CTAHR Research News

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Volume 5, Issue 4 (38)

Tomoaki Miura displays his powerful computer server array that he uses for GIS work.

Tracking invasive weeds from space

CTAHR Student Research Symposium

UHM's IACUC

In this issue

From the Associate Dean and Associate Director for Research

When I attended the Western Agricultural Experiment Station Directors' Spring Meeting last month, budget reduction was a hot topic. Some colleagues have to face a 20% budget cut this year, and another 20% next year. Chancellor Hinshaw has prescribed an across the board 4% reduction in general funds for the next fiscal year, and additional program specific reductions will be announced later. For CTAHR this translates to a $983,354 reduction on July 1. Dean Hashimoto has submitted our reduction plan which includes: reductions in all administrative upkeep accounts, scaling back and finding other funding for the CTAHR strategic plan implementation, use of other funding sources for 28 graduate assistants, and some programs have been postponed. This plan will have minimal impact on existing personnel; however, it also exhausts any remaining flexibility the Dean's office has in meeting future cuts. The Chancellor has announced that further cuts are likely; however, we won't know where and how much the cuts will be. If anticipated retirements are not realized, we may have to make further cuts in programs and positions to meet our budget.

As I reported last month, we are going through a campus-wide prioritization process. All departments submitted their assessment in late February and the College submitted our assessment in March. We have also submitted a prioritized list of our academic programs in high, middle and low maintain categories at the request of the VCAA. The VCAA office concluded its assessment and submitted the final report to the chancellor last week. You can read this report at:
http://manoa.hawaii.edu/ovcafo/newprocess/others/VCAcademic.pdf..
The Chancellor will examine each program on how close it is aligned with core missions of the State and the University, and its cost-effectiveness. In other words, we must justify what we do and how we do it. Accountability is key to this whole process. We will continue to follow this process closely and will keep you informed as we move forward.

On a happier note, our grant intake is up over $17 million, and two months to go. This compares favorably to just over $11 million last year. However, increased grants also means more paperwork for our fiscal office, which is short-handed again. We want to continue to encourage our faculty members to submit grant proposals, and we also want to ensure that your proposal will be submitted on time. Please prepare your proposal early and keep our office informed so that we can assist your successful submission.

This month we are pleased to introduce to you our-in house specialist on remote sensing and GIS, Dr. Tomoaki Miura of the Natural Resources and Environmental Management department. Dr. Tomoaki brings his unique expertise in satellite imaging to our CTAHR teams who monitor and control the spread of invasive weeds, and who study the island ecosystem dynamics. Dr. Tomoaki is another example of how CTAHR faculty provide valuable services to the State, and make Hawaii a better place for all! I am sure you will enjoy reading his story. *We will see you next month.*

