

# CTAHR RESEARCH NEWS

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4-H State Director, Gary Heusel, holds the 4-H flag and other emblems that once flew with Hawaii-born, NASA astronaut and 4-H alum, Ellison S. Onizuka, on an early Space Shuttle mission.

**4-H Hawaii is 95 years old and still leading youth**

**Saying Aloha to friends**

**Linda Cox new interim director for extension**



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# From the Associate Dean and Associate Director for Research

**H**ave you noticed the festive lights in the night, and the holiday music everywhere? It is hard to believe another year has come and (almost) gone! It did not seem that long ago that we celebrated the arrival of 2009. From most indications the economy is gradually recovering, however, the turnaround is not as quick as we would have hoped for. We need to be ready for another tough year or two before we are in the clear. CTAHR is doing well: our faculty and staff continue to provide valuable service to our students and communities amid all the turmoil around us. It speaks volumes about the dedication and devotion CTAHR faculty and staff have to public service. We don't need to look too far to prove this point and CTAHR's 4-H program is an excellent example.

CTAHR is known for its knowledge about growing plants and animals, which is represented in the tropical agriculture half of our college. However, plants and animals are not the only things we grow as we also cultivate people, including the youth. That is what we do in the human resources half of our college! Many CTAHR faculty and staff are engaged in 4-H activities and these activities represent a major extension program directed by our college. Dr. Gary Heusel (Family and Consumer Sciences Department) joined CTAHR almost a year ago to lead our statewide 4-H program. Youth development is such an important task for any society and we are very proud of our contribution to this effort for Hawaii communities. Thanks, Gary, for sharing with us such a wonderful story at this time of the year, and to all CTAHR staff and volunteers that contributed to a successful program!

We had quite a few turnovers in our fiscal office in the last several years. As most of you know, Annette Chang

joined CTAHR as our new Director of Administrative Services less than four months ago. December marks a major transition in the fiscal office as we now have five new staff who reported to duty to become the newest members of the CTAHR ohana! In less than two weeks time they have reduced fiscal backlogs from one month to two-weeks! Annette has been working very hard and you can find her working most weekends on the second floor of Gilmore to find ways to improve our administrative services. Her hard work has already paid huge dividends and we have filled every vacancy in the fiscal office with quality people. Many thanks, Annette.

The newly dedicated Komohana Research and Extension Center in Hilo is a non-human addition to the CTAHR ohana. Thanks to Trent Hata who introduces us to this new facility. Dr. Wayne Nishijima, the person who contributed greatly to the completion of this project, retired officially on November 30. Knowing Wayne, we are getting a great deal as he will continue working for CTAHR at no cost to us! Thanks, Wayne, for your many years of dedicated service, and see you around!

Also, stop by the open grants and the recent publications sections - good things are afoot!

Enjoy your quality time with your family and friends, and we will see you back here in 2010. Happy Holidays everyone!



*C.Y. Hu  
Associate Dean  
and Associate  
Director for  
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# 4-H members... CTAHR's youngest students

By Gary Heusel, State Leader  
4-H Hawaii



L-R. 4-H leadership include Claire Nakatsuka, Becky Settlege, Joan Chong, Carol Ikeda, and Gary Heusel. Not pictured are Laura Jean Kawamura, Tom Mason, Steve Nagano, and Rose Saito.

**T**he 12 year old you find in a lab on the UH campus is probably a 4-H member who has come to visit CTAHR, the home of Hawaii 4-H. The 4-H member may be in an engineering lab working with robots, in a biology lab extracting DNA with **Anna Wieczorek**, writing a journalism story about agricultural development with **Jim Hollyer**, dissecting bovine and porcine specimens with **Brent Buckley** and **Halina Zaleski**, cooking something they raised in the barn or garden with Chef **Mark Segobiano** in the Ag Sciences kitchen or learning how to market their latest 4-H club fund raiser with **Miles Hakoda**. If you hang out around Miller Hall you are likely to

find 4-H members and many of their parents involved in art, gardening, electricity, food (cooking and eating), woodworking or numerous other 4-H projects as part of the 4-H Fetch program led by **Mary Martini**.

You must go off campus and visit all the cities and areas in between on all the islands to meet the majority of the 20,000 plus 5–19 year olds who are now Hawaii 4-H members. Those children and youth are part of the world's largest out of school education program and they are part of UH but they focus on “learning by doing” at their homes and in their neighborhoods as part of this youth development program of the Cooperative Extension Service. Their home community is where





Joan Chong, Laura Jean Kawamura, and Gary Heusel are surrounded by Get Moving for Health team members.

the majority of 4-H members' learning occurs. CTAHR Extension agents work with the 4-H volunteer leaders to plan for that learning and make certain the appropriate 4-H curriculum is available. Extension agents from many different subject matter fields spend a portion of their time with our youngest audience but a core group of eight 4-H agents provide the primary leadership for this program.

