

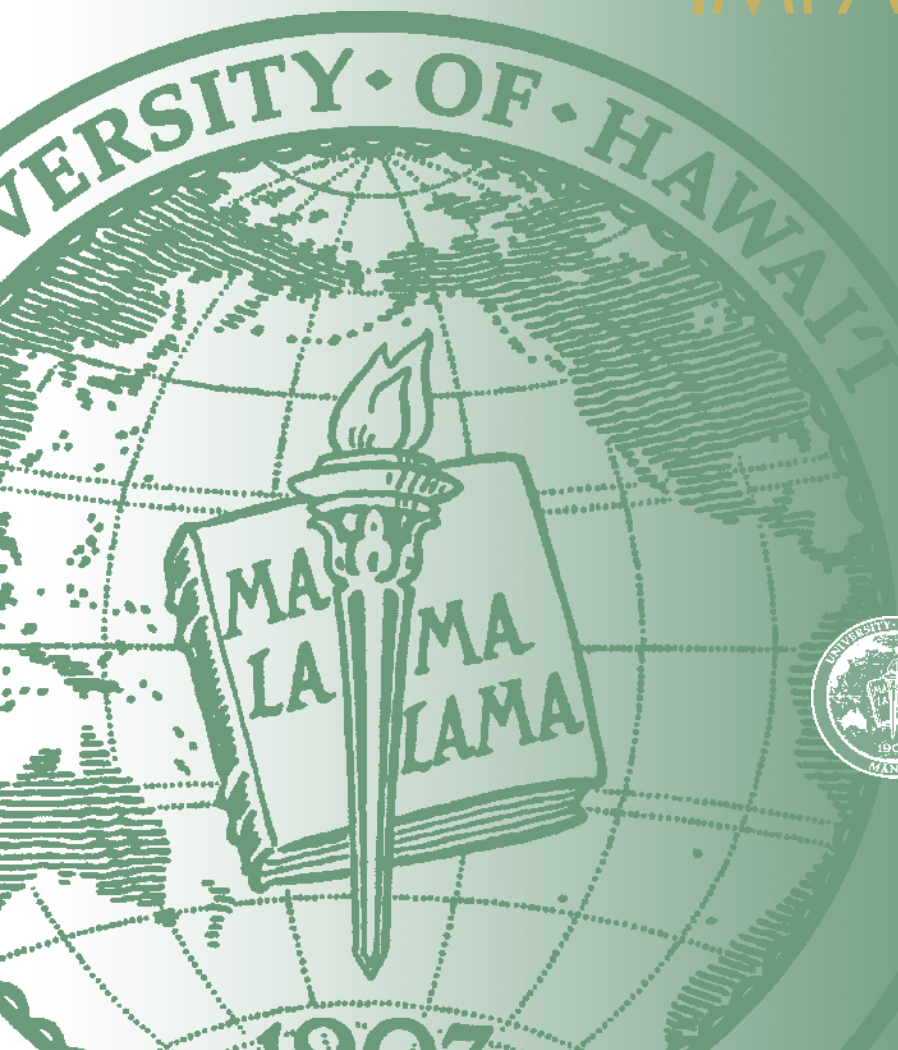
Diversifying, Sustaining, Strengthening



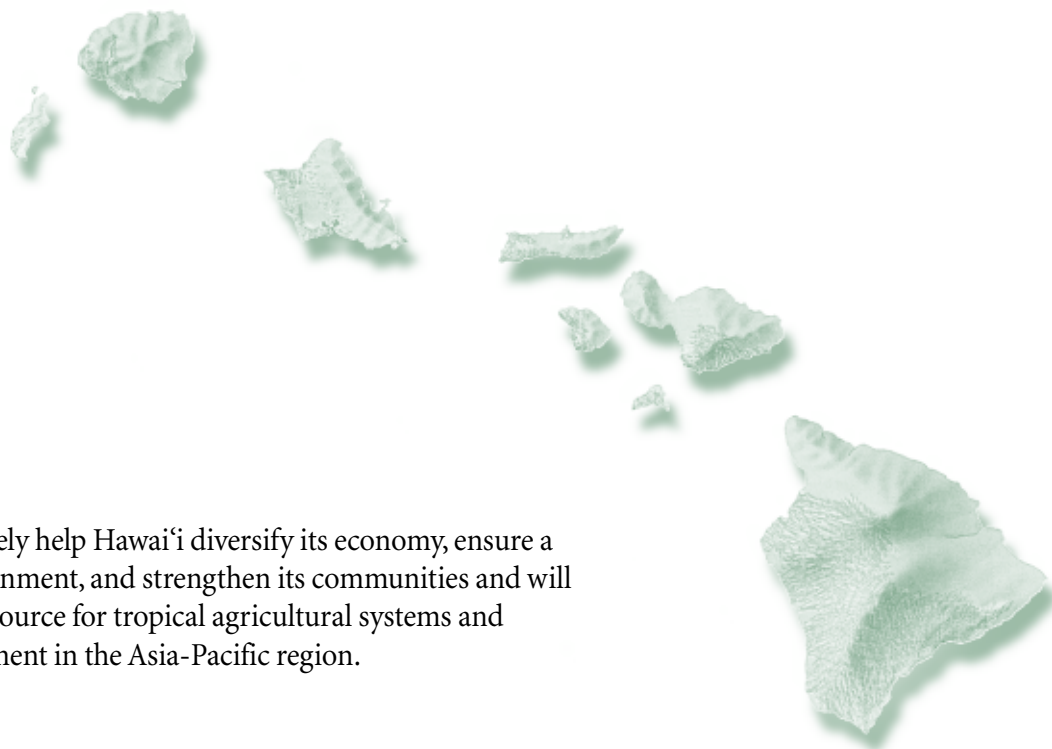
2004

IMPACT REPORT

Growing Together



**College of Tropical Agriculture
and Human Resources**
University of Hawai'i at Mānoa



VISION

CTAHR will actively help Hawai'i diversify its economy, ensure a sustainable environment, and strengthen its communities and will be the premier resource for tropical agricultural systems and resource management in the Asia-Pacific region.

MISSION

The College of Tropical Agriculture and Human Resources is committed to the preparation of students and all citizens of Hawai'i for life in the global community through research and educational programs supporting tropical agricultural systems that foster viable communities, a diversified economy, and a healthy environment.

INITIATIVES

- Provide an excellent and relevant student-centered learning environment.
- Create new economic opportunities through research.
- Transfer useful knowledge responsively to the community at large.