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

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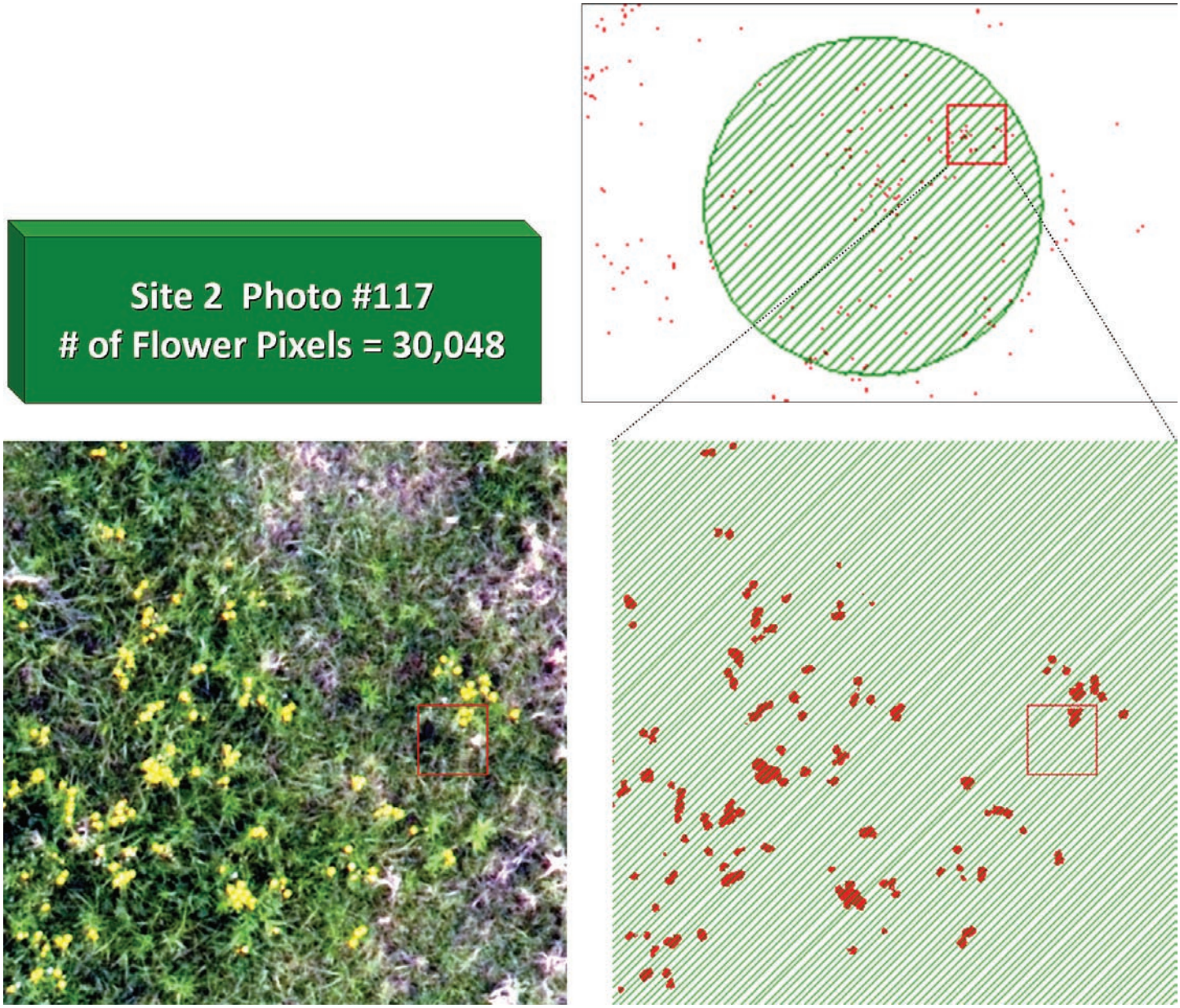
Remote sensing of vegetation dynamics from island, to continental, to global scales

By Tomoaki Miura, Assistant Professor
Department of Natural Resources and Environmental Management

L-R. Joshua Turner (Montana), Tomoaki Miura (Japan), and Alex Dale (Wisconsin/Oregon) with a field spectrometer and mapping-grade GPS antenna.

My research work is focused on the development and applications of spatial analysis technologies, including remote sensing, geographic information systems (GIS), and global navigation satellite systems (GNSS), to the management of natural resources. Most of my current research projects are on the development and validation of new remote sensing technologies that study vegetation dynamics and I would like to introduce some of those projects in this news article.

Remote sensing is defined as acquiring information about objects without being in direct physical contact with them. Our ears, eyes, and cameras are examples of remote sensors. More specifically, remote sensing is the science of collecting and interpreting electromagnetic (EM) radiation from the Earth using sensors on platforms on the ground (radiometric thermometer), in the atmosphere (balloons, airplanes), or in space (satellites). Depending on its chemical compositions and structures, every material reflects or emits EM radiation in different magnitudes with respect to wavelength. These "spectral signatures" are used to differentiate or even to identify surface objects either qualitatively or quantitatively. Land use and land cover maps are, for example, created based on differentiating spectral signatures. Please visit my website at http://www.ctahr.hawaii.edu/miuralab/projects/makaha/intro_RS.html for a more detailed description of remote sensing.



