was also attended by over 100 interested parents.

“The purpose for creating *Head Start* was to provide our new engineering students with the necessary information to help them successfully navigate their courses,” said Dean Peter Crouch. “We also wanted to assure their parents that the College has many resources in place to make their son’s or daughter’s journey a little smoother.”

To prove that engineering is not just for the boys, attendees were treated to an informative talk by guest speaker Jadine Urasaki (CE, ’92), public works manager for the Construction Management Section of the state Department of Education. Urasaki previously served as deputy director for the state Department of Transportation.

Students and parents heard from faculty members in Civil and Environmental (Peter Nicholson, Michelle Teng), Electrical (Aaron Ohta, Wayne Shiroma) and Mechanical (Scott Miller, Yi Zuo) engineering departments about their respective disciplines, their cutting-edge research and opportunities for students to become involved in these projects while in school. Tep Dobry, director for Academic Affairs, answered many last-minute questions or concerns, while representatives from the Engineering Alumni Association of the University of Hawai‘i and various engineering student organizations were on hand to welcome the new students. Industry representatives from Oceanit, Pipeline Micro, SSFM International and the Pearl Harbor Naval Shipyard also participated and got a preview of potential future employees.
A Message from the Dean

Moving Forward…

When you look around today, it seems like there is bad news around every corner. Like the rest of the state, the University of Hawai‘i at Mānoa College of Engineering is not immune to these challenging times. Despite these challenges, I’m proud that our College, our students and our alumni continue to make achievements and strides in many areas.

This academic year, our incoming freshmen enrollment is showing a double digit increase over last year’s numbers. As an added plus, this group includes a significant number of the university’s Regents and Presidential Scholars – our brightest stars. Our student teams have also done extremely well in national engineering competitions.

Our faculty isn’t resting on their laurels either. This year, we have two National Science Foundation CAREER Award winners, a UH Board of Regents’ Medal for Excellence in Teaching winner and a Northrop Grumman Teaching Award recipient.

Finally, alums Ken Hayashida and Glenn Nohara are diligently working with College’s alumni association to bring you another enjoyable homecoming event in early November.

As you can see, everyone is working harder, smarter and together to ensure the health and success of the UH Mānoa College of Engineering though these tough times. We look forward to your continued support to keep us moving forward.

Aloha!

Peter E. Crouch
Dean

Top Scholars Select Engineering

In addition to the projected increase in enrollment this year, the College of Engineering has been selected as the school of choice by seven Regents Scholars and one Presidential Scholar.

Regents scholarships are awarded to 20 outstanding freshmen each fall. To qualify for this scholarship, awardees must earn a 3.5 cumulative high school GPA and achieve a combined score of at least 1950 on their SAT or a 29 on their ACT. They must also show remarkable extracurricular achievements. Scholars receive a full tuition waiver for four years of undergraduate study.

Presidential scholarships are awarded to 10 college juniors who have a minimum GPA of 3.7 for all college level work, a record of sustained progress in academic courses and display superior academic achievement or creativity. Scholars receive a full tuition waiver for two years of undergraduate study.

Recipients of both scholarships additionally receive $4,000 a year and a one-time travel grant of $2,000.

“We are absolutely ecstatic to see a good number of the university’s most prestigious scholars interested in engineering,” said Bruce Liebert, interim associate dean for Academic Affairs. “These young men and women are leaders in the classroom as well as the community, and we look forward to them joining our family at Holmes Hall.”
**Engineering Dean’s Council**

Recognizing the need to foster close ties between the College and its stakeholders, Dean Peter Crouch established the College of Engineering Dean’s Council in December 2007. The Council, which convenes twice a year, comprises of 32 members representing alumni and leaders of business, industry and community that employ its graduates and collaborate with the College’s research, education and outreach programs.

Their primary role is to provide support in the following areas:

- Create new channels of opportunity with local and mainland contacts to support research, education and outreach efforts of the College.
- Serve as College advocates with university administration, government leaders, legislative and other important entities.
- Provide valuable input and expertise on the College’s priorities, strategies, educational programs and research, as well as create new opportunities in funding and strategic partnerships.

