CTAHR Research News

November 2007
Volume 3, Issue 9

Big time biochemistry

Funding uncertainty still a concern for us

The future of the TSTAR program

Prof. Christopher stands in his lab holding one of his research subjects, *Arabidopsis thaliana* plants, which are a model system used worldwide for molecular genetic studies.

In this issue

From the Associate Dean and Associate Director for Research

Did you know that CTAHR has 185 board-approved faculty positions, of which 98 have research responsibilities? Our Molecular Biosciences and Bioengineering Department (MBBE) currently has 12 faculty members with 8.35 FTE (Full Time Equivalent) in research, 2.9 FTE in instruction, and 0.75 FTE in Extension. On average, an MBBE faculty spends 70 percent of his/her time on research activities: this is the highest percentage of research efforts in CTAHR. Needless to say, MBBE is our biggest contributor of patents issued to the college: three out of four patents in the last three years. On top of that, MBBE faculty are very productive in their publications and grants. We have introduced two members of MBBE in the past, Dr. Winston Su (February 2006), and Dr. Qing Li (February 2007), and it is my pleasure to introduce Dr. David Christopher in this issue's cover story. Dr. Christopher not only is a productive research scientist, as evidenced by his extramural competitive grants and his publications, but is also an excellent teacher and mentor. David has a grant from the National Science Foundation to train high school teachers on modern molecular biology techniques during the summer. David is using basic molecular biology techniques to find solutions for applied problems relevant to our local industries, and his work on pineapple and papaya are examples of solving practical problems facing our industries.

Effects of the loss of special grants last year finally hit us. Although not surprising, it is still hard for us to face the reality that our total grants were down both in number and award dollars this past month, and that this trend will continue in the near future. Doug Vincent has provided a summary to detail our grant situation. Although last year the Democrat-controlled Congress promised to deliver the FY 2008 federal budget on time, it has yet to be realized. We are still optimistic that we will have a federal budget (which means we will receive some special grants) this fiscal year. Most recent speculation places that day some time next March, but we are not sure exactly when. (Find out more in the Doug's update on federal budget piece). Fortunately, the Office of the Vice President for Research and the Office of the Vice Chancellor for Research have approved Dean Hashimoto's request to provide $350,000 in bridge funding to support graduate students. We are working on a distribution plan for this support.

In anticipating the return of special grants next March, we are preparing to release a new RFP for T-STAR in December. To prevent future disruptions in special grant funding, we propose to fully fund all approved projects for FY 2008 and FY 2009, which means a fewer number of projects will be approved. Assuming that funding continues as before, the total number of projects awarded will be back to normal by FY 2010. Feel free to provide your input as you read Doug's article so that we can finalize and release the RFP. Disruption of special grant funding in the past two years clearly indicates the need to seek research funding from other sources, we would like to see more proposals submitted this year. Please contact Doug or myself if you intend to write a competitive grant proposal this year – we will provide grant writing support for your effort.

We had the pleasure to host a short visit by Dr. Qixin Sun, vice president of China Agricultural University (CAU) earlier this month. CAU is in the process of selecting 100 students for overseas research experience, and six of them will join CTAHR in 2008. This is an outcome from our August visit to CAU, and we anticipate further development of closer collaborations in our research and educational programs.

As usual, you can find funding opportunities, new grants and publication we received last month. If you do not see yours on this list, that is the reminder to send your publications to me, as well as your comments and suggestions.

C.Y. Hu
Associate Dean and Associate Director for Research

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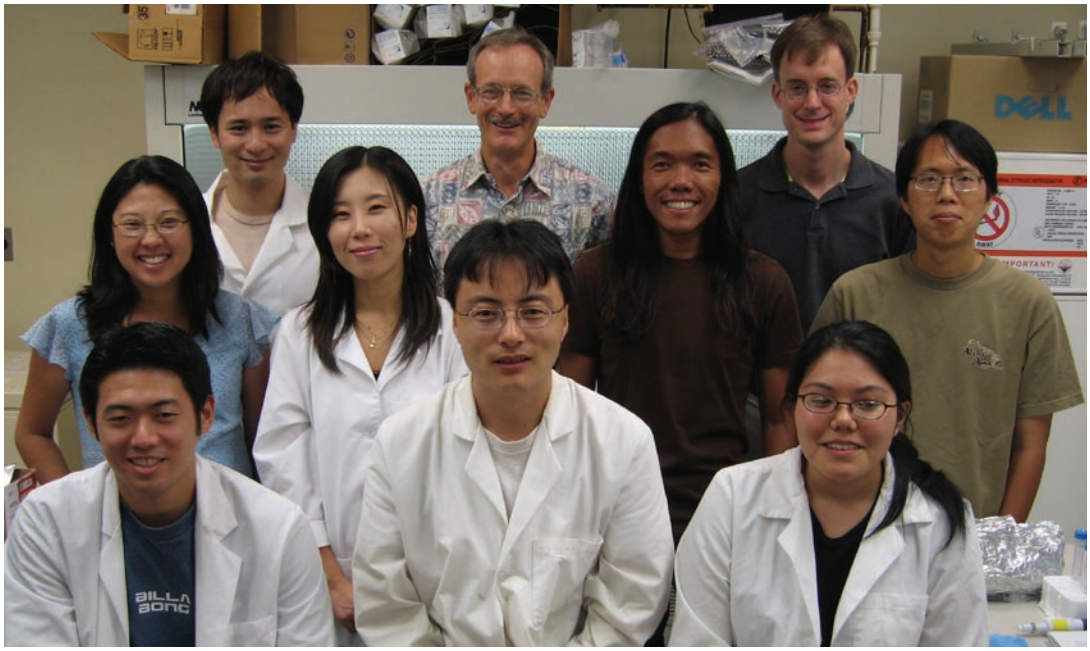
Of plants, genes, and cells

By David Christopher
Professor
Department of Molecular Biosciences and BioEngineering



The Christopher lab.
Front row: Kevin Migita (Mililani), Dong-Ping Lu (Inner Mongolia, China), Jannai Yafuso (Aiea)

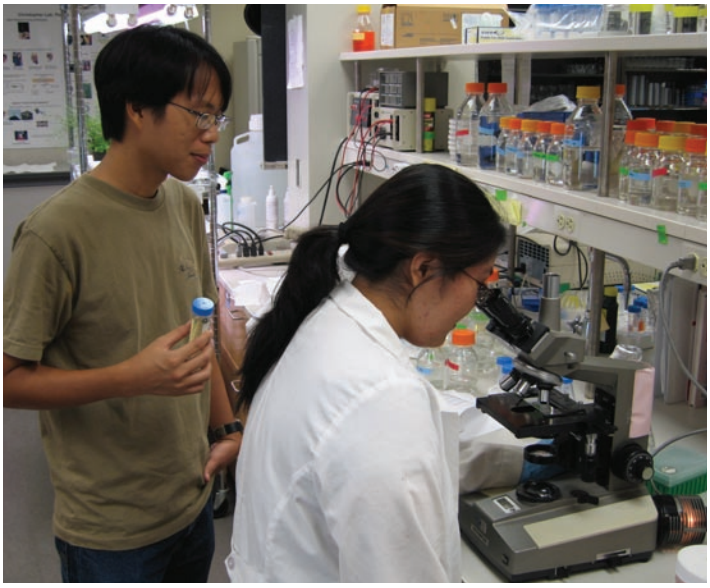
Middle row: Kristie Matsumoto (Honolulu), Eun Ju Cho (South Korea), Pierre Perez (Phillipines), Dr. Chris Yuen (California)

Back row: Bryan Jun (S. Korea), Prof. Christopher (Massachusetts), Dr. Brad Porter (Texas)

When Professor David Christopher was growing up in snowy Massachusetts, he thought pineapples developed like pinecones on tall trees. This amusing notion was corrected after his Uncle visited Hawaii and sent back a post-card of a lush field of pineapple plants. Now 40 years later, Professor Christopher conducts research on pineapple and several diverse tropical and non-tropical plants, with an emphasis on processes that control plant productivity, growth and resistance to pests and diseases. Additional projects focus on using plants as biofactories to make medicines. The bright and dynamic research team is comprised of **Dr. Brad Porter**, **Dr. Christen Yuen**, **Kristie Matsumoto**, **Dong-Ping Lu**, **Pierre Perez**, **Eun Ju Cho**, **Jannai Yafuso**, **Kevin Migita**, and **Bryan Jun**. These dedicated individuals carry out the real experimental bench-work necessary to ensure progress and meeting project objectives. Former lab members who recently graduated but contributed to the projects described here are: Dr. Tamas Borsics (now at UH Medical School), Wendy Ullmer (Harvard U.), Kumiko Aizawa (Columbia U.), and Kelly Gushiken (U. Wisconsin). The research program is enhanced by collaborations with Dr. Judy Zhu at the Hawaii Agricultural Research Center (HARC), Professor L. Andrew Staehelin at University of Colorado and Dr. Kabi Neupane at Leeward Community College.