**College of Tropical Agriculture
and Human Resources**

University of Hawai'i at Mānoa

College of Tropical Agriculture and Human Resources— GROWING TOGETHER



“As we move forward from the flood, our growth in student enrollment and extramural funding gives us reason to celebrate.”

– Andrew Hashimoto,
Dean, CTAHR

We will not soon forget 2004. On the evening of October 30, the heavy rains of a fifty-year storm caused Mānoa Stream to overflow its banks and flood the University of Hawai‘i at Mānoa. Along with the Hamilton Library and the John A. Burns School of Medicine, the College of Tropical Agriculture and Human Resources (CTAHR) was among the units most affected by the flood. Only one of the college’s eight buildings on the Mānoa campus survived the storm unharmed. In the other buildings, water and mud inundated basements and ground floors. Power outages disrupted refrigeration, putting decades of research materials at risk. Damage to project-related equipment and supplies alone exceeds \$1 million, and repairing the buildings and infrastructure will require many millions more.

Despite its high costs, especially the loss of irreplaceable documents and samples, the flood reminds us of what really matters. We are very grateful that no lives were lost, and we are proud of how members of the college have worked tirelessly together to fix what has been broken and save what can be salvaged. The students, staff, and faculty of CTAHR have met this challenge with the same dedication and teamwork that they bring to the projects highlighted in this report.

As we move forward from the flood, the past year’s accomplishments give us reason to celebrate. Our faculty members have worked diligently to increase their grants and awards, and they have been tremendously successful. We have more than doubled our outside funding in only three years. The extramural funds we received during fiscal year 2004 topped FY2003’s record total by 35 percent, and the number of awards reached a ten-year high. As we near the midpoint of FY2005, our half-year total already exceeds the total awards received in 13 of the past 15 years. We are excited by the opportunities this extramural funding offers to conduct research and outreach that stretch the boundaries of knowledge and share its benefits.

We are also experiencing a boom in student enrollment. In Fall 2002, following the college’s reorganization, CTAHR’s new academic programs first appeared in UH Mānoa’s print and Web materials. Students have responded very positively—enrollment has increased 27 percent in only two years. Some programs have grown at an even more rapid pace. For example, the Department of Natural Resources and Environmental Management has tripled its student population. Our total enrollment is now at its highest level since 1986. As our students graduate and enter the work force, their contributions to Hawai‘i, the Asia-Pacific region, and the global community will be felt for years to come.

The stories that follow illustrate how CTAHR is working with many partners to promote a diverse economy, a healthy environment, and strong communities. Some of the projects reach across oceans, linking us with distant

neighbors in the Pacific Islands and the Middle East. Others make our own backyard a better place to live and visit. CTAHR is seeking new ways to clean contaminated environments. We are educating patients with diabetes to help them lead healthy lives. Our student enrichment experiences are bridging the distances that separate the classroom from the world. Through these and many other projects, our college community strives to solve problems and improve lives. I am honored to support their efforts, and I thank them.

Aloha,



Andrew G. Hashimoto
Dean, CTAHR

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Protecting an Heirloom Crop

Hawai'i is blessed with a rainbow of delicious banana varieties. In addition to the popular Cavendish bananas and the Brazilian types we call apple bananas, our state is home to more than 20 surviving varieties of banana and plantain developed by Native Hawaiians, including many fruits with unique flavor, shape, or color. Hawai'i farmers, from backyard growers to large commercial operations, sold their 2003 banana crop for more than \$9 million. Bananas contribute to agricultural self-sufficiency—we grow about three times as many bananas as we import.

But Hawai'i's bananas are in danger. In 2004, the banana bunchy top virus (BBTV) invaded East Hawai'i, where 75 percent of the state's bananas are grown. The virus was first detected on O'ahu in 1989 and appeared in Kona in 1995. For years management practices helped prevent BBTV from spreading to Kea'au. This noteworthy delay bought time for research on banana improvement and virus control measures. With BBTV now making inroads into the heart of Hawai'i's banana industry, efforts to fight the disease have redoubled.

CTAHR has partnered with the Hawai'i Department of Agriculture, USDA's Pacific Basin Agricultural Research Center, UH Hilo, the Hawaii Banana Industry Association, and the Maui Invasive Species Committee to form the Banana Action Group. This collaborative team is working to save the state's commercial banana crop and Hawaiian banana varieties through a multi-pronged approach: creating and distributing educational tools to help growers and homeowners identify and remove infected trees, using tissue culture to produce disease-free plantlets for replanting, and conducting research to improve banana resistance to BBTV and develop more effective methods for controlling the aphids that spread the virus from plant to plant. CTAHR and the Banana Action Group are committed to protecting Hawai'i's bananas, an important commodity and a valuable cultural heritage.

The banana bunchy top virus has invaded East Hawai'i, where 75 percent of the state's bananas are grown.



Photo: Scot Nelson

The banana plant at left, infected with banana bunchy top virus, has erect, bunchy, yellow leaves. A healthy plant of the same age is shown at right.

Below, BBTV-infected banana plants in Kea'au are destroyed to prevent the virus from spreading.