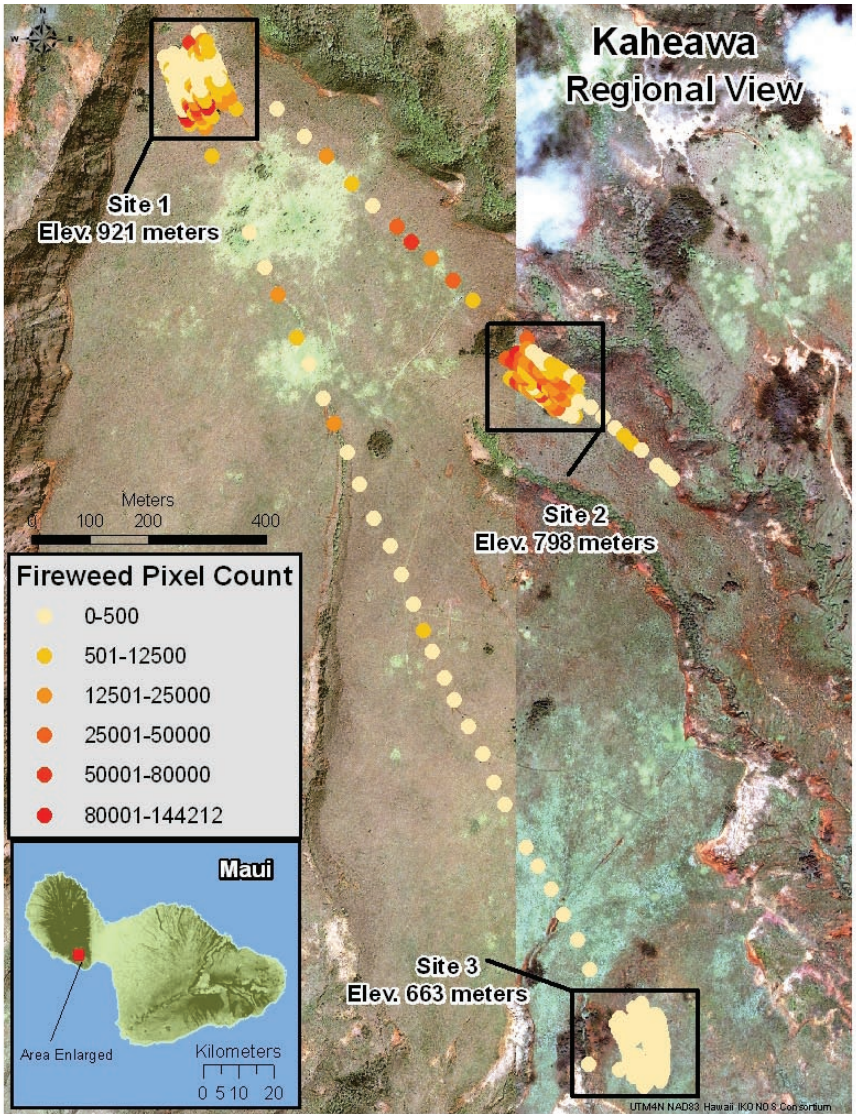
Subset of digital aerial photo (left bottom) and results of our fireweed flower detection algorithm (right bottom).

Detection, mapping, and monitoring of invasive Species infestation in Hawaii

Exotic plant invasion is one of the most significant threats to various ecosystems all over the world. Oceanic islands are considered particularly susceptible to such invasion for several reasons: less exposure to different types of disturbances, a small number of species, taxonomic disharmony, and reduced aggressiveness of native biota due to less genetic variety. Approximately 90 plant species have become invasive in Hawaii, threatening native plant species, and the number is growing.

One of the important components in invasive plant management is to understand the spatial and temporal dynamics of the invading populations. Assessments over time and space are essential in detecting, mapping and monitoring spatial distribution, abundance, and population composition of invasive species when preventing the entries of new species is unsuccessful. Remote sensing is considered an effective technology that provides such spatial and temporal information of invasive species efficiently.