“Our members represent a significant cross-section of the local engineering community,” said Dean Crouch. “Their advice and experience are invaluable in shaping the future of the UH Mānoa College of Engineering.”

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**College of Engineering Dean’s Council Members**

- **Peter E. Crouch**, dean, UH Mānoa College of Engineering, convener
- **Norman Abramson**, emeritus professor, UH Mānoa College of Engineering
- **Robert Y. Akinaka**, chairman, Akinaka and Associates
- **John Arizumi**, president, Carrier Hawaii
- **Charlie Bass**, trustee, The Bass Trust; owner, Ahonui Gardens
- **Jade Danner**, president, Hawaiian Homestead Technologies, Inc.
- **Bennette Misalucha Evangelista**, senior advisor, Acus Lend Lease; president, Red Monarch Communication
- **Kelli Goodin**, vice president and chief operating officer, Pukaa Scientific
- **Eric Griffith**, president, Pipeline Micro
- **Ken Hayashida**, president, KAI Hawaii
- **Dennis I. Hiroti**, president, Sam O. Hiroti, Inc.
- **Galen Ho**, president, Galen Enterprise LLC; consultant, BAE Systems
- **Ronald N.S. Ho**, president, Ronald N.S. Ho and Associates
- **Nelson Kanemoto**, president and chief executive officer, Referentia Systems
- **Maurice Kaya**, technical director, Pacific International Center for High Technology Research
- **Darren Kimura**, president and chief executive officer, Sopogy

- **Paul V. Luersen**, vice president, CH2M Hill
- **Terry Magee**, vice president, Lockheed Martin Information Systems and Global Services
- **Fujio Matsuda**, emeritus president, University of Hawai‘i
- **Michael P. Matsumoto**, president and chief executive officer, SFFM International, Inc.
- **Mark Mekaru**, vice president, SAIC
- **Glenn Nohara**, president, Koga Engineering & Construction, Inc.
- **Sheryl E. Nojima**, president, Hong Nojima and Associates
- **Henk Rogers**, president and chief executive officer, Blue Planet Software
- **Karl Stahlkopf**, partner and director, Sennet Renewables
- **Dwight C. Streit**, vice president, Northrop Grumman Space Technology
- **Patrick Sullivan**, president, Oceanit
- **Jim Tollefson**, president and chief executive officer, Chamber of Commerce of Hawaii
- **Leslie Wilkins**, vice president, Maui Economic Development Board, Inc.; program director, Women in Technology
- **Hank Wuh**, founder and chief executive officer, Cellular Bioengineering, Inc.
- **Alfred A. Yee**, president, Applied Technology Corp.
- **R.J. Zlatoper**, trustee, Estate of James Campbell

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**Steel) Bridge to Success**

The University of Hawai‘i at Mānoa’s steel bridge team placed first at the 2009 ASCE Pacific Southwest Regional Conference held this past April in Honolulu and qualified for the ASCE/AISC National Student Steel Bridge Competition for the third time in four years. By besting 16 other schools in the regional, the UH Mānoa team earned a spot as one of the country’s top 47 bridge teams and the right to compete in the nationals held at UNLV in late May.

The teams competed in six categories including construction speed, lightness, display, stiffness, economy and efficiency. Against fierce competition, the UH Mānoa team placed 11th overall, while taking 4th place in both the lightness and display categories and 7th place in construction speed. Previous UH Mānoa teams finished in 18th and 27th place.

“Over the past few years, our bridge teams have shown consistent improvement,” said Associate Professor Roger Babcock, ASCE Student Chapter advisor. “This year’s team did a tremendous job and we are already looking forward with high expectations to qualify for next year’s competition to be held at Purdue University.”

Congratulations to team members Eric Tomishima, Lori Higashi, Joel Reyes, Ben Ng and Brent Ching.