4-H is a cooperative venture taking UH to Hawaii youth. County extension agents, community organization leadership and families work together to make 4-H a reality. The Big Island 4-H members may join 4-H through the Hilo or Kona Extension offices. **Becky Settlege** is the Extension agent in Hilo responsible for the 4-H program. **Myla Gumayagay** leads a USDA grant funded 4-H program in Hilo's Keaukaha community. **Joan Chong** and **Carol Ikeda** are the catalysts for the 4-H effort in the Kona office. Extension Educator **Laura Kawamura**

will likely be found coaching leaders and encouraging members on Kauai. **Tom Mason** is responsible for the 4-H programs on Maui and Molokai. Oahu 4-H members and leaders work with **Steve Nagano** or **Rose Saito** unless they are a member of one of the more than 40 4-H clubs on a military base. **Claire Nakatsuka** is the agent responsible for the military 4-H clubs and the Operation Military Kids program.

"Learning by doing" is the 4-H slogan. The primary focus of 4-H is children and youth learning. Kids usually learn best when they can get their hands working with their heads and have a caring adult to coach and mentor them through the learning experience. Adult volunteers who learn, grow, and work together with children and youth are a critical component of 4-H. The adult may earn a living as an astronaut, banker, chef, doctor, farmer, professor, truck driver, or weather forecaster, but those who serve as

4-H volunteers share the joy of seeing young people get excited about learning. Adult volunteers work with the extension educators to provide direction, guidance and leadership to the 4-H program.

Although most people still think you have to own a large animal to be in 4-H that is an outdated view of this exciting youth development program! Livestock projects are still one of the favorites but most of Hawaii's 4-H members live in a town or city and less than 10% of the members have ever owned a large animal. There are currently more than 100 different projects in the Hawaii 4-H program. If you can think of a subject there is probably a 4-H project to match. Bicycles, cats, engineering, food, gardening, horses, robotics and veterinary medicine are just a few examples of 4-H projects of interest to young people who want to learn. The broad array of subjects is provided to make it likely that any young person will find something about which they would like to learn. Each project has a curriculum full of activities and information for the member with a leader's guide for the adult volunteer. The curriculum materials are written by faculty members at Land Grant Institutions across the U.S. and then reviewed by peers before being published for use by members and leaders. 4-H Youth Development is the only youth program with direct access to technological advances in agriculture and life sciences, human development, and related areas, which result from land-grant university research.

The adult leaders, curriculum and 4-H members in a community create the environment in which youth can experience the four critical elements of a positive youth development program. Those elements are independence, belonging, generosity and mastery. Those elements are also expressed in the 4-H Pledge:

*I pledge my head to clearer thinking,  
My heart to greater loyalty,  
My hands to larger service, and  
My health to better living  
for my club, my community, my country and my  
world.*

*Independence* – I pledge my head to clearer thinking... Moving from total dependence on parents and other adults to making wise decisions about use of time and other resources is an important part of 4-H. Tasks are given to even the youngest member so they learn to



Emily-Mendez-Byrant from Kona (left) and Joyce Miyamoto from Maui (right) promote 4-H.

take responsibility for their own actions and choose to do those things that are positive for themselves and others. Youth need to know that they are able to influence people and events through decision-making and action.

*Belonging* – I pledge my heart to greater loyalty... Young people need to know they are cared about by others and feel a sense of connection to others in the group. Current





Lori Davis (middle) works with Maui 4-H members at the robotics table.

research emphasizes the importance for youth to have opportunities for long-term consistent relationships with adults other than their parents. 4-H gives youth the opportunity to feel physically and emotionally safe while actively participating in a group.

*Generosity* – I pledge my hands to larger service... Youth need to feel their lives have meaning and purpose. By participating in 4-H community service and citizenship activities youth can connect to communities and learn to give back to others while learning that they have an important role in their community and are a valued member of that community.

*Mastery* – I pledge my health to better living... If youth are to believe and feel they are capable they must experience success at solving problems and meeting challenges. 4-H projects and activities provide opportunities for youth to master skills. In 4-H youth

have access to quality research-based curriculum in a broad range of topics that allow them to pursue their own interests. Learning how to build a robot, cook, repair machinery, do woodworking and care for others are just a few examples of the skills taught in 4-H that can be of economic, social and/or personal value to youth in their future. By participating in club projects and activities members are given the opportunity to explore possibilities for future careers. By giving public presentations in their club 4-H members share what they have learned while dealing with one of society's greatest fears – speaking before audiences.

An opportunity to show others what was created or produced is the culmination and ultimate celebration of learning for 4-H members. 4-H alumni say that preparation for the show is an investment of time and energy that results in developing leadership skills, strong character, project-related skills, and positive relationships. Preparation for the 4-H exhibit day, often



Poultry exhibitors at the 2009 Farm Fair at the Bishop Museum.

a county fair, is an opportunity for family members to work together and to work with other families in their community.

Community stakeholders have always been important to 4-H. 4-H has a long tradition of involving its stakeholders in decisions. Parents, members, and financial supporters are examples of stakeholders involved in making certain the 4-H program meets the needs of the young people and their volunteer adult mentors. Alumni groups, advisory committees, leader associations, and the Hawaii 4-H Foundation were organized to provide input and support to 4-H and are critical to the growth and success of the 4-H program. Adults and youth serve together on many of the county and statewide bodies that provide ideas, policies, recommendations and support to 4-H as 4-H strives to model an organization that makes effective use of adult-youth partnerships. Those serving have many different roles including fundraiser, policy maker, publicist and writer to name just a few.