Genes for Pineapple Root Growth and the Fight Against Nematodes

Although cyst and root knot nematodes are tiny worm-like pests, they are big problems for the pineapple industry in Hawaii. Nematodes feed on the roots and substantially decrease plant vigor and yield. Consequently, vigorous root growth is an essential trait for resistance to nematodes. Professor Christopher's team has isolated and identified over 25 genes from pineapple that control root development and growth. These genes contain "genetic switches" called "promoters" that can be used to deliver nematode fighting compounds to roots. In addition, they have isolated a pineapple gene for a protein, called cystatin, that inhibits the digestive protease enzymes of nematodes. Kristie Matsumoto has taken the lead in expressing a recombinant version of the pineapple cystatin and has characterized its potency. Through a series of astute experiments, including protease and surface plasmon resonance assays, she has found the pineapple cystatin



Dr. Chris Yuen and Jannai Yafuso use the microscope to inspect the health and integrity of single-celled protoplasts derived from Arabidopsis leaves. Protoplasts are plant cells that have had their cell walls removed enzymatically, which facilitates the ability of genes to enter the cell. Microscopic views of a protoplast are shown in the image on the right.

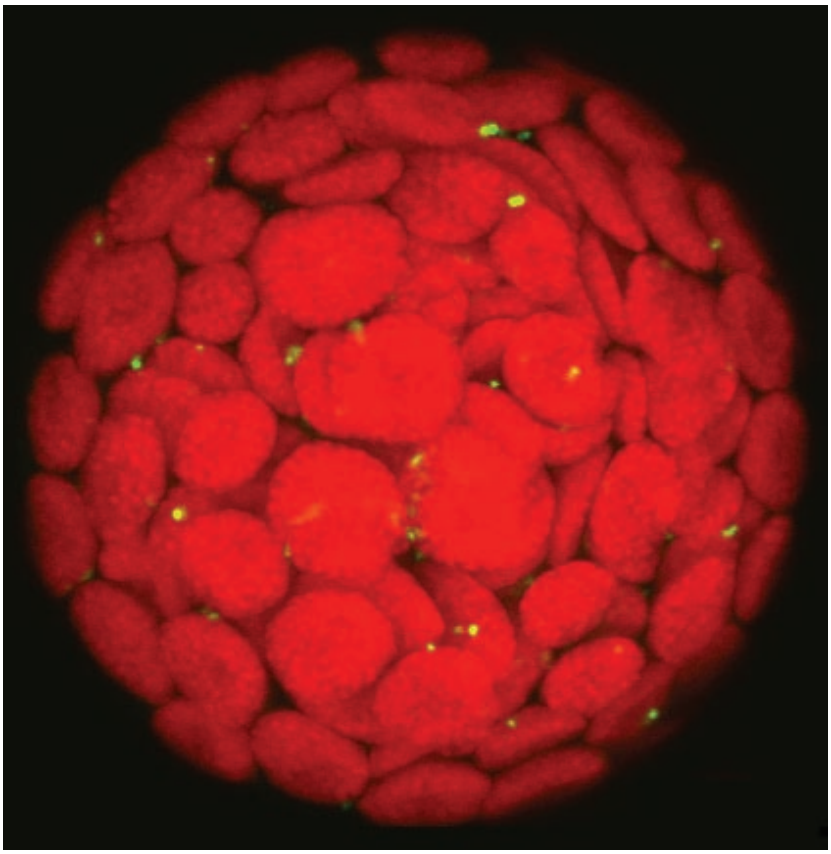
to be more potent as a protease inhibitor than any other known cystatin, making it an ideal candidate for use against nematodes. However, pineapple does not make enough of the cystatin in the roots to ward of nematode attack. This is where genetic tools can be used to bioengineer pineapple, boosting cystatin levels only in the roots to make them immune to nematodes.

What Do Red Wine and Fungal Resistance in Papaya Have in Common?

Plants have a fascinating diversity of natural constituents, from beautifully colored pigments and novel compounds like caffeine, to undiscovered medicines for people and plants. This point is elegantly illustrated by the compound resveratrol, which is abundant in grapes and red wine. Resveratrol is touted as a cholesterol-lowering nutraceutical and antioxidant for people and it also benefits plants. Pioneering experiments conducted by Dr. Judy Zhu at HARC have shown that expressing a grape gene for resveratrol production in papaya boosts the plant's ability to fight infection from the pathogenic fungus, *Phytopthora palmivora*. Professor Christopher has collaborated with Dr. Zhu to develop methods to increase the levels of resveratrol in the papaya roots and stems, which are the earliest tissues of the plant attacked by the soil pathogen. Dr. Brad Porter, a talented post-doctoral associate, has isolated several genes highly expressed in the roots of papaya plants, including a gene that responds to the fungus (http://dx.doi.org/10.1016/j.plantsci.2007.09.013). These genes contain genetic switches that are being used to "turn on" resveratrol production at higher levels specifically in roots and stems of infected plants. Research shows that the higher levels of resveratrol will safely enhance plants' resistance to the fungus, and thus obviate the need to spray with chemical fungicides, thereby helping the environment.

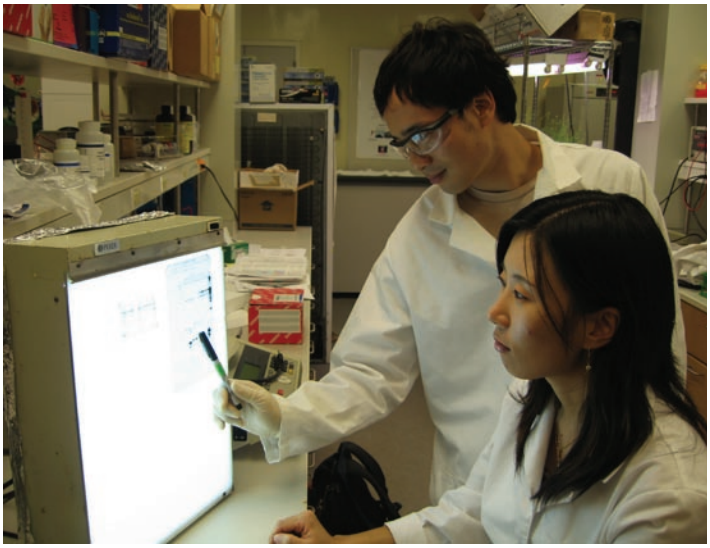
Helping Plants Cope with Salt, Drought and Toxic Metal Stress

Potassium is a major plant macronutrient essential for plant growth, development and productivity. Restricted potassium severely hinders crop production on salt-laden and heavy metal-polluted soils and during drought. Salinity and drought stresses are major issues

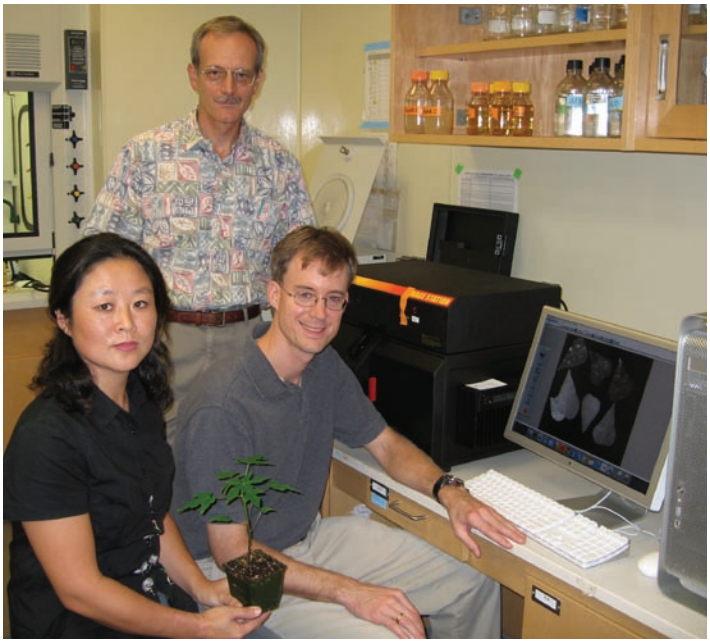


Laser confocal microscope image a of single cell protoplasts genetically engineered with a channel fused with the green fluorescent protein that targets to small vesicles. The red disc-like structures represent chloroplasts, which are responsible for harvesting light energy and converting it to sugars. The small green dots are vesicles fluorescing green due to targeting of the Channel green fluorescent protein.

for future agriculture, especially as the availability of fresh water decreases due to projected global warming, restrictions on irrigation, and increased population growth. In the tropical Pacific, global warming has already led to salinity contamination of small island ecosystems, ground water and agricultural fields. As fresh water resources become less available, it will be necessary to develop cultivars of crop and non-crop plants that can better tolerate existing and elevated salinity and drought conditions. Adequate potassium is the pivotal nutrient that assists plants in dealing with these stresses. Knowledge of the cellular and genetic mechanisms that regulate potassium transport into and out of plant cells is critical for the development of crops resistant to salinity and drought stress. To this end, the team has discovered a new type of potassium channel in plant cells that is essential for their growth. Channels are types of proteins that form pores in the membranes of cells. When the channels open, dissolved substances can enter and exit, whereas closing channels blocks this process. This channel specifically allows uptake of potassium and calcium, while blocking out salts like sodium and metals like aluminum and cadmium. As a result, this potassium channel allows plants to tolerate levels of salts and heavy metals that are normally toxic. Using sophisticated confocal and electron microscopy, they have revealed the channel resides in the outer envelope (plasma membrane) of the plant cell (http://www.biomedcentral.com/1471-2229/7/48). The knowledge gained from this research is a prerequisite for directed enhancement of plant salt tolerance, through biotechnology and breeding, and sustaining agricultural production in adverse environments.