Photo: Wayne Nishijima

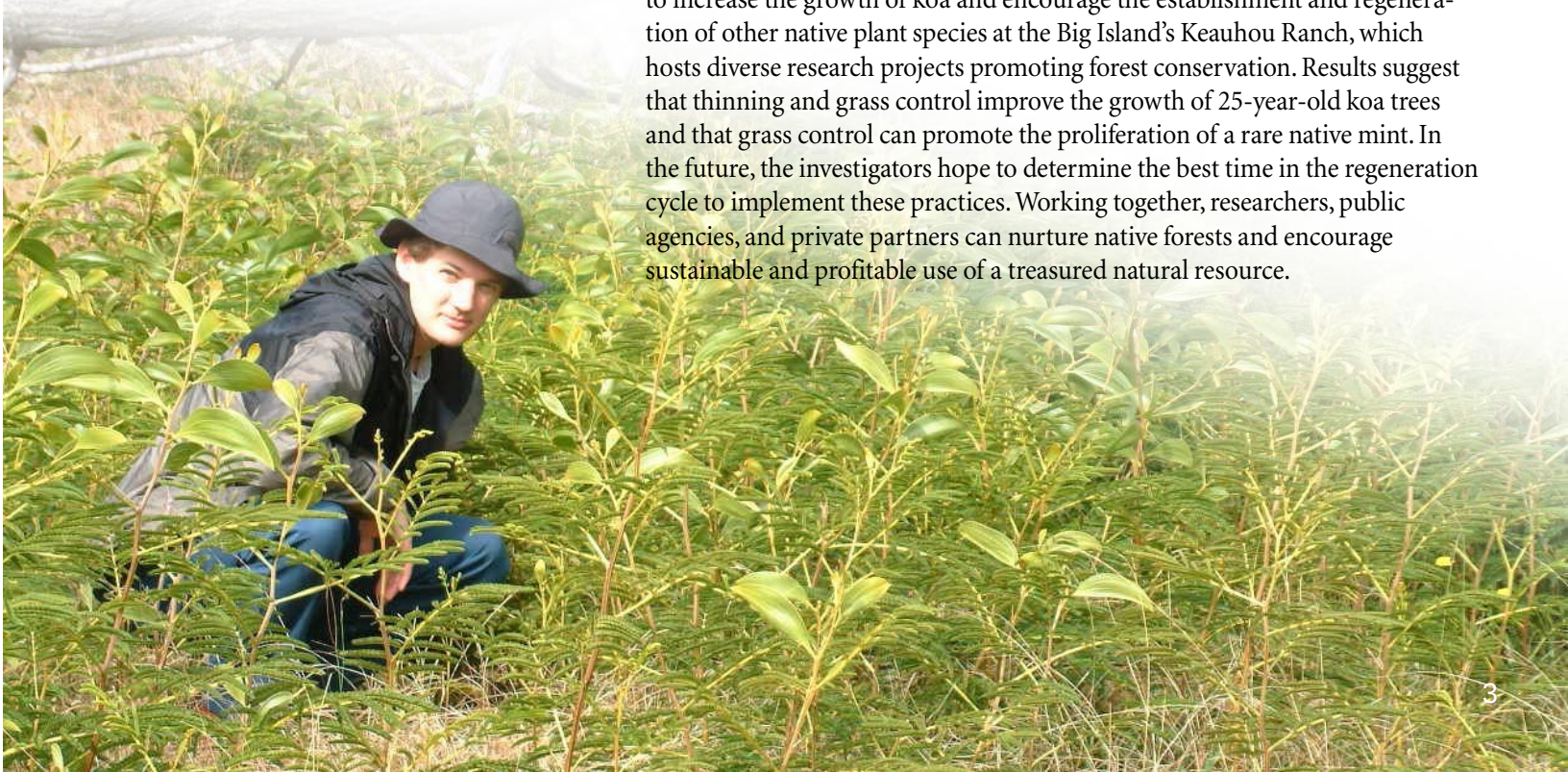
Koa is one of the few native Hawaiian trees that can compete with non-native pasture grasses.

Photos courtesy of Travis Idol



Graduate student Jennifer Schriber measures the diameter of a koa tree.

Below, sprouting koa seedlings surround agroforestry professor Travis Idol.



Helping a Survivor Regain Ground

A *cacia koa* is one of Hawai'i's most resilient native forest trees and is found throughout the islands at elevations 500–6,500 feet above sea level. Its dark, richly grained wood is a local favorite for bowls, fine furniture, musical instruments, flooring, cabinetry, and traditional Hawaiian racing canoes. Koa is also a keystone species in native forests. By incorporating nitrogen from the air into plant matter, koa enriches the soil. It provides habitat and food to many native birds and insects and supports a diverse understory community of native plants.

Efforts are underway to restore koa forests in mauka pasture lands and establish fast-growing, low-elevation plantations. When given direct sunlight and protected from grazing animals, koa can regenerate from buried seeds or root sprouts; it can also be planted as seedlings. Koa is one of the few native Hawaiian trees that can compete with introduced pasture grasses.

CTAHR researchers are currently studying the productivity and management of regenerated koa forests. They want to understand how rainfall, elevation, and soil fertility influence koa productivity and to develop sustainable management practices to improve regenerating koa forests, which often contain many more seedlings per acre than can survive to maturity. In cooperation with landowner Kamehameha Schools and the U.S. Forest Service, they are testing the effectiveness of manual thinning, grass control, and fertilization to increase the growth of koa and encourage the establishment and regeneration of other native plant species at the Big Island's Keauhou Ranch, which hosts diverse research projects promoting forest conservation. Results suggest that thinning and grass control improve the growth of 25-year-old koa trees and that grass control can promote the proliferation of a rare native mint. In the future, the investigators hope to determine the best time in the regeneration cycle to implement these practices. Working together, researchers, public agencies, and private partners can nurture native forests and encourage sustainable and profitable use of a treasured natural resource.

Forging Partnerships and Plowshares

Iraq has a rich agricultural history. Ancient Mesopotamia was home to some of the richest lands in the Fertile Crescent. Today, although better known for its oil reserves, Iraq remains a largely agrarian nation. Sadly, its institutions of agricultural higher education have been crippled by years of conflict and isolation. Facilities have been badly damaged, and faculty members have been forced out of touch with the global scientific community.

The U.S. Agency for International Development awarded CTAHR one of five grants to partner with and strengthen Iraqi universities, the only such grant dedicated to agriculture. AHEAD, the Agricultural Higher Education and Development project, is a partnership between CTAHR and two agricultural colleges in northern Iraq, the University of Mosul's College of Agriculture and Forestry and the University of Dohuk's College of Agriculture. The project has also engaged regional collaborators—the University of Jordan, the International Center for Agricultural Research in the Dry Areas (Syria), and American University of Beirut (Lebanon). Working together, these institutions are creating a knowledge and support network for Iraqi agricultural education.

AHEAD recognizes that educational institutions require both infrastructure and human resources. Our Iraqi partners have been provided modern research tools, including a comprehensive electronic library of recent scholarly agricultural publications, computer labs and electronic communications capacity, books, instruments and supplies, research animals, modern farming machinery, and a state-of-the-art learning center installed in a former presidential palace. At the same time, CTAHR and our regional partners host workshops to support the professional development and strategic planning needs of Iraqi institutions. Visiting scholars and graduate students study and research at UH Mānoa and at regional partner campuses. The project has sponsored competition for research grants and awarded more than \$200,000 to successful scientists. Through AHEAD, CTAHR is helping our partners rebuild and revitalize Iraqi agriculture and ensure food security for Iraq's people.