Fireweed is one of the highly invasive weeds in Hawaii and its ecological and economic impacts on range and pasture lands and livestock production is significant. I work with Drs. **Mark Thorne** (HNFAS), **Jonathan Deenik** (TPSS), **Harold Keyser**, Dale Gardner and Jim Phister (USDA-ARS Poisonous Plants Laboratory,



Fireweed flower cover (number of pixels) estimates from digital aerial photos across Kaheawa, Maui.

Utah), and county extension agents **John Powley**, **Glen Fukumoto**, and **Matt Stevenson** to characterize the invasion ecology and population dynamics of fireweed and to develop remote sensing methods to detect and map fireweed populations. Several past attempts to map fireweed using satellite imagery were unsuccessful because the spectral signatures of fireweed, although unique, were obscured by other ground materials at the spatial resolutions offered by existing satellite sensors.

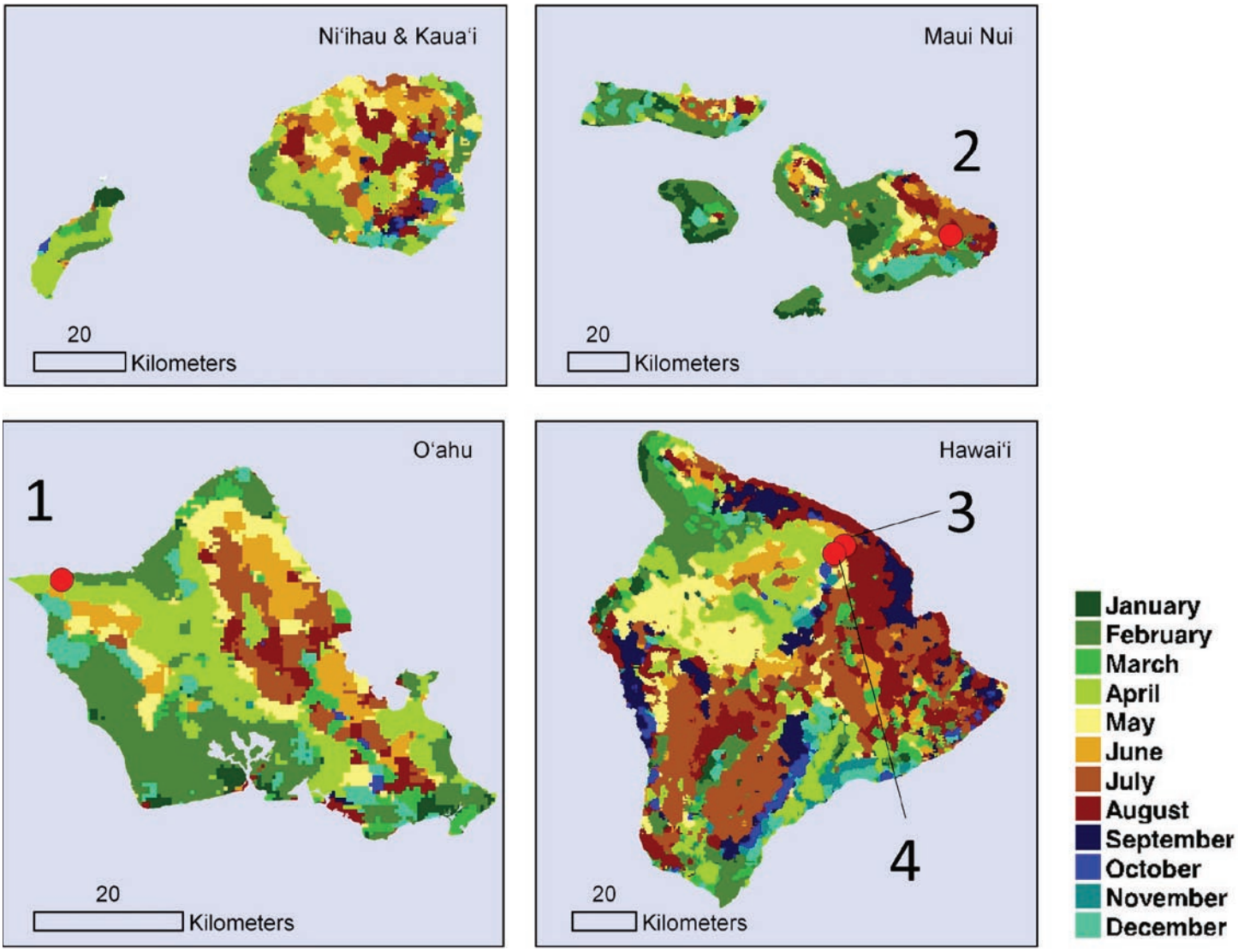
In our project, we felt the need of a new system, and Roland Thompson (Ph.D. candidate in Department of Urban and Regional Planning) and I developed a cost-effective, high-resolution digital camera system that allowed us to image at spatial resolution as high as 5 mm. The system was deployed on a helicopter and flown across pastures in Maui. **Alex Dale** (NREM M.S. student) and I developed an image processing algorithm, processed the acquired digital air photos, and successfully detected and mapped fireweed flower covers. Our plan is to correlate these remote sensing estimates of fireweed flower cover with ground estimates of fireweed population density to advance our airborne digital camera system for automatic determination of fireweed population density.