Those involved with 4-H are either young themselves or have a strong commitment to make the difference in the life of young people. I have found 4-H rewarding because I get to see the young person who was afraid to introduce himself a few months ago get up and talk about his project at the club meeting. I talk to the parents who could not find the way to communicate with their child who are now working on the garden project together and finding plenty of things to talk about related to their garden and the rest of their lives.

I know the members who had never been on a college campus who attend a 4-H event and realize that the campus is somewhere they would feel comfortable.

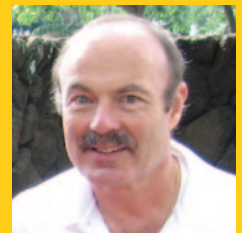
To learn more about 4-H please go the web site: [www.ctahr.hawaii.edu/4h](http://www.ctahr.hawaii.edu/4h) and see the section in “Hawaii’s College of Tropical Agriculture and Human Resources: Celebrating the First 100 years.”

## Gary L. Heusel

**Hometown:** Lostant, Illinois

**Joined CTAHR:** 2009

**Educational History:** B.S. Animal Science, University of Illinois, 1970; M.S. Guidance and Counseling, University of Illinois, 1978; Ed. D. Human Resource Development, University of Illinois, 1988.



**Specialization:** youth development

**Current Work:** Hawaii State 4-H Leader

**Languages Spoken:** English

**Recent Publications:** none since coming to Hawaii

**Recent Grants:** Corporation for National and Community Service, National 4-H Council, and Walmart Foundation.



# Some significant changes in Gilmore Hall

By CY Hu  
Associate Dean and Associate Director for Research  
&  
Annette Chang  
Director of Administrative Services



The CTAHR Fiscal Office. Front row: Pattereya Becker, Cindy Flynn, Annette Chang, Gayle Yamashita, Candace Shimabuku. Back row: Adrian Lee, Kariann Irei, Kory Yonemoto, and Shirley Akiyoshi. Not pictured: Diane Okubo.

November 30 had special significance this year. This is the last day of work for several faculty and staff with CTAHR, including Dr. Wayne Nishijima (28 years), Pua Fisher (27 years), and Karen Akamine (15 years). Wayne is such a dedicated public servant and a true gentleman that I am going to miss him a great deal. However, he has moved into his new office in the newly dedicated Komohana Research and Extension Center in Hilo and will continue to offer his expertise to serve CTAHR and the general public, so we can continue to count on him when we need help!

But, you need not worry about the loss of staff in the fiscal office. Annette Chang, our new Director of Administrative Services, has successfully recruited a

new Chief Fiscal Officer, Adrian Lee, who reported to duty on December 1. With the assistance of Adrian, Annette has also interviewed and hired four new staff members to fill the vacancies in the Fiscal Office. Two vacancies were approved by the chancellor's office, and two new positions are supported by the RTRF fund. Annette, Adrian and their staff are cultivating a new level of service in the fiscal office. They are reviewing all fiscal transactions and looking for places to streamline processes. Stay tuned for further developments from that office. If you are visiting Gilmore Hall please stop by their office and introduce yourself, and welcome them to the CTAHR ohana.





Saying goodbye to Karen Akamine, Wayne Nishima, and Pua ala Fisher. Fiscal office and this photo by Miles Hakoda.

#### **New fiscal office employee backgrounds**

*Adrian Lee*, Chief Fiscal Officer, who comes to us from the Institute for Astronomy where he also served as a Fiscal Officer. Prior to that he was a Fiscal Officer at JABSOM.

*Cindy Flynn*, Administrative and Fiscal Support Specialist, who comes to us from Windward Community College. Prior to that she was the Assistant Fiscal Officer at the Hawaii Institute of Marine Biology.

*Candace Shimabuku*, Administrative and Fiscal Support Specialist, who comes to us from the Social Science Research Institute, where she also served as an Administrative and Fiscal Support Specialist.

*Pattreeya Becker*, Administrative and Fiscal Support Specialist, who is a recent graduate of the Shidler College of Business. During her college years she worked as a student helper in the UH Disbursing Office.

*Kariann Irei*, Administrative and Fiscal Support Specialist, who is also a recent graduate of the Shidler College of Business. She was previously working as a part-time temporary hire at the Hawaii Natural Energy Institute in both the IT and fiscal offices.

## **Linda Cox, interim director of extension**

I am pleased to announce that Dr. Linda Cox has agreed to serve as the Interim Associate Dean and Interim Associate Director of Extension. The Board of Regents confirmed this interim appointment at its November meeting. Dr. Cox, NREM, received her PhD in Agricultural Economics from Texas A&M University and has been with CTAHR since 1983 as a Community Economic Development Specialist. She served as the Department Chair of AREC from 1997-1998. Dr. Cox has authored or co-authored nearly 200 journal articles, books, book chapters, workbooks, fact sheets, videos and other publications in subjects such as economic relationships between agriculture and tourism, landscape services, agricultural product marketing, business, human and natural resource management and related topics. She is actively involved in the department's undergraduate and

graduate teaching programs and served as advisor and mentor to numerous students. Dr. Cox has been a valuable member of the Beef Initiative Group for many years, working closely with Specialists and Agents to strengthen, promote, and assist the local cattle industry. She has received many awards and recognition such as the Hung Wo and Elizabeth Lau Ching Foundation Award for Faculty Service to the Community, Fulbright Senior Specialist Grant, Ka Pouhana (Mentoring) Award from CTAHR, accepted on the Fulbright Senior Specialists Roster, and many other forms of recognition.  
*Dean Andrew Hashimoto*