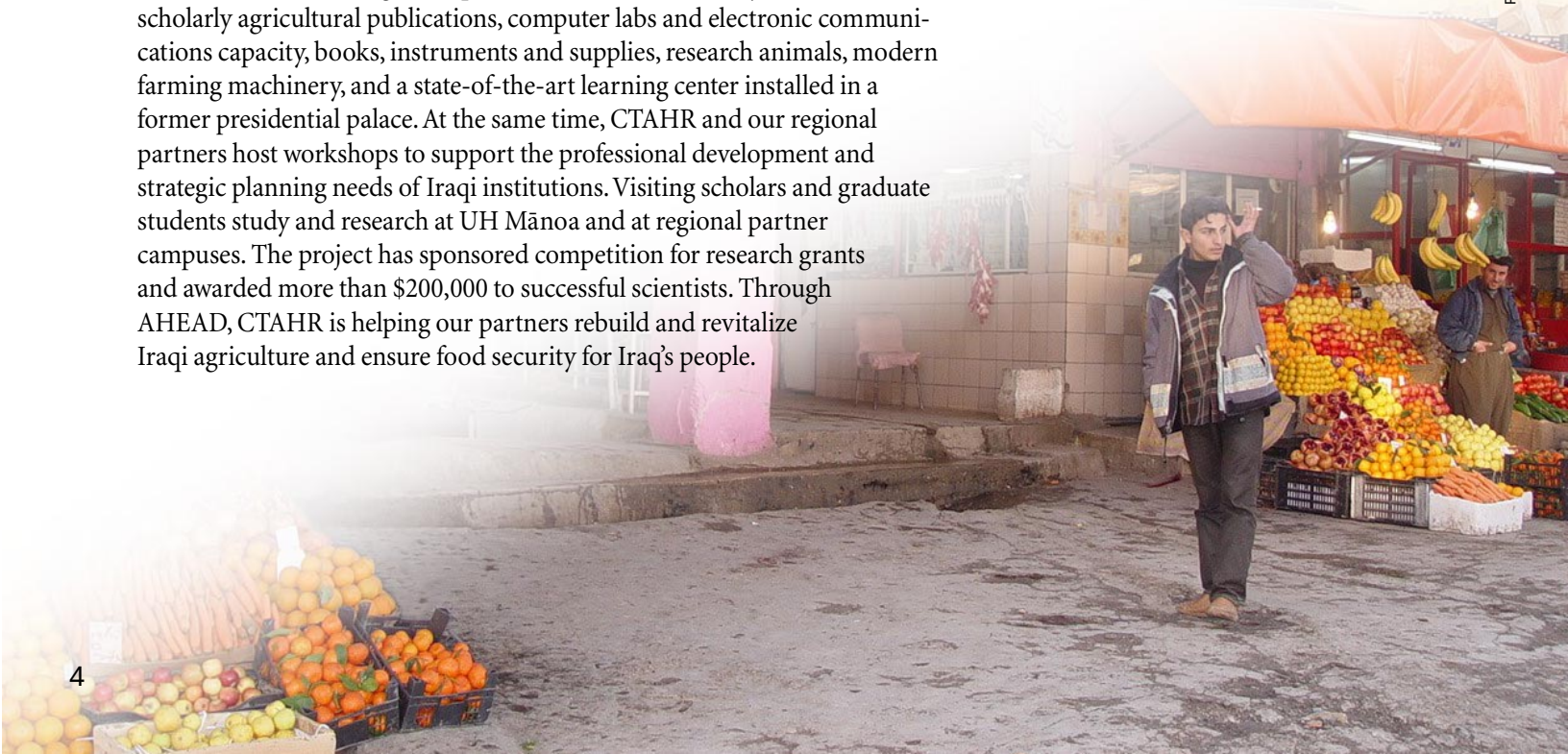
Iraq's institutions of agricultural higher education have been crippled by years of conflict and isolation.



Photo: UH Creative Services

Graduate students Amjad Amhad, Diaa Ibrahim, and Adel Youkhana (from left) are studying at UH Mānoa as part of AHEAD, the Agricultural Higher Education and Development project.

Photo: Samir El-Swaify



Phytoremediation—the use of plants to clean contaminated water, sediment, and soil—is a promising area of environmental restoration research.

Photo: Dan Paquin



A greenhouse experiment tests the phytoremediation of hydrocarbon-contaminated marine sediments from Pearl Harbor.

Mean Green Cleaning Machines

For millennia plants have fed us and beautified our surroundings. Now we're learning that plants can help us undo environmental damage. Phytoremediation—the use of plants to clean contaminated water, sediment, and soil—is a promising area of environmental restoration research. Plants, alone or in combination with the microbes that live near their roots, can speed the breakdown of organic pollutants such as solvents and pesticides, consume excess nutrients that are harmful in high concentrations, take up metals and chemical residues into tissues that can be harvested and removed, or stabilize soils and sediments while limiting contaminant mobility. Phytoremediation can also be applied to sites contaminated intentionally by acts of sabotage.

CTAHR researchers are working to identify plants suited for phytoremediation and determine which conditions support optimal plant performance and environmental benefit. The contaminants under study include petroleum hydrocarbons, metals, and residues of explosives and pesticides. Among the contaminated media that have been tested are soils from Makua Valley and a former pesticide mixing station, sediments dredged from Pearl Harbor, and wastewater from a slaughterhouse.

About 150 plant species have been investigated, including many plants native to Hawai'i. Milo, naupaka (pictured below), dwarf hau, false sandalwood, ironwood, and kou have effectively reclaimed diesel- and petroleum-contaminated media. Goosefoot, guinea grass, naupaka, roundleaf chastetree, and yellow 'ilima show promise for remediation of residual explosives. Researchers have found that salt-tolerant plants generally tend to tolerate other chemical and environmental stresses as well, but crop plants can also be useful for phytoremediation. Summer squash, cucumber, and kabocha pumpkin are currently being studied as agents to remove heptachlor from abandoned pineapple fields on Moloka'i.

Phytoremediation offers Hawai'i many potential benefits. Excavation and shipment of soil or sediment to the mainland are very expensive. By developing plant-based technologies that allow us to cost-effectively reclaim our contaminated sites, we can save money, promote a valuable new industry, and improve and protect the environment.

A Picture's Worth a Thousand Miles

Geographic isolation gave birth to the unique plants and animals of the Pacific Islands, but it also makes these ecosystems vulnerable. Native organisms often lack defenses against pests and diseases, and islands may lack predators that help keep pests in check. Agricultural pests invade the Pacific Islands much more frequently than the mainland or other island regions, and diagnosing pest samples is hampered by distance. Shipping to a faraway laboratory and waiting for results can give samples time to decay and infestations time to spread.