Assessing tropical ecosystem dynamics in Hawaii

Scientific consensus indicates that global warming is occurring due to increased greenhouse gas concentrations in the atmosphere. Even if the concentrations of greenhouse gases had been stabilized in the year 2000, mean global temperatures are predicted to increase another 0.5°C during the 21st century. This temperature increase is expected to result in a higher intensity and frequency of extreme climate events such as El Niño events. It is generally accepted that significant drought occurs after an El Niño event in Hawaii. Recent rainfall data analysis indicates a long-term decreasing trend in rainfall in Hawaii. Response of tropical forests to such climate variability is not well understood despite its importance in the carbon and water cycles. Systematic, long-term observations are needed to monitor seasonal and inter-annual variability in tropical forest ecosystem functioning/services in response to climate events. Satellite remote sensing is an indispensable tool in this respect, as it allows for systematic, repeated observations of land surface conditions, including vegetation photosynthetic activities and seasonal dynamics.

Moderate Resolution Imaging Spectroradiometer (MODIS) is a NASA's satellite sensor designed to provide consistent, well-calibrated data records at 250 m - 1 km spatial resolutions for the studies of Earth's ecosystem processes. Launched in 1999, this sensor provides remotely sensed imagery of the major Hawaiian islands on a daily basis for the first time.

Together with Dr. **Chris Lepczyk** (NREM), **Michele Harman** (NREM M.S. student), and Dr. Sun Park (UH Hilo), I am working to characterize tropical forest seasonal dynamics and their inter-annual



Preliminary map showing the seasonal timings of maximum "greenness" across the islands derived from MODIS time series.

variability using high temporal resolution satellite data records from MODIS. The project objectives are to : 1) quantify spatial and temporal patterns in cloud cover occurrences at the moderate spatial resolution of 1 km for the whole state of Hawaii, and then to recommend and develop a temporal compositing scheme for the generation of "cloud-free" MODIS time series data over the main Hawaiian islands, and, 2) develop a quantitative methodology to extract seasonality in vegetation photosynthetic activities, or "phenological metrics," from the MODIS time series data for tropical forest ecosystems. We are also conducting seasonal field campaigns at the recently established *Hawaii Experimental Tropical Forest* in support of refining and validating our MODIS-derived phenological metric algorithm. Results obtained through this proposed study will provide a significant step toward the establishment of a regional-scale monitoring and analysis program of tropical vegetation with moderate resolution remote sensing.

Cross-Calibration of satellite products for the U.S. National Drought Monitoring System

I also work on continental scales. One of the most widely-used satellite products is spectral vegetation indices (VIs). VIs have operationally been used to monitor temporal and spatial variations of vegetation photosynthetic activities and biophysical properties on regional to global scales. Such VI data records originated from a sensor series, NOAA Advanced Very High Resolution Imaging Spectroradiometer (AVHRR) developed in the 1980s, which is now transitioning to MODIS and to a new future sensor series, Visible Infrared Imager Radiometer Suite (VIIRS). These

Michele Harman (Singapore/ USA) processing satellite images to extract vegetation phenology information.

long-term VI observations have been used in a variety of applications, including crop yield prediction, early famine warning, and drought monitoring. These long-term observations, however, require much effort to ensure continuity and compatibility due to various engineering- and science-related issues.