Linda Cox

# Dedication ceremonies for the Komohana Research and Extension Center, the John H. Beaumont Research Wing and the Tadashi Higaki Administrative Wing

By Trent Hata  
Academic Support, Komohana Research and Extension Center

On November 20, 2009, CTAHR held its dedication ceremonies to celebrate the re-opening of the newly renovated faculty offices and construction of the new John H. Beaumont research wing in Hilo. Kahu Larrío Ursua presided over the opening ceremony for the \$14.5 million project which began in April 2007 and remodeled the existing complex by re-cladding the exterior walls, renovating classrooms into faculty offices, and adding 10 modern laboratories, a tissue culture lab and support rooms. The following link is a video clip on the dedication ceremony: <http://www.bigislandvideonews.com/2009/11november/20091122komohana.htm>

Built in 1976, the UHM Komohana Agricultural Complex was home to the Cooperative Extension Service, CTAHR research laboratories and the UHH Hawai'i Community College agriculture and nursing programs. In 2004, the Community College moved their programs to the UHH campus, and a year later, faculty and staff at the CTAHR Beaumont Agricultural Research Center relocated to Komohana from their facilities on Lanikaula Street. To accommodate this change, the Komohana Agricultural Complex was renamed the Komohana Research and Extension Center.

The original Beaumont Agricultural Research Center was demolished in 2008 for construction of the



The ceremonial lei is untied by Kahu Larrío Ursua, Andrew Hashimoto, Wayne Nishijima, Gary Ostrander, and Senator Russell Kokubun.



UHH Science and Technology building. However, to commemorate the service and contributions, of Dr. John H. Beaumont, the university has transferred the Beaumont building name to the newly constructed Komohana laboratory wing. Dr. Beaumont was an outstanding researcher and educator who served the college for 22 years, including chairing the Department of Horticulture, and serving as the Director of the Hawaii Agricultural Experiment Station from 1938 to 1950. Under his direction HAES produced 165 projects and published 190 scientific papers, including the seminal report in the journal of Science on macadamia grafting that enabled expansion of the macadamia industry. His “Beaumont-Fukunaga” vertical pruning method for Kona coffee is used in other coffee producing countries and has reduced labor and increased yields. Both grafting and pruning techniques are still used today.

The extension and administrative wing has been named the Tadashi Higaki administrative wing to honor of the late faculty member and administrator Dr. Tadashi Higaki. Dr. Higaki served as a horticulturist,

superintendent, Hawai‘i county administrator and interim Associate Dean for Extension. Dr. Higaki was a tireless advocate for Hawaii’s diversified agriculture and his Big Island community where he developed some of the best methods for anthurium production in Hawai‘i. Dr. Higaki believed in and understood extension and instilled the spirit of outreach and education into all who worked with him. Many consider that Dr. Higaki’s long, illustrious and distinguished career with CTAHR deserves special recognition and feel that naming the existing extension and administrative wing in honor of this late faculty member and administrator is appropriate. Dr. Russell Nagata, and state Reps. Clift Tsuji and Jerry Chang presented the Higaki family with a certificate to honor Dr. Higaki’s accomplishments and contribution to Hawaii’s agriculture.

Among those who attended the dedication were state Sen. Russell Kokubun, Representatives Clift Tsuji, and Jerry Chang, CTAHR Dean Andrew Hashimoto and UH Mānoa Vice Chancellor Gary Ostrander.



What Komohana looked like when work was in progress.

# Get a running start on grants in 2010

By Sharee Pepper  
Grant coach

The following list includes some current funding opportunities that may be of interest to CTAHR faculty. If the deadline is too short for this year, it is still a good indication of the likely due date for next year. Let us know if we can be of any assistance with developing and editing your grant application.

For information on submitting grants electronically on grants.gov the following publication may be useful. USDA, NIFA Grants.gov Application Guide – A guide for the preparation and submission of NIFA applications via grants.gov.  
[http://www.nifa.usda.gov/funding/grant\\_forms/electronic\\_app\\_guide.pdf](http://www.nifa.usda.gov/funding/grant_forms/electronic_app_guide.pdf)

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## Agriculture, Rural and Community Development Grants

\$ - USDA, NIFA - Agriculture and Food Research Initiative (AFRI) Competitive Grants Program (Note: includes prior NRI grants)  
**Deadline: all have expired (use as guide for 2010)**  
[http://www.nifa.usda.gov/funding/afri/pdfs/program\\_announcement.pdf](http://www.nifa.usda.gov/funding/afri/pdfs/program_announcement.pdf) or <http://www.nifa.usda.gov/funding/afri/afri.html>

\$ - Monsanto Fund Grant  
**Deadline: January 1, 2010**  
[http://www.monsantofund.org/asp/Qualifications\\_and\\_Procedures/Main\\_Menu.asp](http://www.monsantofund.org/asp/Qualifications_and_Procedures/Main_Menu.asp)

\$ - U.S. Environmental Protection Agency (EPA) - Approaches to Assessing Potential Food Allergy from Genetically Engineered Plants  
**Deadline: January 7, 2010**  
[http://www.epa.gov/ncer/rfa/2010/2010\\_star\\_biotech.html](http://www.epa.gov/ncer/rfa/2010/2010_star_biotech.html)