Bryan Jun and Eun Ju Cho analyze Arabidopsis proteins separated by SDS polyacrylamide gel electrophoresis and detected via immunoblotting.



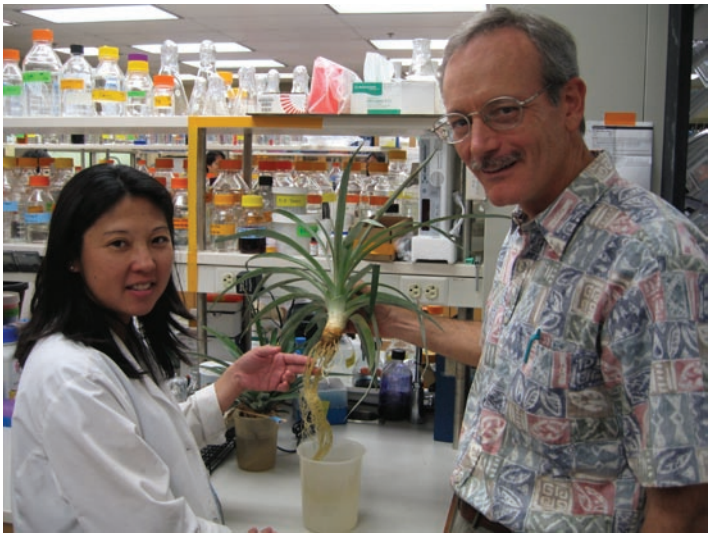
2517: Dr. Judy Zhu, Dr. Brad Porter and Prof. Christopher (standing) measure the level of gene expression in papaya leaves using a fluorescence detection and imaging system as shown on the computer screen.

What's an Arabidopsis?

When Professor Christopher arrived at CTAHR in 1994, he was the first faculty at UH to conduct molecular genetic research using a simple unusual plant, *Arabidopsis thaliana*. He states that genetic modifications are easier and faster to make in *Arabidopsis*, compared to complex plants such as maize and rice. Amazingly, *Arabidopsis* flowers and sets seed 30 days after germination and an entire plant can be grown in a small test-tube. The short generation cycle and small space requirement make it perfect for geneticists. Also, the entire genome (DNA coding potential) of *Arabidopsis* has been determined and it is considered a benchmark plant used throughout the world of plant biology. Using *Arabidopsis* is like studying a ride-around lawn mower in order to understand a Corvette: it embodies the essence of larger systems all in one tiny package.

Plant Cell Aging: Unraveling the Knots of Proteins

It might be surprising to learn that people and plants share some similar processes that underpin aging and disease. One of them is the accumulation of misfolded enzymes that can't do their cellular and biochemical jobs anymore. The correct folding of proteins into a 3-dimensional structure is crucial for their functions. We have discovered a class of enzymes in *Arabidopsis*



Kristie Matsumoto and Prof. Christopher display the pineapple roots used to isolate genes for pineapple root development.

Dong-Ping Lu and Prof. Christopher inspect the growth, flowering and fertility of *Arabidopsis* plant mutants that have their PDI genes disrupted using a method called T-DNA mutagenesis.

called protein disulfide isomerases (PDIs) that control the protein folding process; they fold other enzymes into their correct shapes, and can also chaperone enzymes around the cell to keep them in their correct shape so they can operate properly. This basic research deals with a fundamental process of cell viability affected by enzymes. However, there are industrial applications: many enzymes are used in fermentation, food processing and materials conversion where they must survive high temperatures. The PDIs stabilize enzymes to keep them in the proper shape for high temperature applications.

A second process underlying aging is the activity of protease enzymes that degrade cell proteins. In humans, a number of degenerative diseases (Alzheimer's, arthritis) have uncontrolled protease activity. In plants, when flowers or leaves are kept in a vase, proteases eventually begin to consume the tissue over a few days that cause yellowing and browning. In *Arabidopsis*, we have found that PDIs can interact with the proteases to silence them, keeping them in a dormant state. When the tissue reaches a certain age, a trigger factor releases the PDI from the protease and thereby activates it to begin the cellular degradation and aging process. In *Anthurium*, we have identified a similar protease, termed cysteine protease, that is activated upon aging of flowers and leaves. The *Anthurium* research focuses on inhibiting the trigger of aging and the formation of the protease, to extend the lifetime of leaves and enable flowers to better withstand adverse conditions during shipping and handling without the need for manual dip treatments.

Pierre Perez and Kevin Migita hold tissue cultures of *Anthurium* plants transformed with bud proliferating and anti-aging genes.

Vaccines from Plants

Professor Christopher and Dr. Zhu collaborated on a second project with the shared goal of using plants to help cure – or lessen the impact of – devastating human diseases of the tropics. One such disease is the infectious rotavirus-induced dysentery in infants, which affects over 500,000 people a year in the USA alone. They are using a new technology called chloroplast transformation to produce a human rotavirus vaccine in sugarcane plants. Chloroplast bioengineering prevents the modified genes from escaping into the environment in pollen because chloroplasts are only maternally inherited. This research will enhance the role of value-added agriculture by producing a vaccine to diversify the use of sugarcane, which is proven to grow well in Hawaii. Also, this research expands tropical and subtropical agriculture's linkages to medicine.

Team leader and mentor, Prof. John Berestecky, works with his students Sumble Khan and Brookes Mitchell to prepare samples for gel electrophoresis in the Advances in Biosciences Education summer workshop sponsored by Prof. Christopher. A portion of the workshop is held in Dr. Kabi Neupane's lab at Leeward Community College to bring the science outside of the Manoa campus.

Educational Philosophy and Activities: Research is Teaching

Professor Christopher engages in a number of educational activities including teaching a 50-student course on biotechnology and a graduate level plant biochemistry course, mentoring students on research projects in the lab; and sponsoring the Advances in Biosciences Education (ABE) workshop in the summer for community college faculty and students. Dr. Kabi Neupane coordinates the workshop which has been a success for 26 students and five faculty who have graduated during the past three years (http://abe.leeward.hawaii.edu/summerworkshop.htm). Community college faculty and students have less access to sophisticated laboratory equipment than their colleagues at smaller schools. The ABE workshop helps bridge this technology gap. Students work with their teachers in collaborative experimental problem solving, helping to prepare students for graduate-level research or the job market while giving teachers an opportunity to hone their professional skills and develop new educational resources. Three of the faculty members took small projects back with them to their schools to develop further. The workshop was recently highlighted in the CTAHR Annual Report: (http://www.ctahr.hawaii.edu/ctahr2001/CTAHRInAction/Jul_05/abeworkshop.asp).

Christopher's educational philosophy embodies the principle that there is no division between research and teaching. We learn about living cells whether we are reading about them in textbooks, listening to class lecture or probing cell structure through experimental research. Science can be extremely fun and exciting when you discover something new. There is a moment in the lab where you are the only one who knows the results of your experiment. The next educational facet of research is to communicate the results to the world and share what you have discovered with others. His teaching philosophy also fosters public understanding of biotechnology and "biotechnology literacy" so that informed decisions can be made about GMO foods, DNA fingerprinting, gene therapy, and new medicines. There has been an incredible amount of misinformation generated by activist groups that spawns unnecessary fear about biotechnology. For society to derive the maximum benefits from the fruits of genetics research, we must be able to make accurate decisions based on facts, not the irrational agenda of anti-biotech activists.

Professor Christopher emphasizes the trial-and-error nature of research. We must be able to learn

from mistakes and, in fact, embrace mistakes in order to succeed. So much of creative research requires the willingness to try new experiments and if they fail, to persist, troubleshoot, modify the approach, and try it again. Professor Christopher reminds his students, "if research was easy, we would just call it 'search', but the 'Re-' means repeat." This same philosophy can be applied to life and persisting in the face of adversity. He strives to provide students with a salary along with a supportive learning environment and hands-on training in state-of-the-art technology. This gives students the incentive to spend time developing skills that help them compete better in the job market. One of his most rewarding experiences is hearing about a student's success such as landing a new job or getting a promotion, and by the looks of it, there will be more student success stories on the horizon.

Funding

Keeping an active research program afloat and a full-time staff employed requires adequate funding via competitive grants. Professor Christopher has successfully secured funding from some of the most competitive federal agencies, and is grateful for the Department of Energy, National Science Foundation, USDA-National Research Initiative Competitive Grants Program, US-Israel Binational Agricultural Research and Development Fund, as well as local USDA-CSREES-TSTAR Program, for supporting his research projects.