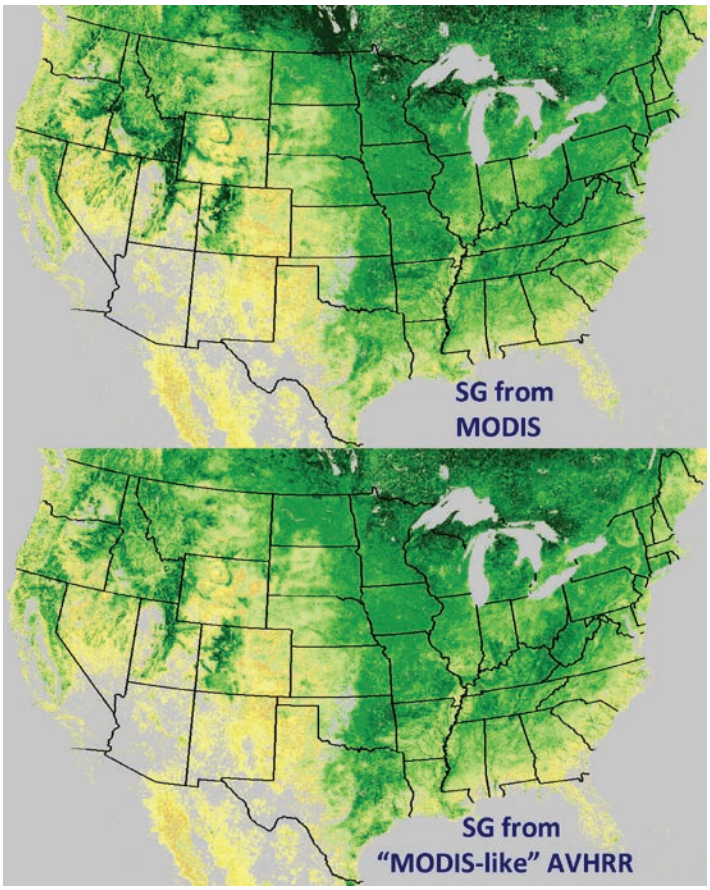
I have been addressing this satellite product continuity issue with Drs. Hiroki Yoshioka (Aichi Prefectural University, Japan) and Alfredo Huete (University of Arizona), and Drs. Jeff Eidenshink, Brad Reed, Jess Brown, and Yingxing Gu (U.S. Geological Survey). Our on-going activities involve the development of cross-calibration methodologies and inter-sensor translation equations that will allow for interchangeable, seamless uses of VI products from various satellite sensors. Initial results have been obtained and we are currently evaluating accuracy and precision of the derived translation equations. The final translation equations will be used in the U.S. continental-scale drought detection system developed by the U.S. Geological Survey's Earth Resources Observation and Science (EROS) Center.

Development of global vegetation phenology and vegetation index products

Vegetation phenology is a characteristic property of ecosystem functioning and predictor of ecosystem processes. Shifts in phenology depict a canopies' integrated response to environmental change and influence local biogeochemical processes, including nutrient dynamics, photosynthesis, water cycling, soil moisture depletion, transpiration, and canopy physiology. Recent findings indicate that the effects of climate change are first detected in landscape phenology, hence this has emerged as a key area of research in biosphere-atmosphere interactions, climate change, and global change biology. Knowledge of phenologic variability and the environmental conditions controlling their activity are a further prerequisite to inter-annual studies and predictive modeling of land surface responses to climate change. Satellite phenology encompasses the analysis of the timing and rates of vegetation growth, senescence, and dormancy at seasonal and inter-annual time scales. VIs, which capture the aggregate functioning of a canopy, are the most robust and widely used measurements for extracting phenology information.