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**Hakulau**

_Hakulau_, “to make drawings or plans” in Hawaiian, is the newsletter for the College of Engineering at the University of Hawai‘i at Mānoa. It is published twice a year by the Marketing and Public Affairs Office, 2540 Dole Street, Holmes Hall 240, Honolulu, Hawai‘i 96822 and is circulated to the over 6,500 alumni and friends of the College of Engineering. If you have comments, suggestions, news, even an address change, please contact us at (808)956-7584 or e-mail hakulau@hawaii.edu.

**College of Engineering**

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The University of Hawai‘i at Mānoa is an equal opportunity/affirmative action institution.
Changing of the Guard: Hayashida and Nohara to Assume Alumni Leadership Roles

After a very successful engineering centennial homecoming last October spearheaded by Ron Ho and Bob Akinaka, the dynamic duo announced their wishes to pass on the leadership torch of future homecoming events to a new pair of leaders. Ken Hayashida (BSCE ’84) and Glenn Nohara (BSCE ’73), who both served on the centennial executive committee, have accepted these key roles.

Hayashida is president and principal engineer of KAI Hawai’i, a structural engineering company he founded in 1995. A 1979 graduate of Iolani School, Hayashida went on to earn his master’s in civil engineering from Stanford University. He was selected by the Hawai’i Society of Professional Engineers as the 2007 Engineer of the Year and is a member of the University of Hawai’i College of Engineering Industry Advisory Committee, Structural Engineers Association of Hawai’i, American Society of Civil Engineers, American Concrete Institute, American Institute of Steel Construction, American Water Works Association, Hawai’i Developers Council and NAIOP Hawai’i.

Nohara is president and chief operations officer for Koga Engineering. A 1969 graduate of Roosevelt High School, Nohara started with the company in 1984 as a general superintendent. Some of his noteworthy projects include the Honolulu International Airport Reef Runway, H-1 Airport Makai Viaduct, Honolulu Ocean Outfall (land portion), Mauna Lani Hotel and the Westin Kauai Hotel. Nohara currently serves as director, legislative committee chair and education foundation chair of the General Contractors Association of Hawaii, national director of AGC of America and is a trustee of both the Operating Engineers’ Training Fund and the Laborer’s Pension Fund.

“Ron and Bob left us with very big shoes to fill,” said Dean Crouch. “Fortunately, Ken and Glenn accepted the challenge and we look forward to working closely with them in their new roles.”

NSF CAREER Awards

Peter J. Berkelman, assistant professor of mechanical engineering, and Yingbin Liang, assistant professor of electrical engineering, have each received the National Science Foundation’s CAREER Award. The CAREER Award, one of NSF’s most prestigious and competitive awards for junior researchers, recognizes those who exemplify the role of teacher-scholar through outstanding research, excellent education and the integration of education and research.

Berkelman received a five-year, $534,356 grant for his proposal titled, “CAREER: High Fidelity Haptic Interaction using Large Range of Motion Magnetic Levitation Systems for Medical Applications.” The research proposal aims to improve the fidelity and effectiveness of human-machine haptic interaction using magnetic levitation devices in specific applications such as haptic medical skills training or upper limb rehabilitation.

Berkelman received his MS and BS in mechanical engineering from the Massachusetts Institute of Technology and his PhD from the Robotics Institute at Carnegie Mellon University.

Liang has been awarded a five-year, $399,998 award for her proposal titled, “CAREER: Secure Communication via Source and Channel Randomness.” The proposed research aims at providing a comprehensive framework to implement the emerging physical layer security approaches to practical wireless networks, which complement the traditional cryptographic approaches for security.

Liang received both a BS in physics and an MS in theoretical physics from Tsinghua University in China. She earned her PhD in electrical engineering from the University of Illinois at Urbana-Champaign.

The culinary creations of Chef d.k. Kodama will again highlight the College of Engineering’s homecoming celebration on Wednesday, November 4, 2009. The event, being crafted by the Engineering Alumni Association of the University of Hawai’i, will be held on the Mānoa campus. The food and festivities, which will begin at 5:30 P.M., will be preceded by a special presentation on sustainability at 3:30 P.M.