\$ - USDA, NIFA - Specialty Crop Research Initiative  
**Deadline: January 14, 2009**  
[http://www.nifa.usda.gov/funding/rfas/specialty\\_crop.html](http://www.nifa.usda.gov/funding/rfas/specialty_crop.html)

\$ - USDA, NIFA - Extension Integrated Pest Management - Coordination and Support Program  
**Deadline: January 14, 2009**  
[http://www.nifa.usda.gov/funding/rfas/eipm\\_support\\_program.html](http://www.nifa.usda.gov/funding/rfas/eipm_support_program.html)

\$ - USDA – NIFA, AFRI – Agriculture and Food Research Initiative - Soil Processes  
**Deadline: January 16, 2010**  
<http://www.nifa.usda.gov/fo/soilprocessesafricfm>

\$ - USDA, NIFA - Integrated Research, Education, and Extension Competitive Grant Program: National Integrated Food Safety Initiative  
**Deadline: January 19, 2009**  
<http://www.nifa.usda.gov/fo/foodsafetyicgp.cfm>

\$ - USDA, NIFA – Disaster Resilience for Rural Communities  
**Deadline: January 20, 2010**  
[http://www.nifa.usda.gov/funding/rfas/pdfs/10\\_disaster.doc](http://www.nifa.usda.gov/funding/rfas/pdfs/10_disaster.doc)

\$ - USDA, NIFA - Special Research Grants Program - Potato Breeding Research  
**Deadline: January 20, 2010**  
<http://www.nifa.usda.gov/funding/rfas/potato.html>

\$ - USDA, NIFA - Youth Farm Safety Education and Certification  
**Deadline: January 21, 2010**  
[http://www.nifa.usda.gov/funding/rfas/youth\\_farm.html](http://www.nifa.usda.gov/funding/rfas/youth_farm.html)

\$ - USDA, NIFA - International Science and Education Grants Program  
**Deadline: January 28, 2010**  
[http://www.nifa.usda.gov/funding/rfas/intl\\_science.html](http://www.nifa.usda.gov/funding/rfas/intl_science.html)

\$ - USDA, NIFA, AFRI - Plant Biology: Environmental Stress  
**Deadline: January 29, 2010**  
<http://www.nifa.usda.gov/fo/plantbiologyenvironmentalstressafri.cfm>

\$ - USDA, NIFA - Increasing Scientific Data on the Fate, Transport and Behavior of Engineered Nanomaterials in Selected Environmental and Biological Matrices  
**Deadline: February 2, 2010**  
[http://www.epa.gov/ncer/rfa/2010/2010\\_star\\_nano.html](http://www.epa.gov/ncer/rfa/2010/2010_star_nano.html)

\$ - USDA, NIFA - Organic Agriculture Research and Extension Initiative (OREI)  
**Deadline: February 9, 2010**  
<http://www.nifa.usda.gov/funding/rfas/OREI.html>



\$ - USDA, NIFA, AFRI – Microbial Biology: Microbial Associations with Plants

**Deadline: February 16, 2010**

<http://www.nifa.usda.gov/fo/microbialbiologyplantmicrobeassociationsafri.cfm>

\$ - USDA, NIFA, AFRI - Plant Biology: Growth and Development

**Deadline: March 2, 2010**

<http://www.nifa.usda.gov/fo/plantbiologygrowthanddevelopmentafri.cfm>

\$ - USDA, NIFA, AFRI - Animal Genome: Genetics and Breeding

**Deadline: March 5, 2010**

<http://www.nifa.usda.gov/fo/animalgenomegeneticsandbreedingafri.cfm>

\$ - USDA, NIFA, AFRI – Integrated Solutions for Animal Agriculture

**Deadline: March 16, 2010**

<http://www.nifa.usda.gov/fo/integratedsolutionsforanimalagricultureafri.cfm>

\$ - USDA, NIFA - New Era Rural Technology Competitive Grants Program (RTP)

**Deadline: April 14, 2010**

[http://www.nifa.usda.gov/funding/rfas/new\\_era.html](http://www.nifa.usda.gov/funding/rfas/new_era.html)

\$ - USDA, NIFA, AFRI - Biology of Weedy and Invasive Species in Agroecosystems

**Deadline: April 20, 2010**

<http://www.nifa.usda.gov/fo/weedyandinvasivespeciesafri.cfm>

\$ -USDA, NIFA - Western Sustainable Agriculture Research and Education Program Sustainable Agriculture Tours

**Deadline: Open until funding is exhausted**

[http://wsare.usu.edu/grants/docs/RFA\\_SAT.pdf](http://wsare.usu.edu/grants/docs/RFA_SAT.pdf)

\$ - USDA, Rural Development Community Facilities Loan and Grant Program

**Deadline: Applications accepted on an ongoing basis**

<http://www.rurdev.usda.gov/rhs/cf/cp.htm>  
[http://www.rurdev.usda.gov/rhs/cf/brief\\_cp\\_grant.htm](http://www.rurdev.usda.gov/rhs/cf/brief_cp_grant.htm)

\$-Farm Foundation Grants

**Deadline: Applications accepted on an ongoing basis**

[http://www.farmfoundation.org/news/templates/comm\\_template.aspx?articleid=357&zoneid=67](http://www.farmfoundation.org/news/templates/comm_template.aspx?articleid=357&zoneid=67)