David Christopher

Born and raised: Massachusetts

Joined CTAHR: 1994

Education: BS, Plant Science 1980, University of New Hampshire; M.S., Plant Genetics, Weizmann Institute of Science;Ph.D., Molecular & Cellular Biology, University of Arizona;Post-doctoral research: Biochemistry & Biophysics, Texas A & M University

Specializations: Molecular & Cellular Biology, Genetics, Biochemistry

Current Work: Tropical plant pest and disease resistance; Function and localization of cyclic nucleotide-gated, calmodulin-binding channels in plants; Salt and heavy metal stress tolerance and impacts on photosynthesis; Protein folding in the endoplasmic reticulum; Protein trafficking; Mechanisms of programmed cell death and aging in plants.

Languages Spoken: English, some Hebrew and Spanish

Hobbies: running, gardening, hiking.

Selected grants

Functional Genomics of the Protein Disulfide Isomerase Family: Unraveling Protein Folding and Redox-Regulatory Networks. National Science Foundation. $1,210,574.

Defining the Subcellular Locations and Biochemical Function of Cyclic Nucleotide Gated Channels in Plants. U.S. Department of Energy. $178,487.

Selected publications

Porter, B.W. Aizawa, K.S. Zhu, Y.J., 2008. Christopher, D.A. Differentially expressed and new non-protein-coding genes from a *Carica papaya* root transcriptome survey. *Plant Science*, 174:38-50.

Christopher, DA, Borsics T, Yuen CYL, Ullmer W, Andème-Ondzighi C, Andres ML, Kang BH, Staehelin L.A. 2007. The cyclic nucleotide-gated cation channel AtCNGC10 traffics from the ER via Golgi vesicles to the plasma membrane of Arabidopsis root and leaf cells. *Biomedical Central Plant Biology* 7:48-56, (2007) http://www.biomedcentral.com/1471-2229/7/48

The research calabash

By Doug Vincent
Special Program Director for Grants and Contracts

USDA CRIS AD-421 Annual Accomplishment / Final Reports – Past Due

Please kokua and complete your USDA CRIS AD-421 Accomplishment Reports. There are many reports **still outstanding**. Please make an effort to get them completed right away. The original deadline was **November 15, 2007**. Go here to access the reports: http://cwf.uvm.edu/cris/. Reports are due for Hatch, Hatch Multi-State, McIntire-Stennis and Animal Health projects. Also, if you have an older TSTAR or other state project, reports are due now. For USDA CSREES grant-funded projects with anniversary dates – please check them now. Reports are due 90 days from the anniversary date. The format has changed from previous years. Instead of progress and impacts, USDA is asking for **outputs** and **impacts/outcomes**. As before, USDA is asking for a list of **publications.** New this year is a second screen requesting information about **participants**, **target audiences** and **project modifications**. To read the new instructions for more details, go here: http://www.ctahr.hawaii.edu/vincent/AD-421_Revised_Instructions_FY2007.pdf. If you have questions about preparing the new forms, contact Doug Vincent at vincent@hawaii.edu.

Note: If no progress has been made on the project, it is acceptable to say so in the outputs box. If the project has not had any impacts or outcomes, indicate so. Remember that outcomes/impacts should be written in the past tense. See the instructions for specific definitions.

CTAHR Distinguished Visiting Scholars Named

CTAHR launched a new Distinguished Visiting Scholar Program this year. The goal of the program is to provide CTAHR and our campus with remarkable intellectual and educational experiences and to nurture the scholarly atmosphere within CTAHR. Four nominations were received by the initial deadline. **Dr. George Foxcroft** of the University of Alberta and **Dr. Chiu-Chung Young** of the National Chung-Hsing University were selected. Dates for their visits have not yet been set. More details will follow about meetings, seminars and other opportunities to visit with these scientists. Continuation of funding for this pilot program will depend upon our participation, please take this opportunity to meet with these distinguished scholars when they arrive on campus.

Plan Now for TSTAR

Although the new RFP has not been released, we anticipate releasing it by mid-December for a mid-February due date. We still don't have a firm commitment for funding but we must plan with the hope that the funding will be available for FY 2008. See the article on page 20 about proposed changes to TSTAR. Any questions contact, Doug Vincent at vincent@hawaii.edu.

Pineapple Stakeholder Input Meeting Held

Illustrating the importance of obtaining stakeholder input, the Hawaii Pineapple Growers of Hawaii met with CTAHR faculty and staff on October 19, 2007 to set research priorities for the pineapple industry. Representing PGAH were Calvin Oda and Taylor Kellerman of Maui Pineapple, and Dan Nellis and Felipe Velasquez from Dole Pineapple. Representing CTAHR were Robert Paull, Duane Bartholomew, John Hu, Diane Sether, Glenn Taniguchi, Koon-Hui Wang, Brent Sipes, Anne Alvarez, and Mark Wright. Dennis Gonsalves from USDA ARS PBARC also attended the meeting. The result of the activity was a listing of research priorities that is available for download here: http://www.ctahr.hawaii.edu/vincent/2008_Pineapple_Priorities.pdf. Thanks to Robert Paull and Craig Okazaki, TPSS for hosting the meeting at the Magoon Head house.

"30-Day" Project Close-out Reminders, now automated

UH Office of Research Services has announced that they are in the process of automating the distribution the "30-Day" project close out reminders, sent to PI's and fiscal officers. These reminder notices will be sent via e-mail from the following e-mail address: closeout@ors.hawaii.edu. PIs will continue to receive the "90-day" reminders via the blue memo sent through campus mail. These eventually will be automated. These notices are important to ensure that project accounts are closed out, final reports and invoices are submitted to the funding agency. The new administrative procedure from the APM manual can be found here: http://www.ctahr.hawaii.edu/vincent/Project_Closeout_new_APM_8_954.pdf.

China Agricultural University Vice President Visits CTAHR

Dr. Qixin Sun, Vice President of China Agricultural University in Beijing visited CTAHR faculty and graduate students and presented a seminar about CAU agricultural programs on November 8, 2007. Dr. Sun is a wheat breeder and serves as the Vice President for Scientific Research and Development Planning. CTAHR is in the process of developing exchange programs with CAU with the hope of bringing six Ph.D graduate students a year for four years from CAU to study at CTAHR. We also hope to establish faculty exchanges and cooperative programs. To learn more about CAU and its programs, go here: http://www.cau.edu.cn/cie/en/.

Dr. Qixin Sun, Vice President for Research, China Agricultural University, presents a seminar to CTAHR faculty and students.

Consortium for Plant Biotechnology Research seeking Pre-proposals

The University of Hawaii at Manoa is part of the Consortium for Plant Biotechnology Research. As a Consortium member, our faculty are eligible to submit pre-proposals to their program. Electronic submissions of pre-proposals are due on **December 14, 2007**. Invited full proposals will be due on June 20, 2008. RFP was distributed earlier, but if you still have interest, contact Doug Vincent's office at vincent@hawaii.edu. .

USDA APHIS Seeking Comments re: Hawaii Tropical Fruit Exports

The USDA Animal and Plant Health Inspection Service is seeking comments on a proposed final rule on the export of fruit grown in Hawaii to the mainland U.S. The proposed final rule amends the Hawaiian fruit and vegetables regulations to allow the export of mangosteen, dragon fruit, melon, pods of cowpea and its relatives, breadfruit, jackfruit and fresh moringa pods to be moved interstate from Hawaii under certain circumstances. Comments will be accepted until January 14, 2008. The Document ID is APHIS-2007-0050-0001. To read the proposed regulations and to submit comments on line, go to this web site: http://www.regulations.gov/fdmspublic/component/main and search for document ID # APHIS-2007-0050-0001. Stakeholder input is important to the final rulemaking process.

Bioprospecting Stakeholder Input Sought

The 2006 Hawaii State Legislature adopted House Concurrent Regulation 193 that established the formation of the Bioprospecting Advisory Commission, which is charged with making recommendations to state legislators regarding policy toward bioprospecting. The Commission has been holding a series of stakeholder meetings throughout the state. Written testimony will also be accepted. A future meeting is scheduled for **Monday, December 3, 2007**, 6:00 to 8:30 pm, at the Waianae District Park. Kevin Kelly reports that there is a clear lack of professional scientific input in the testimony to the Commission. The process of scientific inquiry and peer review is misunderstood by many. One CTAHR faculty member who attended a Hilo meeting reported that the testimony was "strongly negative, with the audience mostly split between those who wished to strictly regulate it and those who wished to ban it altogether." This is a critical issue to native Hawaiians. To read more about this issue, see the report from the Office of Hawaiian Affairs, found here: http://www.oha.org/pdf/bioprospecting/legs/Peter_G_Pan.pdf. To find more information about the Bioprospecting Advisory Commission, see the OHA web site: http://www.oha.org/index.php?option=com_content&task=category&sectionid=8&id=112&Itemid=266

Organic Agriculture Resources Available On-Line

Eileen Herring of the Hamilton Library reminds us that there is on-line access for information about organic agriculture through the **Organic Agriculture Information Access**. The Organic Agriculture Information Access is an electronic collection of historic United States Department of Agriculture (USDA) publications related to organic agriculture. In this collection, there are almost 200 documents published before 1942 (before synthetic chemicals

became widely used) that contain state-of-the-art information and data that is still very pertinent for today's agriculture. Access to this data is intended to provide growers with new ideas on crop production without chemicals, as well as help researchers conserve scarce resources by avoiding unintended duplication. You can search the database by going to the Organic Agriculture Information Access web site: http://quod.lib.umich.edu/n/nal/. The collection is provided by the Alternative Farming Systems Information Center http://afsic.nal.usda.gov/nal_display/index.php?info_center=2&tax_level=1 of the National Agriculture Library.