“We are pleased that Chef Kodama has agreed to be a part of our celebration once again,” said Glenn Nohara, event co-chair.

“Attendees at our November homecoming event can expect not only great world-class cuisine and a fun-filled evening with friends and colleagues, but also learn about exciting plans for our university and college.”

“Our Centennial event last year successfully marked the start of Dean Crouch’s vision to build a tradition of engineering at UH Mānoa,” said Ken Hayashida, event co-chair. “We look forward to bringing back more of our alumni to the Mānoa campus.”

For more information, please call (808) 956-7727.
Engineering Awarded $1 Million Sustainability Grant

Led by Anthony Kuh, professor and chair of the Electrical Engineering department, a team of UH Mānoa researchers was awarded a $1 million research grant on sustainability. The grant, funded by the Office of the Vice Chancellor for Research and Graduate Education, is designed to promote research to increase Hawaii’s self-sufficiency.

Known as the Renewable Energy and Island Sustainability (REIS) project, Kuh’s multi-disciplinary team is comprised of UH Mānoa faculty from the Colleges of Engineering, Social Sciences, Natural Sciences and the School of Ocean and Earth Science and Technology. Their task will be to conduct cutting edge research and to address education problems in renewable energy and island sustainability.

Plans call for a three-prong approach aimed at: 1) establishing a prominent national and international science and technology program in renewable energy to achieve island sustainability, 2) providing local and national renewable energy industries with subject expertise and knowledgeable and well-trained workforce, and 3) helping move the United States toward energy independence.

One of the projects under study by REIS is the “greening” of Holmes Hall. Under this initiative, plans call for reduction of its energy footprint via combinations of photovoltaic, wind energy, smart grid and green rooftop technologies.

Funding covers the first two years and anticipates the successful transition of the project to an externally funded program or center.

For more on REIS, please visit: reis.manoa.hawaii.edu/reis2/reis

CIMES Strengthens Strategic Partnerships

With its official opening last October on the UH Mānoa campus, the National Center for Island, Maritime & Extreme Environment Security or CIMES, continues to make steady progress. Led by a partnership between UH Mānoa’s College of Engineering and the School of Ocean and Earth Science and Technology (SOEST), CIMES is one of 13 U.S. Department of Homeland Security Centers of Excellence created to conduct basic research to protect the country from terrorist threats and national disasters.

Congressional Visit

On February 20, 2009, CIMES hosted a visit by members of Sen. Daniel K. Akaka’s Homeland Security and Governmental Affairs Committee on Oversight of Government Management. Led by staff member Joel Spangenberg, the group toured the facilities and heard presentations from faculty participating in CIMES research. The visit concluded with a roundtable discussion on future initiatives with officials, including UH Vice President for Research Jim Gaines, Engineering Dean Peter Crouch, SOEST Dean Brian Taylor, Maj. Gen. Vern Miyagi of the U.S. Pacific Command and Gary Jensen of the Department of Homeland Security.

Industry Day

Over 80 representatives from the local tech industry, university, state government and military attended the inaugural CIMES Industry Day at UH Mānoa. The event, held at the East West Center’s Hawaii Imin International Conference Center on April 7, 2009, showcased presentations by Department of Homeland Security sponsored investigators, including mechanical engineering associate professor John Allen and Hawaii Center for Advanced Communications Director Magdy Iskander. Industry presentations were made by BAE Systems, Raytheon, Lockheed Martin and Referentia Systems, Inc.

The event was organized to build understanding, relationships and collaboration among industry stakeholders in CIMES.
In the micromouse competition, student teams design and build an autonomous robot mouse that is controlled by a microprocessor and is no larger than 25 centimeters by 25 centimeters in size. Each mouse is given 10 minutes to learn the fastest route through the maze from the starting point to the center square.

“What our students accomplished was really amazing,” said Tep Dobry, director of Academic Affairs and micromouse project advisor. “Their hard work, dedication and ingenuity were all key elements to such an impressive win against stiff competition.”