## Education

\$ - NSF –Tribal Colleges and Universities Program (TCUP)

**Deadline: December 20, 2009**

[http://www.nsf.gov/funding/pgm\\_summ.jsp?pims\\_id=5483&org=NSF&sel\\_org=NSF&from=fund](http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=5483&org=NSF&sel_org=NSF&from=fund)

\$ - NSF -Research Initiation Grants to Broaden Participation in Biology (RIG BP)

**Deadline: January 11, 2010**

[http://www.nsf.gov/funding/pgm\\_summ.jsp?pims\\_id=10676&org=NSF&sel\\_org=NSF&from=fund](http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=10676&org=NSF&sel_org=NSF&from=fund)

\$ - USDA, NIFA - Secondary Education, Two-Year Postsecondary Education, and Agriculture in the K-12 Classroom Challenge Grants

**Deadline: January 15, 2010**

[http://www.nifa.usda.gov/funding/rfas/sec\\_challenge.html](http://www.nifa.usda.gov/funding/rfas/sec_challenge.html)

\$ - USDA, NIFA - Youth Farm Safety Education and Certification

**Deadline: January 21, 2010**

[http://www.nifa.usda.gov/funding/rfas/youth\\_farm.html](http://www.nifa.usda.gov/funding/rfas/youth_farm.html)

\$ - Fund for Teachers - 2010 Summer Education Grants

**Deadline: January 29, 2010**

[http://foundationcenter.org/pnd/rfp/rfp\\_item.jhtml?id=269300007](http://foundationcenter.org/pnd/rfp/rfp_item.jhtml?id=269300007)

\$- USDA, NIFA -Higher Education Challenge (HEC) Grants Program

**Deadline: February 5, 2010**

[http://www.nifa.usda.gov/funding/rfas/higher\\_education\\_challenge.html](http://www.nifa.usda.gov/funding/rfas/higher_education_challenge.html)

\$ -NSF -Undergraduate Research and Mentoring in the Biological Sciences (URM)

**Deadline: March 2, 2010**

[http://www.nsf.gov/funding/pgm\\_summ.jsp?pims\\_id=500036&org=NSF&sel\\_org=NSF&from=fund](http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=500036&org=NSF&sel_org=NSF&from=fund)

\$ - Human Frontier Science Program – Short Term Fellowship Program

**Deadline: rolling – applications accepted year round**

[http://www.hfsp.org/how/appl\\_forms\\_STF.php](http://www.hfsp.org/how/appl_forms_STF.php)

\$ - NSF – Active Funding Opportunities

**Deadline: Multiple**

[http://www.nsf.gov/funding/pgm\\_list.jsp?org=NSF&ord=date](http://www.nsf.gov/funding/pgm_list.jsp?org=NSF&ord=date)

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## Environment, Water, Energy, Invasive Species Grants

\$ - USDA, NIFA – Air Quality

**Deadline: March 5, 2009**

<http://www.nifa.usda.gov/fo/airqualityafri.cfm>

\$ - National Forest Foundation: Community Assistance Program

Local Forest Partnerships Fund

**Deadline: proposals accepted on a rolling basis throughout year**

[http://www.natlforests.org/consp\\_05\\_cap.html](http://www.natlforests.org/consp_05_cap.html)

\$ - National Geographic Conservation Trust Offers Funding to Preserve Earth's Resources

**Deadline: Open**

<http://www.nationalgeographic.com/field/grants-programs/conservation-trust-application.html>

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## Families, Youth and Children Grants

\$ - CHS Foundation

Rural Youth and Leadership Development

**Deadline: rolling – applications accepted year round**

<http://www.chsfoundation.org/programs/ryld.htm>

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## Financial Grants

\$ - Money Management International Financial Education Foundation,

Financial Education Grants

**Deadline: rolling – applications accepted year round**

<http://www.mmifoundation.org/GrantSeekers.asp>

\$ - [Hitachi Foundation: Business and Communities Grants Program](http://www.hitachifoundation.org/grants/guidelines/index.html)

Grants Address Economically Isolated Communities

Interested organizations may submit an online inquiry to provide information about project ideas **at any time** and the Foundation's will determine if it fits their priorities.

<http://www.hitachifoundation.org/grants/guidelines/index.html>

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## Health, Nutrition, Food & Biomedical Grants

\$ - Robert Wood Johnson Foundation and Pew Charitable Trusts Announce Health Impact Project

**Deadline: Open**

<http://www.rwjf.org/applications/solicited/cfp.jsp?ID=20921>

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## Science Grants

\$ - USDA, NIFA, AFRI – Arthropod and Nematode Biology and Management: Tools, Resources, and Genomics

**Deadline: April 1, 2010**

<http://www.nifa.usda.gov/fo/arthropodnematodetoolsresourcesgenomicsafri.cfm>

<http://www.nifa.usda.gov/fo/arthropodnematodetoolsresourcesgenomicsafri.cfm>

NSF – Active Funding Opportunities

**Deadline: Multiple**

[http://www.nsf.gov/funding/pgm\\_list.jsp?org=NSF&ord=date](http://www.nsf.gov/funding/pgm_list.jsp?org=NSF&ord=date)