To overcome these obstacles, the Agricultural Development in the American Pacific project and CTAHR's Plant and Environmental Protection Sciences department have teamed with the University of Georgia to form the Pacific Islands Distance Diagnostics and Recommendation System. PIDDRS is a secure Internet-based system for rapid diagnosis of agricultural problems. Extension personnel, researchers, and diagnosticians throughout the Pacific share digital images and information on-line. Participants receive equipment that supports submission of digital images ranging from life-sized insects and plants to the spores of a fungus magnified 400 times.

Although PIDDRS was developed to serve Pacific areas that lacked agricultural diagnosticians, it has since become an important part of the Western Plant Diagnostic Network (Davis, CA), an organization developed to identify and deal with possible breaches of agricultural security, such as purposeful introductions of plant pathogens. UH has been designated a sentinel laboratory within the WPDN.

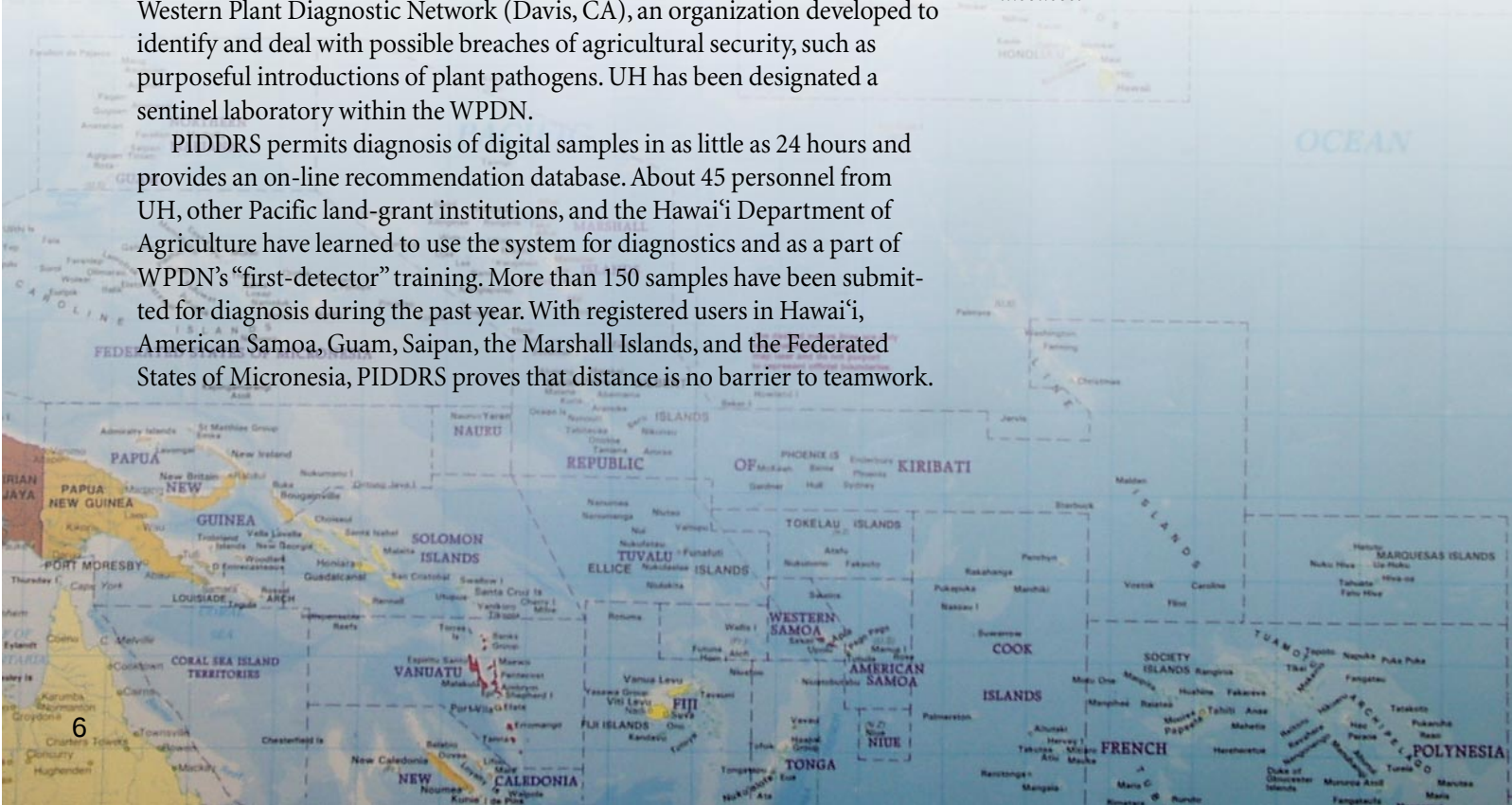
PIDDRS permits diagnosis of digital samples in as little as 24 hours and provides an on-line recommendation database. About 45 personnel from UH, other Pacific land-grant institutions, and the Hawai'i Department of Agriculture have learned to use the system for diagnostics and as a part of WPDN's "first-detector" training. More than 150 samples have been submitted for diagnosis during the past year. With registered users in Hawai'i, American Samoa, Guam, Saipan, the Marshall Islands, and the Federated States of Micronesia, PIDDRS proves that distance is no barrier to teamwork.

Agricultural pests invade the Pacific Islands more frequently than the mainland or other island regions.



Photo: Ian Ross

With a camera, a microscope, and an Internet connection, users of the Pacific Islands Distance Diagnostics and Recommendation System can submit digital samples for rapid diagnosis of agricultural pests and diseases.



Labor-saving methods of weed control developed by Phil Motooka help protect Hawai'i's fragile ecosystems.

Photos: Glen Fukumoto



Retired extension specialist Phil Motooka guided weed tours for 25 years, most recently on Kaua'i in summer 2004.

Dr. Phil's Farewell Tour

At the conclusion of the Kaua'i Weed Tour, participants gave warm endorsements to the event and its coordinators, Phil Motooka and Lincoln Ching of CTAHR and Alvin Kyono, Craig Koga, Galen Kawakami, and Stafford Soto of the Kaua'i branch of the Department of Land and Natural Resources' Division of Forestry and Wildlife. "Opened eyes about the extent of ecological damage." "Good to interact with other agencies." "Excellent program—well worth attending."

The summer 2004 tour culminated a valuable and longstanding CTAHR program offered over the past 25 years by "Dr. Phil," who retired at year's end. Representatives from state agencies, invasive species committees, and industry hiked Kaua'i's lush rainforests and pastures for three days, observing the impact of invasive plant infestations, examining experimental and operational practices for managing invasives, and strengthening relationships among organizations that share similar mandates. Tour members saw firsthand how invasives can overwhelm Hawai'i's fragile ecosystems.