Peace Corps Seeking Volunteers
Many CTAHR faculty are Peace Corp Alumni. Carl Evensen, Jonathan Deenik and Jim Hollyer are just a few that come to mind. They've benefitted greatly from the meaningful international experience that comes from serving their country and the world as Peace Corps volunteers. The Peace Corps is actively recruiting volunteers for service. If you've ever considered service in this wonderful organization, see their web site that describes what volunteers do. Go here for more information: http://www.peacecorps.gov/index.cfm?shell=learn.whatvol.env&cid=naufrp.

Notables

Dr. Loriena Yancura (FCS) was interviewed on November 23, 2007, by Kirk Matthews of KHON Channel 2 television on the topic of grandparents raising grandchildren. Go here for transcript and to view the clip: http://www.khon2.com/news/local/11778406.html.

Dr. Barbara DeBarysche (COF) was a panelist on Hawaii Public Television's **Island Insights,** hosted by Dan Boylan, on November 15, 2007.

Dr. Michael V. Martin, President of New Mexico State University and former CTAHR faculty member, presented the Morrill Lecture at the National Association of State Universities and Land-Grant Colleges Annual Meeting on November 11, 2007 in New York City. Dr. Martin was among us as part of the Department of Agricultural and Resource Economics. The Morrill Lecture honors Justin Smith Morrill of Vermont, who is the "father" of the Morrill Act, which established the Land-Grant University System in 1862. You can read the text of Dr. Martin's lecture, entitled "Induced Innovation: The Story of Land-Grant Universities," at the USDA CSREES Web Site here: http://www.csrees.usda.gov/about/speeches/pdfs/martin.pdf

Upcoming Events – Mark Your Calendars
Pearl City Urban Garden Center, Annual Plant Sale, Saturday, February 2, 2008, 8:00 am – 2:00 pm

First International Conference on the Coqui Frog, Thursday-Saturday, February 7 – 9, 2008, Naniloa Volcanoes Resort, Hilo, HI. http://www.ctahr.hawaii.edu/coqui/conf08.asp

Go Global: Food Processing and Safety, Tuesday_Wednesday, February 26 – 27, 2008, Pacific Beach Hotel, Honolulu, HI. http://www.ctahr.hawaii.edu/globalfoods/

Oahu County Centennial Open House, Saturday, March 8, 2007, Pearl City Urban Garden Center, time TBA.

Agriculture Awareness Day, Hawaii State Capitol, Thursday, March 27, 2008, 11:00 am – 2:00 pm.

20th Annual CTAHR Student Research Symposium, Friday, April 11 and Saturday, April 12, 2008 in Agricultural Sciences Bldg., Time: TBA

20th Annual CTAHR Awards Banquet, Friday, May 9, 2008, Hilton Hawaiian Village Coral Ballroom

Update on the "uncertainty" of our federal funding

By Doug Vincent
Special Program Director for Grants and Contracts

The federal government is operating currently on a Continuing Resolution (CR). A "CR" provides funding for federal agencies to operate at levels from the previous fiscal year (FY 2007). In fact, we are operating on our second CR (through December 14, 2007). Although the FY 2008 fiscal year began on October 1, 2007, we still do not have a budget for USDA or most other federal agencies. Any Congressionally-mandated programs (i.e. earmarks) are on hold until the budgets are passed.

So who do we blame? The House of Representatives did their job and passed all 12 of appropriations bills. They completed their work in early August 2007, well before the end of the fiscal year. The Senate, which historically is a much more deliberative, has not completed their job. The Senate has to pass their version of the appropriations bills. After which, both bodies convene conference committees to work out differences between each respective versions of the appropriations bill. Once the differences are worked out, then the combined appropriations bill is debated, passed by each body and sent to the President for signature.

Under normal circumstances, this process isn't so protracted. But there's a war on and unfortunately many actions are influenced by the politics of an unfavorable war and an unpopular "lame duck" President. The 51-49 Senate doesn't provide much room for bipartisan compromise, either. And neither body can pass legislation that is veto-proof as both bodies are far from the 2/3rd majority needed to override a Presidential veto.

So how does that affect the appropriations process? To date, only one of the 12 appropriations bills has been passed into law. The Defense appropriations bill was passed by both bodies and signed into law on November 13, 2007. Attached to the bill was the second CR, which we are currently operating under. The next bill in the queue was the Labor/HHS/Education appropriations bill. The President claimed that this bill was full of extra spending and threatened to veto it. The bill passed both House and Senate and in an attempt to make the bill "veto-proof", the House of Representatives attached the appropriations for Veteran's Affairs and military construction to the bill, in the hope that the President would not veto funds for veterans and the military. The Senate balked at such parliamentary maneuvers and the House removed the amendments. When the bill was sent to the President, he vetoed the bill as promised. The House failed to override the veto. Next up is Labor/HUD – The House passed the Conference report and the Senate is expected to take it up after they re-convene on December 4, 2007. The President has threatened to veto this bill.

So where is the room for compromise? It's hard to say. The Republicans can vote in favor of passage of the

appropriations bills and show their bipartisan support but withhold their votes on overrides of Presidential vetoes. The Congress overrode a veto authorizing water projects but sustained a veto on an appropriations bill. The President is seeking supplemental funding for the war, but the House is proposing language in this bill to dictate troop withdrawal timetables. So in return for the supplemental spending bill, without the restrictive language, the Congress may get their budgets passed.

So the question is when? In December, when Congress returns for a couple of weeks before Christmas, the Senate will likely complete the passage of the remaining appropriations bills – including agriculture. Conference committees will meet, combined bills will be passed and the bills will be sent to the President. He will veto most of them. Unless the Democrats can convince sufficient numbers of Republicans to vote for veto overrides, budgets will be stalled. A third CR will be passed to keep the government operating through January or February 2008. This will provide additional time for "horse-trading" and compromise between the Republicans and the Democrats. The remaining un-vetoed appropriations bills will likely be rolled into an omnibus appropriations bill and passed by the Congress and signed by the President, I hope, by the end of February 2008.

And that affects us how? Should our earmarks, such as TSTAR and Floriculture, be included in the spending bills, we must be prepared to receive the funds from the funding agency by mid to late March 2008, and return the paperwork to the funding agencies shortly thereafter. We must begin to plan now for the eventuality that the funds will be restored. I know that's wishful thinking but we can't wait and see.

I'll leave you with a quotation from Senator Byron Dorgan (D-SD) who recently described the U.S. Senate's action on the Farm Bill, but it pertains to the budget as well: "You can compare the United States Senate to a glacier, but the difference is that a glacier actually moves from time to time." If you are a CSPAN junkie like me or just want to follow the process, try the following web sites:

CSPAN: http://www.cspan.org
The Library of Congress "Thomas" web site:
http://thomas.loc.gov

New faculty publications

David Christopher (MBBE)
Porter, B.W. Aizawa, K.S. Zhu, Y.J., 2008. Christopher, D.A. Differentially expressed and new non-protein-coding genes from a *Carica papaya* root transcriptome survey. *Plant Science*, 174:38-50.

Ali Fares (NREM)
Polyakov, V; Fares, A; Kubo, D; Jacobi, J; Smith, C. 2007. Evaluation of a non-point source pollution model, AnnAGNPS, in a tropical watershed. *Environmental Modelling and Software*, 2007, vol. 22, no. 11, pp. 1617-1627

Elrashidi, M. A.; Hammer, D.; Fares, A.; Seybold, C. A.; Ferguson, R.; Peaslee, S. D. 2007. Loss of heavy metals by runoff from agricultural watersheds. *Soil Science*. 172(11):876-894, November 2007.

Shu-Hwa Lin (FCS)
Lin, S. (2007). Beyond luxury: Looking for Shiang-Yun-Sa in Hawaii. *Context*, 14, 13-16.

Yee. B. W. K., & Lin S. (2007). Surviving and thriving: Maximizing the potential of a diverse workforce. *Convergence*, 8(4), 1-4.

Lin, S. (2007). Expressions of political rank by textiles: Historic Chinese dragon robes. *Context*, 13, 23-27.