As a member of an interdisciplinary, multi-institutional group consisting of Drs. Kamel Didan, Jeff Czapla, and Wim van Leeuwen (University of Arizona); Dr. Mark Friedl (Boston University); Dr. Xiaoyang Zhang (NOAA); and Dave Myers and Calli Jenkerson (U.S. Geological Survey), I also work to develop long-term data records of global vegetation phenology and vegetation index products. This project is in its first project year and we are currently adapting the existing phenology and VI generation algorithms to generate preliminary data records.

In relation to global vegetation dynamics studies, I am also a science team member of a Japanese satellite,



Seasonal greenness (SG) maps from MODIS (above) and translated "MODIS-like" AVHRR for July 19-25, 2006. Without translation, images from these two sensors would look different (Image Courtesy: Jess Brown and Yingxin Gu, U.S. Geological Survey EROS Center).

the Greenhouse Gases Observing Satellite (GOSAT), or "IBUKI" (meaning the Earth's breath) launched on January 23, 2009. IBUKI is a collaborative project by Japan Aerospace Exploration Agency (JAXA), the National Institute for Environmental Studies (NIES), and the Ministry of the Environment (MOE) to provide the world's first satellite to observe global greenhouse gasses from space. Data acquired by the "IBUKI" will be utilized to learn the "current" status of the Earth concerning global warming and to contribute to a better future for all mankind. My specific contribution to the IBUKI project is to validate its VI product generation algorithm and assure compatibility of IBUKI VI product with those from other sensors, including MODIS and AVHRR.

Yes, this is a lot of technical information, but the bottom-line is this: keeping invasive plant species at bay and being able to track plant changes on a global scale is important to the future of the planet; and that is a very good thing!

Tomoaki Miura

Hometown: Kanagawa, Japan
Joined CTAHR: 2003
Educational History: B.S. in Earth Science, Waseda University, 1993; M.S. in Resource Management, University of Nevada, Reno, 1996; Ph.D. in Soil and Water Science with Double Minors in Remote Sensing and Statistics, University of Arizona, 2000.
Specialization: Remote Sensing, Geographic Information System (GIS), Statistics
Current Work: Development of a satellite-based monitoring system of tropical ecosystem dynamics in Hawaii; Development of global vegetation phenology and vegetation index long-term data records from multiple satellite sensors; Remote detection and quantification of land-based pollution influences on the coastal environment in Hawaii; Development of fireweed mapping technology in Hawaii
Languages Spoken: English, Japanese

Recent Publications

Miura, T. and Huete, A. R. (2009). Performance of three reflectance calibration methods for airborne hyperspectral spectrometer data. Sensors 9:794-813.

Jiang, Z., Huete, A. R., Didan, K., and **Miura, T.** (2008). Development of a two-band enhanced vegetation index without a blue band. Remote Sensing of Environment 112(10):3833-3845.

Miura, T., Yoshioka, H., Fujiwara, K., & Yamamoto, H. (2008). Inter-comparison of ASTER and MODIS surface reflectance and vegetation index products for synergistic applications to natural resource and environmental monitoring. Sensors 8:2480-2499.

Recent Grants

Vegetation Phenology and Vegetation Index Products from Multiple Missions and Satellite Sensors; $385,715 Subcontract Amount; NASA, Subcontracted through University of Arizona.

Development of Best Management Practices for Control of Madagascar Fireweed (*Senecio madagascariensis* Poiret) in Maui; $54,056; Maui County.

Multi-sensor Translation of EOS Reflectance and Vegetation Index Products for Long Term Continuity with AVHRR; $657,353; NASA.

UH requirements for vertebrate animal use

By Sharee Pepper
CTAHR Grant Coach

Overview of federal mandates

Federal mandates, primarily the United States Department of Agriculture (USDA) Animal Welfare Act (AWA) of 1966 and the 1985 amendments to the AWA, and the Public Health Service (PHS) Policy on Humane Care and Use of Laboratory Animals, referred to also as the National Institutes of Health (NIH) Policy, require an institutional animal-use oversight committee. The committee is referred to as the "Institutional Animal Care and Use Committee" or more commonly known as the IACUC.