A Honolulu native and CTAHR alumnus, Motooka received BS and MS degrees in soil science from UH and a PhD in weed science from North Carolina State University. In his work for the college, he established the herbicide susceptibility of many weeds and developed labor-saving methods for weed control in pasture land. He is the lead author of *Weeds of Hawai'i's Pastures and Natural Areas: An Identification and Management Guide* (CTAHR, 2003), a valuable resource for ranchers, dairy farmers, land managers, and conservationists.

As we bid aloha to Dr. Phil, CTAHR remains committed to raising public awareness of how invasive species threaten Hawai'i's natural heritage and developing innovative approaches to address this threat. Unless a concerted effort is made to reduce the introduction and spread of invasives, we are in danger of losing many of our native and endemic species of plants and animals, some of which hold potential benefit for human health and nutrition. Their disappearance would be a loss for Hawai'i and for the world.



Hunting for Six-Legged Home Wreckers

Termites cause \$100 million in damage to Hawai'i's wooden structures each year.

The Formosan subterranean termite finds strength in numbers. One mating pair of these “ground” termites can give rise to a colony of more than two million individuals—most of them wood-eating workers—in only seven years. Larger colonies can demolish a new house in two years. Measures to prevent and repair termite damage to wooden structures alone cost Hawai'i residents more than \$100 million per year. Termites can also disrupt utility services by eating the rubber gaskets that join water pipes or the plastic that insulates electrical wires.

If teamwork is the termites' greatest strength, it's also one of our best defenses against them. As part of the Department of Plant and Environmental Protection Sciences' Termite Project, CTAHR faculty, staff, and students join with elementary and middle-school students, teachers, and parents to raise community awareness of termites. This outreach effort has something for every participant. In partnership with K–12 teachers and members of the UH Curriculum Research and Development Group, the Termite Project staff develops standards-compliant termite science curricula and trains teachers on how to use them. The students enjoy age-appropriate, hands-on lessons designed to spark their interest in scientific inquiry while teaching them how to identify different types of termites, how termites live and reproduce, how to prevent termite damage, and how to control termite populations.

As their final project, the keiki share what they've learned. The younger students make informational displays and bring home worksheets to help their parents identify problem areas in the home that are vulnerable to termites. The older students create presentations or projects to inform parents, teachers, fellow students, and neighbors. Parents who want more information can attend termite seminars or download publications from the Termite Project Web site (www2.hawaii.edu/~entomol).

Now in its second year, the termite curriculum project has reached 56 classrooms in 22 O'ahu schools. With so many new detectives at work, some termites' days of easy eating may be numbered.

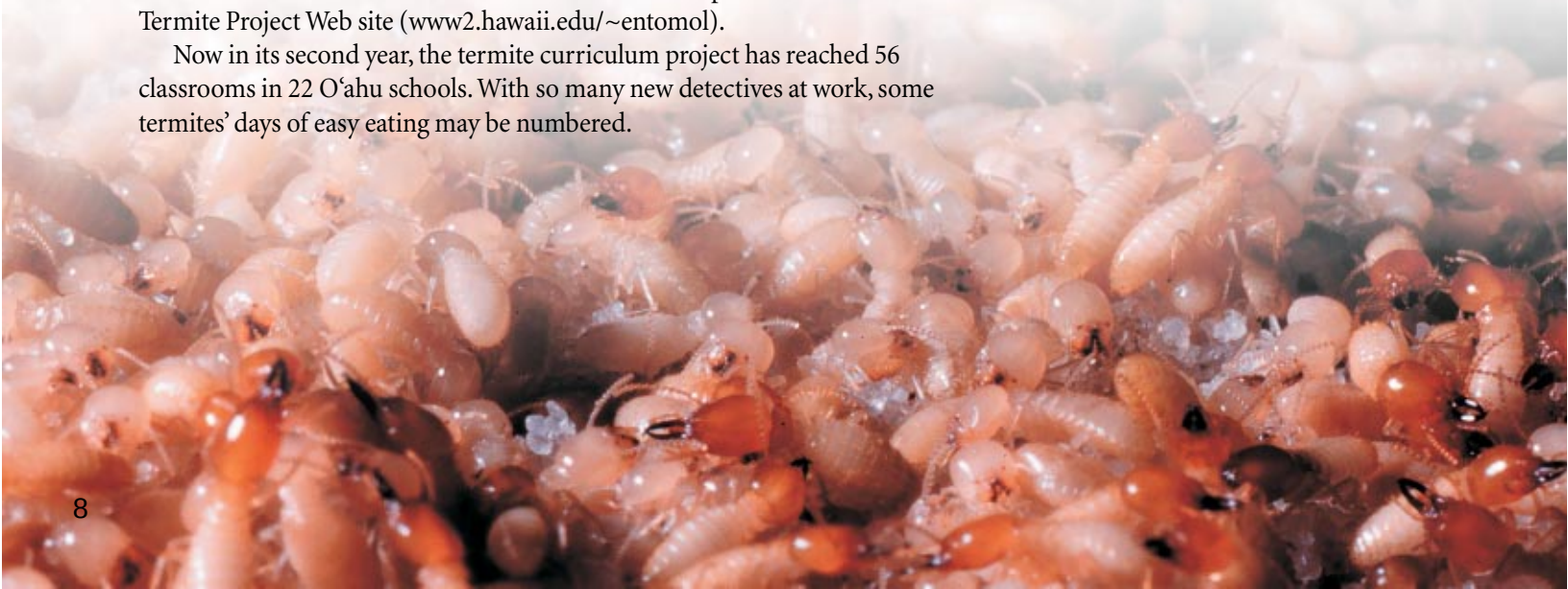


Photo: Georgina Lillich

Fifth graders at Ka'a'awa Elementary School examine termites under a dissecting microscope.

Below, soldiers with brown heads and pincer-shaped jaws defend the workers in a termite colony.

Photo: Joe Woodrow



Eight theme gardens invite children to experience plants in new and creative ways.

Photos: Carl Okuda



Kids look up to Nellie the topiary giraffe at the Children's Garden, part of the Urban Garden Center in Pearl City.

Sowing Seeds of Fun and Knowledge

At the Urban Garden Center's Children's Garden, plants and kids grow together. Five years in the making, the 55,000-sq ft garden blends whimsy, imagination, learning, and play. Since opening its gates last August, the garden has proved tremendously popular. More than 3,000 visitors attended the opening day. Nineteen school tours and a weekly hotel keiki tour have been scheduled to date, enough to keep the facility busy through May 2005.