Russell Messing (PEPS)
Bokonon-Ganta A. H., G. T. McQuate & R H. Messing. 2007. Natural establishment of a parasitoid complex on *Bactrocera latifrons* (Diptera: Tephritidae) in Hawaii. *Biological Control* 42: 365-373.

Yoshie Weems (HNFAS)

Weems, Y. S., L. Kim, V. Humphreys, V. Tsuda, and C. W. Weems. 2007. Effect of Luteinizing Hormone (LH), Pregnancy Specific Protein B (PSPB), or Arachidonic Acid (AA) on Ovine Luteal Tissue of the Estrous Cycle and Pregnancy or Placental Secretion of Prostaglandins E2 (PGE2) and F2a (PGF2a), and Progesterone In Vitro. *Prostaglandins and Other Lipid Mediators*. 84:163-173.

Y. S. Weems, L. Kim, V. Humphreys, C. Yin, and C. W. Weems. 2007. What Regulates Steroidogenesis by the Ovine Placenta? *Prostaglandins and Other Lipid Mediators*. 84:54-65.

Grant totals fall short of FY 2007

By Doug Vincent
Special Program Director for Grants and Contracts

Listed below are the extramural grants and contracts received by CTAHR faculty and staff since the previous publication of the *CTAHR Research News* (Table 2). We are delighted to congratulate the recipients and thank them for their diligence and dedication to seek out funding for their activities.

Since the July 1, 2007 (the beginning of the state FY 2008 fiscal year) through November 26, 2007, CTAHR has received only 63 extramural contracts and grants for $5,120,677. Unfortunately, this year's count is falling far short of the funding we received in FY 2007. For the same period in FY 2007, CTAHR received 118 awards for $18,438,021. This year we have received just over **half** the awards and **less than a third** of funding as the previous fiscal year. Absent are all of the USDA CSREES Special Research Grants such as TSTAR or Federal Floriculture grants. The impact of the loss of the Congressionally-mandated programs has now become all too apparent. Table 1 below illustrates our monthly productivity fiscal situation. Our past reliance on the Congressional earmarks to fund our programs is not sustainable. A good lesson, however, is to review the funding CTAHR has received since the start of this fiscal year. The vast majority of these projects are **not** earmark-funded projects: most are competitive grants. If you look at the PIs, the funding agencies, and the diversity of project titles, I hope you will recognize that **everyone can get funded** regardless of faculty rank or position responsibilities. Take a look at the potential funding opportunities on the next page. There are opportunities available for all of you. Take some time, take a chance. The answer is no, if you never ask! Congratulations to those that received the funding recently and thanks for serving as good examples for the rest of us.

Table 1. Comparison of extramural award intake, FY 2008 and FY 2007. (Awards Received July 1 – November 27; Source: UH Office of Research Services)

	FY 2008		FY 2007	
Month	**Awards**	**Amount**	**Awards**	**Amount**
July	1	$112,500	16	$1,230,578
August	22	$1,754,435	44	$4,265,864
September	26	$2,112,572	43	$10,204,752
October	8	$722,343	11	$1,207,278
November	6	$418,887	4	$1,529,549
Total	**63**	**$5,120,737**	**118**	**$18,438,021**

Table 2. CTAHR grants from 10_24_07 to 11_26_07.

First name	Last name / Dept	Project Name	Funder	Amount
James	Carpenter / HNFAS	Effects of Diet and Season on Nutrient Assimilation, Energetic Efficiency, Body Composition, Blood Metabolites and Hormone Profiles on Growing	Alaska SeaLife Center	$20,000
Katherine	Chaston / NREM	Cleaning Waikoko Stream Discharge to Hanalei Coral Reefs	National Fish and Wildlife Foundation	73,827
Carl	Evensen / NREM	Water Quality Research and Extension in Hawaii	Univ of Arizona	151,370
Cerruti	Hooks / PEPS	Solarization and Cover Crop as Alternatives to Soil Fumigants for Hawaii Pineapple Growers	Environmental Protection Agency	90,000
Carol	Ikeda / FCS	United States Navy/4-H Youth Development Project	DA - Department of Agriculture	250,000
Mike	Kawate / PEPS	Hawaii Pest Management and Regulatory Information and Notification Network	Univ of California-Davis	50,000
Dan	Rubinoff / PEPS	Genetic Identity, Range and Phylogeography of the Threatened Kern Primrose Sphinx Moth (Euproserpinus euterpe)	DOI-Fish & Wildlife	10,000
Wei-Wen	Su / MBBE	Plant and Protein Biotech Research	University of Hawaii Foundation	15,000
Totals			8 grants for a total of:	$645,197

More new funding opportunities

By Doug Vincent
Special Program Director for Grants and Contracts

New funding opportunities continue to be posted in this issue, but these are just a few of what is out there. Opportunities for federal funding are posted daily on the Grants.gov web site; see www.grants.gov. Admittedly, Grants.gov isn't the most user-friendly web site but it is getting better. On-line submission of proposals is getting easier. You no longer have to use the PureEdge Viewer; for many agencies you can now use Adobe Acrobat Reader 7.0.9 and 8.1.1. to complete the application form. Issues regarding compatibility with Mac and Microsoft Vista are being worked out, but these issues should not dissuade you from seeking funding. Don't wait for the cow to back up to be milked! Give them a shot!

University of Hawaii
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_f.pdf

CHS Foundation
Rural Youth and Leadership Development
Proposal Deadline: rolling – applications accepted year round
http://www.chsfoundation.org/programs/ryld.htm

CHS Foundation
Returning Value to Rural Communities
Proposal Deadline: rolling – applications accepted year round
http://www.chsfoundation.org/programs/rvrc.htm

American Association of University Women
International Fellowships
Proposal Deadline: December 1, 2007
http://www.aauw.org/fga/fellowships_grants/international.cfm

National Science Foundation
Small Business Innovation Research – Phase I Bio & Environmental Technologies; Components & Systems; Software & Services
Proposal Deadline: December 4, 2007
http://www.nsf.gov/publications/pub_summ.jsp?ods_key=nsf07586

U.S. Department of Agriculture
CSREES – NRI
Biology of Weedy and Invasive Species in Agroecosystems
Letter of Intent Due: December 6, 2007
Proposal Deadline: March 5, 2008
http://www.csrees.usda.gov/fo/weedyinvasivespeciesnri.cfm
http://www.csrees.usda.gov/funding/rfas/pdfs/08_nri.pdf

Staples Foundation for Learning®
Teach – Train – Inspire ®
Proposal Deadlines: December, 7, 2007
http://www.staplesfoundation.org/foundhome.html

U.S. Department of Health and Human Services
Health Resource and Services Administration
Healthy Behaviors in Women
Proposal Deadline: December 7, 2007
https://grants.hrsa.gov/webExternal/FundingOppDetails.asp?FundingCycleId=7C7092EE-D35E-416D-9BD9-3C4DA48056B2&ViewMode=EU&GoBack=&PrintMode=&OnlineAvailabilityFlag=&pageNumber=&version=&NC=&Popup=

U.S. Department of Agriculture
Western Regional Integrated Pest Management Competitive Grants Program
Proposal Deadline: December 7, 2007
http://www.csrees.usda.gov/fo/fundview.cfm?fonum=1101
http://www.csrees.usda.gov/funding/rfas/pdfs/08_ipm_western.pdf

U.S. Department of Agriculture
Western Regional Sustainable Agriculture Research and Education
Professional + Producer Grants
Proposal Deadline: December 7, 2007
http://wsare.usu.edu/grants/docs/req_pp_08.pdf

U.S. Department of Agriculture, CSREES
National Integrated Food Safety Initiative
Letter of Intent: December 7, 2007
http://www.csrees.usda.gov/fo/foodsafetyicgp.cfm k

U.S. Department of Agriculture
Western Regional Sustainable Agriculture Research and Education
Farmer-Rancher Grants
Proposal Deadline: December 7, 2007
http://wsare.usu.edu/grants/docs/req_fr_08.pdf

U.S. Department of Agriculture, CSREES
Children, Youth and Families at Risk (CYFAR) Sustainable Community Projects (New)
Proposal Deadline: December 10, 2007
http://www.csrees.usda.gov/fo/childrenyouthfamiliessustainablecommunityprojects.cfm
http://www.csrees.usda.gov/funding/rfas/pdfs/08_cyfar_scp.pdf

National Science Foundation
East Asia and Pacific Summer Institutes for U.S. Graduate Students
Proposal Deadline: December 12, 2007
http://www.nsf.gov/publications/pub_summ.jsp?ods_key=nsf07584

U.S. Department of Agriculture, CSREES
Outreach and Assistance for Socially Disadvantaged Farmers and Ranchers Program
Proposal Deadline: December 14, 2007
http://www.csrees.usda.gov/fo/outreachassistancesociallydisadvantagedfarmersranchers.cfm
http://www.csrees.usda.gov/funding/rfas/pdfs/08_outreach.pdf

American Association of University Women
Career Development Grants
Proposal Deadline: December 15, 2007
http://www.aauw.org/fga/fellowships_grants/career_development.cfm