Team members Alex Zamora and Tyson Seto-Mook built the winning micromouse, which completed the competition maze in 00:1:11.29, two minutes and 36 seconds ahead of another UH Mānoa entry. Of nine mice entered in the contest, UH Mānoa teams swept the top seven places in the maze competition, the top three positions in the packaging (construction and design) competition and first place in the student paper competition.

Weilin Qu, associate professor of mechanical engineering, was selected as a recipient of the 2009 Northrop Grumman Teaching Award. Recipients are chosen by peer review and receive both a certificate of recognition and a $2,000 award.

The Northrop Grumman award, established 29 years ago by TRW, was created to recognize faculty excellence at schools that provide a quality workforce pipeline to the company. To date, over 160 faculty from ten participating schools, including UCLA, Cal Poly, SDSU, CSULB, USC, UCSB, UCI, UCSD, Cal Poly Pomona and UH Mānoa, have received awards.

Reece Iwami, who graduated this past spring in electrical engineering, was named 2009 Student Engineer of the Year by the Hawaii Council of Engineering Societies and was recognized at the Engineers Week Banquet earlier this year.

Iwami was one of 20 students to receive a UH Board of Regents Scholarship as a graduating senior from Castle High School in 2005. A member of the UH Mānoa Cube Satellite (CubeSat) Program since his freshman year, Iwami took a lead role by assisting with a U.S. Air Force Office of Scientific Research proposal, co-authoring three publications and earning a NASA Space Grant Traineeship and Fellowship. In his senior year, he was awarded a $10,000 scholarship as one of 20 undergraduates recognized by the National Consortium for Measurement and Signature Intelligence Research to develop advance antenna solutions for the intelligence community. Iwami was active with the student chapter of Institute of Electrical and Electronics Engineers and served as president of the UH Mānoa chapter of the electrical engineering honor society Eta Kappa Nu.

“We are pleased that Reece was selected for this high honor by HCES,” said Wayne Shiroma, professor of electrical engineering. “It is great to see him receive much-deserved recognition for his outstanding achievements in engineering.”
New Department Chairs

The arrival of the new school year is also bringing new faces to the UH Mānoa College of Engineering's departmental leadership. Professors Clark C.K. Liu and Mehrdad Ghasemi Nejhad have been named chairs of the Civil and Environmental Engineering and the Mechanical Engineering departments, respectively. Liu takes over for Ronald Riggs, who served as chair for six years and Nejhad replaces Ronald Knapp, who served as interim chair for two years.

“I’d like to thank Ron Knapp and Ron Riggs for serving as department chairs,” said Dean Crouch. “We are facing challenging times ahead, but I look forward to working closely with both our new chairs and with our current EE Chair Tony Kuh in keeping the College of Engineering moving forward.”

Ghasemi Nejhad has been with the College of Engineering since 1992. His research interests include analytical/computational/experimental mechanics, thermomechanics, structural dynamics in design, analysis, manufacturing, and testing of composite, smart, and nanotechnology related structures and devices. He received his BS in mechanical engineering from the Sharif University of Technology, Iran, in 1980. Ghasemi Nejhad received both his MS and PhD in mechanical engineering from the University of Delaware in 1987 and 1992, respectively. He is an ASME Fellow and Boeing A.D. Welliver Faculty Fellow.

Liu’s research interests include environmental hydraulics, water and wastewater engineering, surface and sub-surface hydrology. Last year, Liu served as program director for environmental engineering for the National Science Foundation. He received his BS in agricultural and water resources engineering from National Taiwan University in 1966, his MS in civil engineering from the University of Mississippi in 1969 and his PhD in civil and environmental engineering from Cornell University in 1976. He has been with the College of Engineering since 1980.

Dinner with the Dean

In a continuing effort to better understand the needs and concerns of students in the College of Engineering, Dean Peter Crouch hosted an informal pizza and salad dinner on March 11th in Holmes Hall.