Eight gardens, each with its own theme, invite children to experience plants in new and creative ways. The Hawaiian Alphabet Tree Garden is home to native trees whose names begin with the 12 Hawaiian letters. The Sensory Garden has paved walkways and railings to assist the physically challenged and features plants that can be seen, smelled, heard, and touched. The Sundial Garden introduces a nostalgic way to tell time. The wedge-shaped beds of the Pizza Garden highlight the herbs and vegetables grown for pizza toppings. The Boardwalk Garden lets kids walk amid a menagerie of plants. The Butterfly Garden offers a 50-foot caterpillar tunnel to walk through and nectar-rich flowers that attract butterflies. The Animal Garden, watched over by a topiary giraffe named Nellie, includes shrimp plant, tapeworm plant, and bird of paradise. The bathroom of the House Garden's miniature house contains shampoo plant, and sandpaper plant grows in the garage.

The Children's Garden is a living labor of love that reflects 3,200 hours generously given by more than 150 volunteers, \$30,000 in grants—including money raised through proposals written by 4-H youth—plus an equal amount of in-kind donations, and the commitment of CTAHR's H. Dale Sato and Steve Nagano. The Children's Garden looks forward to growing alongside its young patrons for years to come.



A Capital Experience on Capitol Hill

When Kristen Oleyte flew to Washington, D.C. at the start of the Spring 2004 semester, she was breaking new ground, both for herself and for CTAHR students. Her journey to the nation's capital was the first time she had traveled alone to an unfamiliar destination. Her reason for the journey was to work as an intern in U.S. Senator Daniel K. Akaka's congressional office, the first instance in which this internship was awarded to a student not majoring in political science.

As a Plant Environmental Biotechnology student, Kristen brought a unique knowledge base to her job as an intern. She found opportunities to expand on her academic education by working with legislative assistants specializing in Native Hawaiian and Pacific Island policies, agriculture, and science and technology. She conducted research, attended hearings and briefings, obtained co-sponsor signatures on bills, and answered constituent phone calls. As she learned about job outsourcing, national security, foreign affairs, health care, education reform, environmental conservation, and other complex issues, Kristen discovered a passion for public policy and community development.

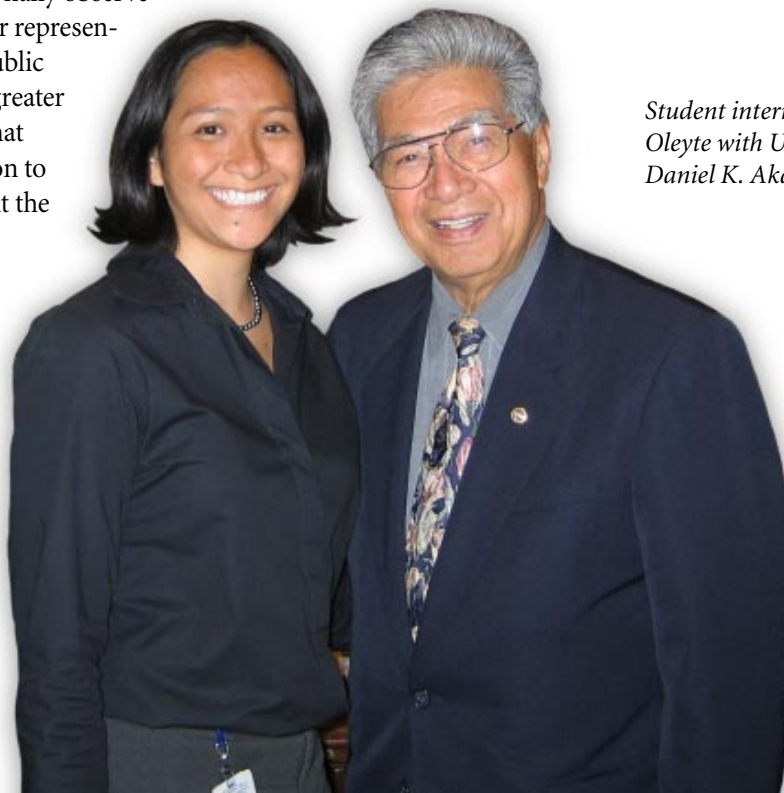
Kristen's own words capture her enthusiasm. "The most meaningful part of my internship was being an active participant in the larger political process. My intern staff badge served as my Congressional backstage pass, enabling me to personally observe how our government works, who our representatives really are, and what shapes public policy in this country. I now have a greater appreciation and respect for those that possess the dedication and conviction to accurately and passionately represent the people that they serve. I am forever grateful to Sen. Daniel K. Akaka and his wonderful staff. I am inspired by the selfless work that they do, and I am motivated to make valuable contributions that benefit not only the field of biotechnology, but also the people of these islands."

"Although biotechnology and public policy are two different disciplines, I am drawn to both because each in its own way strives to develop solutions to meet our basic needs and address problems in our society."

— Kristen Oleyte



Photos courtesy of Kristen Oleyte



Student intern Kristen Oleyte with U.S. Senator Daniel K. Akaka.

Hands-on experience enhances and complements the classroom curriculum.

Photos courtesy of Melissa Blaisdell



On a weekend excursion to the Big Island, CTAHR students feed cows and pick and process tea leaves.

Learning by Doing: A Memorable Weekend

CTAHR is committed to providing its students with unique learning opportunities. We want our students not only to excel in the classroom but also to grow as individuals and build relationships with fellow students, faculty, administrators, and community leaders. Hands-on learning enhances the curriculum, fosters interpersonal connections, and helps students gain the abilities and knowledge necessary for employment or further study.

In September 2004, 25 students plus staff and faculty from the Academic and Student Affairs office embarked on a “Meaningful Experience” trip to the Big Island. Students spent a day honing their leadership and communication skills. Trained by their peers Lisa Kitagawa and Rouel Velasco, the students learned about verbal and nonverbal communication, consensus building, and teamwork. A break for dinner at the Taste of the Hawaiian Range food show gave many their first taste of goat meat pizza, sautéed “Rocky Mountain oysters,” tongue, tripe, and venison burgers.

The following day featured a trip to the Mealani Research Station for a morning of activities and an opportunity to meet with researchers and extension agents. Marla Fergerstrom demonstrated how cows are artificially inseminated, using dissected organs as a model. Students then donned latex gloves and repeated the procedure. At the forage research plots, they learned from Glen Fukumoto about the uses and benefits of different forages before picking a branch of leucaena and feeding the cows. Milton Yamasaki, Roy Ishizu, Stuart Nakamoto, and Randall Hamasaki introduced the students to tea cultivation. The students picked tea leaves and processed them, experiencing the stages and methods of tea production. At lunch, they sampled their tea and spent time with the Mealani faculty and staff.