Organic Farming Research Foundation
Research Proposals
Proposal Deadline: December 17, 2007 (firm), July 16, 2008 (estimated)
http://ofrf.org/grants/apply_research.html

U.S. Department of the Interior
U.S. Geological Survey
National Spatial Date Infrastructure Cooperative Agreements Program (NSDI CAP)
Proposal Deadline: December 15, 2007
http://apply07.grants.gov/apply/opportunities/instructions/opp08HQPA0002-cfda15.809-cid08HQPA0002-instructions.doc

U.S. Department of Agriculture
CSREES – NRI
Animal Protection and Biosecurity (B)(C): Animal Well-Being, Coordinated Agricultural Project (CAP)
Proposal Deadline: December 19, 2007
http://www.csrees.usda.gov/fo/animalprotectionandbiosecuritynri.cfm
http://www.csrees.usda.gov/funding/rfas/pdfs/08_nri.pdf

U.S. Department of Agriculture
CSREES – NRI
Food Safety and Epidemiology (A): Biological Approaches for Food Safety
Proposal Deadline: December 19, 2007
http://www.csrees.usda.gov/fo/foodsafetynri.cfm
http://www.csrees.usda.gov/funding/rfas/pdfs/08_nri.pdf

U.S. Department of Agriculture
CSREES – NRI
Food Safety and Epidemiology (B): Epidemiological Approaches for Food Safety
Proposal Deadline: December 19, 2007
http://www.csrees.usda.gov/fo/foodsafetyepidemiologicalapproachesnri.cfm
http://www.csrees.usda.gov/funding/rfas/pdfs/08_nri.pdf

U.S. Environmental Protection Agency
Fall 2008 EPA Greater Research Opportunities (GRO) Fellowships for Undergraduate Environmental Study
Proposal Deadline: December 19, 2007
http://es.epa.gov/ncer/rfa/2008/2008_gro_undergrad.html

U.S. Environmental Protection Agency
Environmental Education Grants
Proposal Deadline: December 20, 2007
http://www.epa.gov/enviroed/pdf/solicitationnotice2008.pdf

Pollinator Partnership
Honeybee Health Improvement Project
Proposal Deadline: December 20, 2007
http://www.pollinator.org/Honeybee_Health.htm

U.S. Environmental Protection Agency
5th Annual P3 awards: A National Student Design Competition for Sustainability Focusing on People, Prosperity and the Plant.
Proposal Deadline: December 20, 2007
http://es.epa.gov/ncer/rfa/2008/2008_p3.html

National Science Foundation
Major Research Instrumentation Program
Letter of Intent Due: December 21, 2007
Proposal Deadline: January 24, 2008
http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=5260

International Foundation for Science
Sustainable Management, Conservation of Biological or Water Resources
Proposal Deadline: December 31, 2007
http://www.ifs.se/

American Orchid Society
Research Grants
Proposal Deadline: January 1, 2008
http://aos.org/aos/uploadedfiles/docs/guidelinesgrants.pdf

National Science Foundation
Long Term Research in Environmental Biology
Proposal Deadline: January 9, 2008, July 9, 2008
http://www.nsf.gov/publications/pub_summ.jsp?ods_key=nsf07588

U.S. Department of Agriculture, CSREES
Integrated Organic Program, ICGP
Proposal Deadline: January 9, 2008
http://www.csrees.usda.gov/funding/rfas/pdfs/08_organic.pdf

National Science Foundation
Research Initiation Grants and Career Advancement Awards to Broaden Participation in Biology
Proposal Deadline: January 14, 2008
http://www.nsf.gov/publications/pub_summ.jsp?ods_key=nsf07560

American Association of University Women
Community Action Grants
Proposal Deadline: January 15, 2008
http://www.aauw.org/fga/fellowships_grants/community_action.cfm

Binational Agricultural Research and Development Fund
Senior Research Fellowship Grants
Proposal Deadline: January 15, 2008
http://www.bard-isus.com/ResFellguide_07.pdf

U.S. Department of Agriculture
CSREES – NRI
Water and Watersheds
Proposal Deadline: January 17, 2008
http://www.csrees.usda.gov/fo/waterandwatershedsnri.cfm
http://www.csrees.usda.gov/funding/rfas/pdfs/08_nri.pdf

U.S. Department of Agriculture, CSREES
International Science and Education Grants Program
Proposal Deadline: January 17, 2008
http://www.csrees.usda.gov/fo/educationinternationalscience.cfm
http://www.csrees.usda.gov/funding/rfas/pdfs/08_intl_science.pdf

U.S. Department of Agriculture
CSREES – NRI
Nanoscale Science and Engineering for Agriculture and Food Systems
Proposal Deadline: January 17, 2008
http://www.csrees.usda.gov/fo/nanoscalescienceengineeringnri.cfm
http://www.csrees.usda.gov/funding/rfas/pdfs/08_nri.pdf

U.S. Environmental Protection Agency
National Network for Environmental Management Studies Fellowship Program
Proposal Deadline: January 22, 2008
http://www.epa.gov/enviroed/NNEMS/pdf/solicitation2008.pdf

U.S. Department of Energy
DOE EPSCoR Implementation Awards
Proposal Deadline: January 22, 2008
https://e-center.doe.gov/iips/faopor.nsf/UNID/192B42DCFB9FA5C98525736A006A5632?OpenDocument

U.S. Department of Commerce
National Oceanic and Atmospheric Administration
National Marine Fisheries Service – Sea Grant Fellowships in Population Dynamics
Proposal Deadline: January 25, 2008
http://apply.grants.gov/opportunities/instructions/oppOAR-SG-2008-2001201-cfda11.417-cid2096960-instructions.pdf

National Science Foundation
Discovery Research (K-12)
Proposal Deadline: January 28, 2008
http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=500047

Conservation, Food and Health Foundation
Grants directed conservation, food and health in the Developing World
Concept Applications Due: February 1, 2008
http://www.grantsmanagement.com/cfhguide.html

National Education Association Foundation
Learning and Leadership Grants
Student Achievement Grants
Proposal Deadline: February 1, 2008
http://www.neafoundation.org/grants.htm

U.S. Department of Agriculture, CSREES
Higher Education Challenge Grant
Proposal Due: February 1, 2008
http://www.csrees.usda.gov/fo/educationchallengehigheredhep.cfm
http://www.csrees.usda.gov/funding/rfas/pdfs/08_hep_challenge.pdf

Binational Agricultural Research and Development Fund
Workshop Grants
Proposal Deadline: February 1, 2008
http://www.bard-isus.com/Workshop_07.pdf

BoatU.S. Foundation
Clean Water Grants
Proposal Deadline: February 1, 2008
http://www.boatus.com/foundation/cleanwater/grants/

National Science Foundation
Innovation and Organizational Change
Proposal Deadline: February 2, 2008
http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=5378

U.S. Department of Commerce
National Oceanic and Atmospheric Administration
Dr. Nancy Foster Scholarship Program (for Marine biology)
Proposal Deadline: February 8, 2008
http://apply.grants.gov/opportunities/instructions/oppNOS-NMS-2008-2001067-cfda11.429-cid2077754-instructions.pdf

U.S. Department of Agriculture
CSREES – NRI
Plant Genome
Proposal Deadline: February 14, 2008
http://www.csrees.usda.gov/fo/plantgenomenri.cfm
http://www.csrees.usda.gov/funding/rfas/pdfs/08_nri.pdf

U.S. Department of Agriculture
CSREES – NRI
Rural Development
Proposal Deadline: February 14, 2008
http://www.csrees.usda.gov/fo/ruraldevelopmentnri.cfm
http://www.csrees.usda.gov/funding/rfas/pdfs/08_nri.pdf

U.S. Department of Health and Human Services
National Institutes of Health
Superfund Basic Research and Training Program (P42)
Letter of Intent Due: February 15, 2008
Proposal Deadline: April 15, 2008
http://grants.nih.gov/grants/guide/rfa-files/RFA-ES-07-006.html

U.S. Department of Agriculture
Food and Nutrition Service
FY 2008 Food Stamp Outreach Program
Proposal Deadline: February 19, 2008
http://www.fns.usda.gov/fsp/outreach/grants/2008/default.htm
http://www.fns.usda.gov/fsp/outreach/grants/2008/RFA.pdf

National Science Foundation
Microbial Genome Sequencing Program FY 2008
Proposal Deadline: February 19, 2008
http://www.nsf.gov/publications/pub_summ.jsp?ods_key=nsf08511

National Science Foundation
Interdisciplinary Training for Undergraduates in Biological and Mathematical Sciences
Proposal Deadline: February 21, 2008
http://www.nsf.gov/publications/pub_summ.jsp?ods_key=nsf08510

U.S. Department of Commerce
National Oceanic and Atmospheric Administration
National Marine Fisheries Service – Sea Grant Fellowships in Marine Resource Economics
Proposal Deadline: February 22, 2008
http://apply.grants.gov/opportunities/instructions/oppOAR-SG-2008-2001202-cfda11.417-cid2097004-instructions.pdf