Attendees included the College’s Regents and Presidential scholars, and officers of various student engineering societies. Students were given an opportunity to share their positive experiences with the dean and his leadership team, as well as issues and challenges they encountered within the College and at UH Mānoa.

“It was very refreshing to hear directly from our main customers – our students,” said Dean Crouch. “Only by listening to them directly and understanding their experiences, can we expect to be responsive in addressing their needs in order to make their stay at UH Mānoa as rewarding and pleasant as possible.”

Future dinners are being planned.

Students who participated in last semester’s dinner were:

REGENTS SCHOLARS:
Ryan Daugherty Kevin Kim
Emily Gomes Miranda Li
Travis Hee Wai David Nagashima
Katherine Ishida Jillian Sumitomo
Reece Iwami Wade Tonaki
Ting Chen Wen

PRESIDENTIAL SCHOLAR:
Thanh Vu

HONOR SOCIETY OFFICERS:
Duke Hartman, Pi Tau Sigma (ME)
Reece Iwami, Eta Kappa Nu (EE)
Reef Ozaki-Train, Chi Epsilon (CEE)

Singh Nabs Regents’ Award

Vir Amarjit Singh, professor of civil and environmental engineering, has been named as a recipient of the 2009 University of Hawai‘i Board of Regents’ Medal for Excellence in Teaching. The award honors faculty members who have made significant contributions in teaching and student learning.

“Students have characterized Amarjit as an enthusiastic, dedicated, compassionate and motivating teacher who is willing to go the extra mile to help them learn,” said Dean Crouch. “We are thrilled that the regents chose to recognize him for his outstanding accomplishments in the classroom.”

Singh was recognized with other university recipients at a ceremony on September 15th.

Help Us Grow!

Make a gift to the UH Mānoa College of Engineering

Call (808) 956-2299 or visit www.eng.hawaii.edu/invest-in-the-college

Engineering students share a lighter moment with the dean, as Tep Dobry, dir. of Academic Affairs, looks on.
### Calendar of Events

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<td><strong>Fall Career Day</strong>&lt;br&gt;October 9, 2009</td>
<td><strong>Homecoming Celebration</strong>&lt;br&gt;November 4, 2009</td>
<td><strong>Engineering Convocation</strong>&lt;br&gt;December 18, 2009</td>
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<td><strong>Scholarship Celebration Luncheon</strong>&lt;br&gt;October 28, 2009</td>
<td><strong>High School Expo</strong>&lt;br&gt;November 13, 2009</td>
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For more information about upcoming College of Engineering events, please visit [www.eng.hawaii.edu/events](http://www.eng.hawaii.edu/events) or call (808) 956-7727.

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### 9TH Annual Alumni Banquet

The Hilton Hawaiian Village Coral Ballroom was filled with 800 alumni and friends to celebrate the UH Mānoa College of Engineering's 9th annual banquet held on April 16th. Guests were entertained by a question and answer segment with current students, a humbling presentation of volunteer work by students from Engineers Without Borders, and a glimpse at Hawaii's electric car future by guest speaker Pete Cooper of Better Place.

The evening was highlighted with the presentation of two special awards:

- **Distinguished Alumni Award**: Brenda McCaffrey (EE, ’85), president and founder of Kolea Technology. A successful entrepreneur and business leader, McCaffrey founded White Mountain Labs in 1999, which grew to a $3 million a year company in her eight years of ownership. Her current company, Kolea Technology, assists high tech start ups.

- **Distinguished Service Award**: Russell Figueiroa, president of R.M. Towill Corporation, for spearheading a successful corporate sponsorship drive for the College's Centennial Celebration held last October. In addition, R.M. Towill currently employees 30 UH Mānoa engineering graduates and through the company's philanthropic foundation, employee donation program and personal giving, Figueiroa has and continues to make valuable contributions to the university and the community.

Over $128,000 was raised from banquet proceeds and will go to benefit the College of Engineering.

Be sure to mark your calendar for next year's banquet scheduled for April 21, 2010.