As one participant reported, the weekend was a valuable—if whirlwind—experience: “While most of the group had only two or three hours of sleep, the new knowledge and skills learned and friends made will long be remembered.”

Building Bridges to Community Learning

What do high-rise public housing in Kalihi, two schools in Kona, and a rural homestead in Hilo have in common? Each houses a community learning center established through a five-year grant funded by the New Communities Project (NCP), an initiative of USDA's Children, Youth, and Families At Risk program. The NCP grant emphasizes a team-building approach. Through NCP learning centers, project director Carol Ikeda leverages CTAHR funding and fosters relationships between the Cooperative Extension Service and community organizations.

At Kuhio Park Terrace, PACT (Parents and Children Together) shares their Family Center and Community Teen Program facilities with Christine Nunogawa, who guides a youth group that promotes leadership, literacy, and healthy habits. Group members create events—a sleep-over, a summer camp, a storytelling exercise—that blend learning and fun and provide experience in planning, resource management, writing, computer use, and public speaking.

In Keaukaha, working with the Keaukaha Community Association, the Department of Hawaiian Home Lands, the Queen Lili'uokalani Children's Center, and other partners, Myla Gumayagay helps community members of all ages learn to use computers. The learning center offers access to computer resources, mouse and keyboard lessons, and training in writing resumes and using spreadsheets. Community youth also benefit from an evening tutorial program, a summer enrichment program, and family-based workshops.

Our most recent NCP collaboration is with the West Hawai'i Department of Education. At South Kona's Honaunau School, Gavin Maeda is establishing a learning center for students and community members. He will provide computer instruction and 4-H curricula at Honaunau and at Kealahou Intermediate School. He also contributes to a mobile learning center—a school bus converted into a computer lab by high-school students with the help of a Dell Foundation grant. Through partnerships like NCP, CTAHR stretches funding dollars and strengthens community services.

The New Communities Project's team-building approach stretches funding dollars and strengthens children, youth, and family services.



Photo: Christine Nunogawa

Youth group members in Kuhio Park Terrace acquire new computer skills.

Below, youngsters create and learn in Keaukaha.



Photo: Myla Gumayagay

*More than 70,000
Hawai'i residents
suffer from diabetes.*

Defending against the Silent Thief

The Department of Health estimates that 72,000–100,000 Hawai'i residents suffer from diabetes, of which at least 25,000 cases are undiagnosed. Diabetes costs the United States more than \$100 billion per year, but its human costs are higher still. Untreated, it can lead to grave complications: kidney failure, heart disease, blindness, and infections that require amputation. The disease is sometimes called the “silent thief,” because its symptoms can go undetected until it steals health, sight, or

limbs. These outcomes are frightening, but they are not inevitable. When diabetes is managed through healthy eating habits, exercise, medicine, and self-monitoring, people can live long and well with this disease.

Closely monitoring blood glucose is essential in controlling diabetes, but patients can do much more to safeguard their health. Julia Zee heads a CTAHR project that is part of a multi-state effort to develop and conduct community-based programs of diabetes education. The goal is to teach people with diabetes the value of five medical tests. Hemoglobin A1c levels indicate how well a patient has controlled blood sugar during the past three months. Keeping blood pressure and cholesterol levels healthy helps prevent complications. The microalbumin test detects

early signs of kidney disease. An annual eye exam can identify early damage in time to save vision.

CTAHR's diabetes education program is free, voluntary, and open to all. Research participants learn about the five tests and are given four of them. Along with the test results, they receive information, resource lists, lessons in nutrition and local-style healthy cooking, a gift certificate for groceries, and an opportunity to repeat the hemoglobin A1c test in three months. Working with cooperating agencies, the program has engaged 550 individuals through the research study. Educational sessions have reached an additional 2,000. By alerting patients to the risks that diabetes poses and empowering them to take charge of their well-being, CTAHR is helping to disarm the silent thief.

Photo courtesy of Julia Zee



As part of the Diabetes Awareness, Education, and Screening Project, Mary Ann Crosson, RN, BSN, draws blood from a participant on Moloka'i.

Diabetes

Our College as 'Ohana

For 16 years, CTAHR has hosted two events that celebrate our most valuable resource—our 'ohana. The Student Research Symposium and the Awards Banquet encourage and acknowledge excellence and recognize that the college is built on the dedication and teamwork of our students, faculty, staff, alumni, and friends in the community.

The Student Research Symposium brings together graduate and undergraduate students conducting research under the supervision of faculty in CTAHR and UH Hilo's College of Agriculture, Forestry and Natural Resource Management. The symposium introduces students to the format of academic and professional meetings. They present their findings in poster sessions or orally, learn about their peers' research, and take home new ideas for their own investigations. The presentations are judged by faculty members, and the best receive awards. The three top prizes include travel stipends so that students can present their work at a conference in their area of expertise. The 2004 symposium featured 21 posters and 55 oral presentations from students in all six CTAHR departments.

Symposium participants are among the honorees at the annual Awards Banquet. Their attendance is sponsored by donations to the event, which also fund scholarships. The students have an opportunity to meet the year's outstanding alumnus, hear how that person's years at CTAHR helped shape an exemplary career, and perhaps imagine themselves as outstanding alumni of the future. They join in congratulating the recipients of staff and faculty awards, whose service to the college and its stakeholders is key to CTAHR's success. The 2004 Awards Banquet initiated a new tradition, the Ka Lei Hano Heritage Award, expressing our deep gratitude to friends who have made important contributions to CTAHR and Hawai'i. The inaugural heritage award paid homage to U.S. Senator Daniel K. Inouye, who has generously supported the college and Hawai'i's agriculture and communities for many decades. The Awards Banquet reminds us that although we are spread across the state, CTAHR is one family. We hope you can join us next year.

CTAHR is built on the dedication and teamwork of our students, faculty, staff, alumni, and friends.



Dean Andy Hashimoto, Ka Lei Hano Heritage Award recipient and U.S. Senator Daniel K. Inouye, and CTAHR Board of Advisors member and 2002 Outstanding Alumnus Derek Kurisu (from left) enjoy the college's 2004 Awards Banquet.

Photo: Aloha Convention & Event Services

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2004 IMPACT REPORT

Growing Together