\$ - National Geographic Society – Waitt Grants Program

**Deadline: Rolling**

<http://www.nationalgeographic.com/field/grants-programs/waitt-grants-application.html>

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## UH, Hawaii and Regional Grants

\$ - UH, University Research Council - Faculty Travel Funds  
**Proposal Deadline: rolling – applications must be in >4 weeks before travel.**

[http://www.hawaii.edu/urc/pdf/factravel\\_g.pdf](http://www.hawaii.edu/urc/pdf/factravel_g.pdf)

[http://www.hawaii.edu/urc/pdf/factravel\\_f.pdf](http://www.hawaii.edu/urc/pdf/factravel_f.pdf)



# Faculty publications

## Greg Bruland (NREM)

Bruland, G.L., C.J. Richardson, and W.L. Daniels. 2009. Microbial and geochemical responses to organic amendments in a created wetland. *Wetlands* 29:1153-1165.

## Yangrae Cho (PEPS)

Kim, K.-H., Willger, S.D., Park, S.W., Puttikamonkul, S., Grahl, N., Cho, Y., Mukhopadhyay, B., Cramer, R.A. Jr, and Lawrence, C.B. 2009. TmpL, a transmembrane protein required for intracellular redox homeostasis and virulence in a plant and an animal fungal pathogen. *PLoS Pathog.* e1000653.

Cho Y, Kim K-H, La Rota M, Scott D, Santopietro G, Callihan M, and Lawrence C. 2009. Discovery of virulence factors by a high throughput targeted gene deletion of regulatory genes in *Alternaria brassicicola*. *Mol. Microbiol.* 72:1316-1333.

## Ken Grace (PEPS)

Grace, J. K. 2006 (issued 2009). Termite trends worldwide. *Proceedings of the Canadian Wood Preservation Association* 27: 27-38.

Grace, J. K. 2009. What can fecal pellets tell us about cryptic drywood termites (Isoptera: Kalotermitidae)? *International Research Group on Wood Protection*, Stockholm, Sweden. IRG Document IRG/WP 09-20407. 12 pp.

Grace, J. K., R. J. Woodrow and R. J. Oshiro. 2009. Expansive gallery systems of one-piece termites (Isoptera: Kalotermitidae). *Sociobiology* 54: 37-44. Uchima, S. Y. and J. K. Grace. 2009. Interspecific Agonism and Foraging competition between *Coptotermes formosanus* and *Coptotermes gestroi* (Blattodea: Rhinotermitidae). *Sociobiology* 54: 765-776.

Leong, M. K. H. and J. K. Grace. 2009. Occurrence and distribution of mosquitoes (Diptera: Culicidae) of public health importance on the island of Oahu. *Proceedings of the Hawaiian Entomological Society* 41: 57-70.

Leong, M. K. H. and J. K. Grace. 2009. Occurrence and distribution of bees (Hymenoptera: Apidae) of public health importance on the island of Oahu. *Proceedings of the Hawaiian Entomological Society* 41: 71-78.

Leong, M. K. H. and J. K. Grace. 2009. Occurrence and distribution of flies (Diptera: Calliphoridae and Muscidae) of public health importance on the island of Oahu. *Proceedings of the Hawaiian Entomological Society* 41: 79-88.

Leong, M. K. H. and J. K. Grace. 2009. Occurrence and

distribution of fleas (Siphonaptera: Pulicidae) of public health importance on the island of Oahu. *Proceedings of the Hawaiian Entomological Society* 41: 89-96.

## Gernot Presting (MBBE)

Members of the [Presting Bioinformatics and Genome Evolution laboratory](#), including PhD students Thomas Wolfgruber, Anupma Sharma and Kevin Schneider, made major contributions to the corn genome sequencing project that was published in the 20 November issue of [Science magazine](#). This genome project represents a milestone in plant genomics. From a commercial perspective, corn is a major US crop with an estimated annual value of around \$50 billion (2008 value = \$47 billion). Of particular interest to Hawaii is the fact that seed corn production in the State of Hawaii was valued at [\\$169.3 million last year](#), which accounts for 96% of the total seed industry and exceeds the value of both sugar ([\\$47.6 million in 2007](#)) and pineapple ([\\$75.5 million in 2006](#)). On a scientific note, the corn genome is the most complex plant genome sequenced to date, and therefore ideally suited to study the major features of crop genomes, most of which are more similar in size to the large corn genome (2.4 billion nucleotides) than the much smaller model organisms rice and *Arabidopsis* (0.4 and 0.1 billion nucleotides, respectively). Most of this size difference is accounted for by vast amounts of “selfish” DNA repeats called LTR retrotransposons, whose function in the genome is not yet fully understood.

The Presting lab's specific contribution was the mapping, assembly and characterization of the centromere regions of the corn chromosomes, including the sequencing of several million nucleotides. The two main roles of chromosomes are the storage of genetic information (genes) and ensuring the proper segregation of this information into the two daughter cells during each cell division. Centromeres are essential for this process, as these are the points of attachment for the spindle microtubules, which move the two copies of each chromosome to the opposing cell pole during cell division. A thorough understanding of centromeres is also a prerequisite for the construction of artificial chromosomes that may some day accelerate the breeding of corn.