National Science Foundation
Research on Gender in Science and Engineering FY 2008
Proposal Deadline: February 25, 2008
http://www.nsf.gov/publications/pub_summ.jsp?ods_key=nsf07578

Wildlife Conservation Society
Research Fellowship Program
Proposal Deadline: March 15, 2008
http://www.wcs.org/media/file/Factsheet_RFP_070130.pdf

University of Hawaii
University Research Council
Undergraduate Summer Research Award
Proposal Deadline: February 29, 2007
http://www.hawaii.edu/urc/pdf/uheh_g.pdf
http://www.hawaii.edu/urc/pdf/uheh_f.pdf

U.S. Department of Commerce
National Oceanic and Atmospheric Administration
Dean John A. Knauss Marine Policy Fellowship
Proposal Deadline: February 29, 2008
http://apply.grants.gov/opportunities/instructions/oppOAR-SG-2009-2001198-cfda11.417-cid2096905-instructions.pdf

Civic Ventures Foundation
The Purpose Prize (for Americans leading with experience.)
Application Deadline: March 1, 2008
http://www.purposeprize.org/index.cfm

U.S. Department of Agriculture
CSREES – NRI
Air Quality
Letter of Intent Due: March 5, 2008
Proposal Deadline: June 5, 2008
http://www.csrees.usda.gov/fo/airqualitynri.cfm
http://www.csrees.usda.gov/funding/rfas/pdfs/08_nri.pdf

U.S. Department of Agriculture
CSREES – NRI
Animal Genome (D): Functional Genomics
Letter of Intent Due: March 14, 2008
Proposal Deadline: June 5, 2008
http://www.csrees.usda.gov/fo/animalgenomefunctionalgenomicsnri.cfm
http://www.csrees.usda.gov/funding/rfas/pdfs/08_nri.pdf

U.S. Department of Agriculture
CSREES – NRI
Animal Genome (A): Translational Animal Genomics
Letter of Intent Due: March 14, 2008
Proposal Deadline: June 5, 2008
http://www.csrees.usda.gov/fo/animalgenometranslationalgenomicsnri.cfm
http://www.csrees.usda.gov/funding/rfas/pdfs/08_nri.pdf

U.S. Department of Agriculture
CSREES – NRI
Arthropod and Nematode Biology and Management (B): Suborganismal Biology
Letter of Intent Due: March 14, 2008
Proposal Deadline: June 5, 2008
http://www.csrees.usda.gov/fo/arthropodnematodesuborganismalbiologynri.cfm
http://www.csrees.usda.gov/funding/rfas/pdfs/08_nri.pdf

U.S. Department of Agriculture
CSREES – NRI
Arthropod and Nematode Biology and Management (C): Tools, Resources and Genomics
Letter of Intent Due: March 14, 2008
Proposal Deadline: June 5, 2008
http://www.csrees.usda.gov/fo/arthropodnematodetoolsresourcesgenomicsnri.cfm
http://www.csrees.usda.gov/funding/rfas/pdfs/08_nri.pdf

U.S. Department of Agriculture
CSREES – NRI
Plant Biosecurity
Letter of Intent Due: March 14, 2008
Proposal Deadline: June 5, 2008
http://www.csrees.usda.gov/fo/plantbiosecuritynri.cfm
http://www.csrees.usda.gov/funding/rfas/pdfs/08_nri.pdf

U.S. Department of Health and Human Services
National Institutes of Health
Improving Diet and Physical Activity Assessment (RO1)
Letters of Intent Due: May 5, 2008
Proposal Deadline: June 5, 2008
http://grants.nih.gov/grants/guide/pa-files/PAR-07-259.html

U.S. Department of Agriculture
CSREES – NRI
Animal Genome (C): Bioinformatics
Proposal Deadline: June 5, 2008
http://www.csrees.usda.gov/fo/animalgenomebioinformaticsnri.cfm
http://www.csrees.usda.gov/funding/rfas/pdfs/08_nri.pdf

U.S. Department of Agriculture
CSREES – NRI
Animal Genome (B): Tools and Resources
Proposal Deadline: June 5, 2008
http://www.csrees.usda.gov/fo/animalgenometoolsresourcesnri.cfm
http://www.csrees.usda.gov/funding/rfas/pdfs/08_nri.pdf

U.S. Department of Agriculture
CSREES – NRI
Animal Growth and Nutrient Utilization
Proposal Deadline: June 5, 2008
http://www.csrees.usda.gov/fo/animalgrowthandnutrientusenri.cfm
http://www.csrees.usda.gov/funding/rfas/pdfs/08_nri.pdf

U.S. Department of Agriculture
CSREES – NRI
Human Nutrition and Obesity
Proposal Deadline: June 5, 2008
http://www.csrees.usda.gov/fo/humannutritionobesitynri.cfm
http://www.csrees.usda.gov/funding/rfas/pdfs/08_nri.pdf

U.S. Department of Agriculture
CSREES – NRI
Agricultural Prosperity for Small and Medium-Sized Farms
Proposal Deadline: June 5, 2008
http://www.csrees.usda.gov/fo/smallfarmsagriculturalprosperitynri.cfm
http://www.csrees.usda.gov/funding/rfas/pdfs/08_nri.pdf

Proposed changes to the TSTAR program

By Doug Vincent
Special Program Director for Grants and Contracts

In anticipation of the restoration of the funding for the TSTAR program, we are considering making changes to the implementation of the program. The table shown below illustrates the proposed changes. The lesson learned from the loss of the earmarks in FY 2007 is that is no certainty in funding, regardless of a program's legacy or impact. The loss of funding for FY 2007 and the continued delays in the FY 2008 budget has put an extraordinary burden on those with projects originally approved in FY 2005 or 2006.

We are preparing to move forward with the TSTAR program but we propose the changes listed in the table. Should funding be restored, we still have commitments to projects approved in FY 2006. After removing supplemental funding given to Hawaii and Guam projects in FY 2007, we still have over $2.1 M in commitments to previously approved projects for just FY 2008. We also have $1.9 M in commitments for FY 2009.

If and when funding is restored in FY 2008, we propose would limit the number of new projects approved. But we would fully fund projects for two years, avoiding breaks in funding. We would also institute an annual budgetary cap of $60,000 per year and we would fund two year projects only. Other changes include restoration of the policy of one project per project director. We would continue to favor faculty early in their career.

We are seeking input from the faculty on these proposed changes, so send any comments to Doug Vincent at vincent@hawaii.edu. But your comments or suggestions are needed right away: we hope to issue the RFP for the TSTAR-Pacific Program in mid-December, 2007 with a return date of mid-February, 2008. For more information about the proposed changes download a memo and the table go here: http://www.ctahr.hawaii.edu/vincent/TSTAR_Proposed_Changes.pdf

Proposed Changes to TSTAR Pacific Program – FY 2008 Funding

Item	Current TSTAR	Proposed TSTAR Changes
1. Length of Projects	1. 3 years per project	1. 2 years per project
2. Funding	2. Fund Annually, each appropriation funds a specific year of the three year project. Currently, we are amending the second year of funding to the first year project and funding the third year as a new award. So would have 5 years to spend 3 years worth of funding.	2. Fully fund the entire project over the 2 year period. Prevents loss of funding should funding be interrupted. Due to statutory limits, PD's would have 3 years to spend 2 years of funding.
3. On-line Proposal Submissions	3. Since each annual appropriation is treated as a new award, separate on-line submissions per award.	3. Single on-line submission per proposal.
4. PD Paperwork	4. CSREES treats each year as a new award, so it requires a new AD 416, AD 417 for each award and results in multiple AD 421 annual progress reports for the same title.	4. A single AD-416, AD-417, assurance statement and a single AD-421 annual progress report over the life of the project.
5. Fiscal Office Burden	5. As many as three account codes per project.	5. A single account code, since all project funding is received in the first year.
6. Peer Review	6. Technically, since USDA CSREES treats each year as a separate award, we have to conduct a separate peer review for each award. We have not done so and they have let it pass but in our last TSTAR meeting (March 2006) in DC, officials from the USDA CSREES IG's office raised this concern.	6. A single peer review per proposal.
7. Funding Limits	7. Currently, none. There is no limit to the size of the award. Average TSTAR annual budget is $62,138. Median is $61,691.	7. Funding Limits: $60,000 per year. (TSTAR-Caribbean limits to $50,000 per year).
8. Limitations to Project Director	8. Currently, none. In 2002, when the funding was raised, we dropped the previous policy of one project per PD.	8. Reinstate the previous policy of one project per PD. (Caribbean limits to 1 per PD). Hurts large labs.
9. Impacts	9. If we do nothing, we will fund between 20 – 24 new projects in FY 2008 but guarantee funding for only one year. FY 2007 taught us that there are no guarantees of continuing funding.	9. If we institute this policy, we will fully fund 10-15 new projects in FY 2008 and FY 2009 until we clear out the back log of previous commitments. After that, assuming full funding, we would fully fund 20-24 projects beginning in FY 2010.