Centromeres tend to be the last regions to be assembled in genome projects (if at all), as their mapping is hampered by their characteristically high repeat DNA content and lack of genetic recombination. In a separate paper published in [PLoS Genetics](#), the group describes the use of novel methods to identify unique markers derived from these repeat-rich regions, which were then used to map all ten centromeres. Functional centromeres are defined not so much by their primary DNA sequence as by special proteins. By indirectly mapping these



proteins onto the physical map of the chromosomes, they delineated the functional centromeres in today's maize genome. They then used the large number of LTR retrotransposon insertions, for which the corn genome is well known, as "archeological evidence" to reconstruct the historic centromere boundaries, and were able to show that, despite the critical importance of centromeres, their boundaries and DNA content have changed over time. The substantial amounts of raw data generated by this [NSF-funded project](#) have been deposited in the GenBank [Short Read Archive](#) and [Trace Archive](#), and are displayed graphically in the [Maize Genetics and Genomics Database](#).

Wolfgruber TK, Sharma A, Schneider KL, Albert PS, Koo D-H, Shi J, Lee H, Gao Z, Han F, Xu R, Allison J, Birchler JA, Jiang J, Dawe RK, Presting G. 2009. Maize centromere structure and evolution: sequence analysis of centromeres 2 and 5 reveals dynamic loci shaped primarily by retrotransposons. *PLoS Genet* 5(11): e1000743. doi:10.1371/journal.pgen.1000743.

Schnable PS, D Ware, RS Fulton, JC Stein, F Wei, S Pasternak, C Liang, J Zhang, L Fulton, TA Graves, P Minx, AD Reily, L Courtney, SS Kruchowski, C Tomlinson, C Strong, K Delehaunty, C Fronick, W Courtney, SM Rock, E Belter, F Du, K Kim, RM Abbott, M Cotton, A Levy, P Marchetto, K Ochoa, SM Jackson, B Gillam, W Chen, L Yan, J Higginbotham, M Cardenas, J Waligorski, E Applebaum, L Phelps, J Falcone, K Kanchi, T Thane, A Scimone, N Thane, J Henke, T Wang, J Ruppert, N Shah, K Rotter, J Hodges, E Ingenthron, M Cordes, S Kohlberg, J Sgro, B Delgado, K Mead, A Chinwalla, S Leonard, K Crouse, K Collura, D Kudrna, J Currie, R He, A Angelova, S Rajasekar, T Mueller, R Lomeli, G Scara, A Ko, K Delaney, M Wissotski, G Lopez, D Campos, M Braidotti, E Ashley, W Golser, H Kim, S Lee, J Lin, Z Dujmic, W Kim, J Talag, A Zuccolo, C Fan, A Sebastian, M Kramer, L Spiegel, L Nascimento, T Zutavern, B Miller, C Ambroise, S Muller, W Spooner, A Narechania, L Ren, S Wei, S Kumari, B Faga, M Levy, L McMahan, PV Buren, MW Vaughn, K Ying, CT Yeh, SJ Emrich, Y Jia, A Kalyanaraman, AP Hsia, WB Barbazuk, RS Baucom, TP Brutnell, NC Carpita, C Chaparro, J Chia, J Deragon, JC Estill, Y Fu, JA Jeddelloh, Y Han, H Lee, P Li, DR Lisch, S Liu, Z Liu, DH Nagel, MC McCann, P SanMiguel, AM Myers, DS Nettleton, J Nguyen, BW Penning, L Ponnala, KL Schneider, DC Schwartz, A Sharma, C Soderlund, NM Springer, Q Sun, H Wang, M Waterman, R Westerman, TK Wolfgruber, L Yang, Y Yu, L Zhang, S Zhou, Q Zhu, JL Bennetzen, RK Dawe, J Jiang, N Jiang, GG Presting, SR Wessler, S Aluru, RA Martienssen, SW Clifton, WR McCombie, RA Wing, RK Wilson. 2009. The B73 maize genome: complexity, diversity and dynamics. *Science*, 326:1112-1115.



[Your publications here in Jan 2010!]



# South China Agricultural University (SCAU) celebrates 100 years

By CY Hu  
Associate Dean and Associate Director for Research

South China Agricultural University (SCAU) celebrated its centennial on November 8 this year. SCAU is located in Guangzhou, China. Guangzhou is the largest city in southern China. The Province of Guangdong is the sister state of Hawaii, and the first Chinese who arrived in Hawaii were from Guangdong. CTAHR established collaborative relationship with SCAU back in 1991 when Dean Kefford signed the first memorandum of understanding of exchange when Albert Simone was the president. Many CTAHR faculty members have established collaborative research since then. Mr. Zicong Li, a PhD student in Dr. Jinzeng Yang's laboratory in the Department of Human Nutrition, Food and Animals Sciences, is a graduate of SCAU. We also hosted 20 undergraduate students in a 4-week summer program earlier this year (see CRN September issue). Dean Hashimoto attended the SCAU centennial celebration on behalf of Chancellor Hinshaw. He presented a Hawaii Senate proclamation,

a commendation letter from Governor Lingle and a congratulatory letter from Chancellor Hinshaw to President Xiaoyang Chen during the ceremony. We are looking forward to increased collaborations with SCAU research and academic programs in the coming years.



SCAU students listen to Dr. James Brewbaker during their field trip visit to our Waimanalo Station.



Dean Hashimoto congratulates President Chen on reaching their one hundred year mark.