Vertebrate animal use must be reviewed and approved by the UH IACUC prior to the use occurring. Committee review is required regardless of animal use site, funding source, species, or animal number. An approved protocol must be procured by all University faculty, staff, or students using vertebrate animals in research, teaching or testing. There are some situations were a protocol is not required. Inquiries in these matters are to be directed to the Institutional Animal Care & Use Committee, c/o Regulatory Compliance Officer and Executive Secretary (telephone 808.956.4446/facsimile 808.956.4448).

Information required for protocol applications

The applicant is required to furnish a non-technical description of the research/teaching/training activity, a justification for the use of animal, description of all of the procedures to be performed on the animals, and precautions taken to assure humane care and treatment of animal subjects. Information is required on providing the species of animals proposed, numbers of the animals, animal holding facilities, use of anesthetics/analgesics/paralytic agents, methods of restraint, survival/non-survival surgery procedures, the methods of euthanasia and the final disposition of animal subjects. Literature searches to ensure that the activity is not duplicative is required of all protocols. For painful procedures (Category D or E), a literature search is also required for alternative to painful procedures. The Principal Investigator must also submit statements addressing the three "R's" – "Replace, Reduce, Refine." Replace addresses whether live animals can be replaced in the activity. Reduce addresses the number of animals required to have meaningful activities and might they

Norman Magno, IACUC compliance officer (right), and Denise Yee, associate compliance officer.

be reduced. Refine addressed painful procedures – can the activity be refined to lessen the pain and distress.
A protocol approval is valid for a maximum of one year from the date of the meeting at which it was approved. Multiple year protocol applications must be renewed by the applicant and reviewed by the committee annually.

The IACUC review process

The protocol review process normally takes at least 4-5 weeks. Problems associated with the application (e.g., additional information required, controversial topics, etc.) may cause the review and approval process to be delayed. Protocol applications must be received by IACUC Regulatory Compliance Officer & Executive Secretary no later than the second Wednesday of each month. All applications will be reviewed by a quorum at regularly scheduled IACUC business meetings held on the third Thursday of each month. Following the meeting, investigators/applicants are notified of the status of their applications in writing, generally, within 3-5 working days. The use of the web based TOPAZ system for protocol submission and approval has shortened the time between protocol submission and approval.

Vertebrate Animal Use Forms

Animal use protocol forms are currently being accepted through the web-based TOPAZ Protocol Submission Program at http://las01.its.hawaii.edu/TOPAZEnterprise. Paper forms are no longer being accepted. Contact the compliance office for information about the TOPAZ system.

Some Frequently Asked Questions

Must I complete the Animal Use Protocol Form if I use snails, shrimp, bees, worms, coral, or microorganisms in my research or teaching/instruction activities?
No. You need only submit an Animal Use Protocol Form if you use animals that have a vertebrae (backbones).

Besides the protocol forms, should I submit anything else?
Yes, if you are performing any animal use activities that require special permits for work with endangered species, marine mammals, or specimen collection permits, you need to submit a copy of the documentation to the Compliance Office. If you are working with transgenic or knockout rodents, your work must also be approved by the UH Biosafety Committee. Requirements for use of these animals are found in Appendix Q of the NIH guidelines (http://oba.od.nih.gov/oba/rac/guidelines_02/APPENDIX_Q.htm). If you are working in cooperation with another institution that has an Animal Care and Use Committee, you will be required to furnish a copy of the project approval letter from that institution.

Am I required to participate and complete the UH Veterinarian's Office WebCT training program for the Review of Regulations for the Use of Vertebrate Animals?
Yes, that is a very important item because the computer modular training program will cover the federal laws, policies, and regulations that govern animal use for research and teaching/training. All personnel on the project must complete the training. The training program will also cover the University's own policies, the function of the Animal Care and Use Committee, and administrative hierarchy and reporting lines. Training URL:http://wct01.hawaii.edu/public/uhrr_va/.

Must I have an approved protocol before I can order or house animals at the Laboratory Animal Service facilities?
Yes, only PIs that have Animal Care and Use Committee approved protocols can place animal orders and/or house animals at these facilities.

For more information, consult this website:

http://www.hawaii.edu/ansc/IACUC/index.html

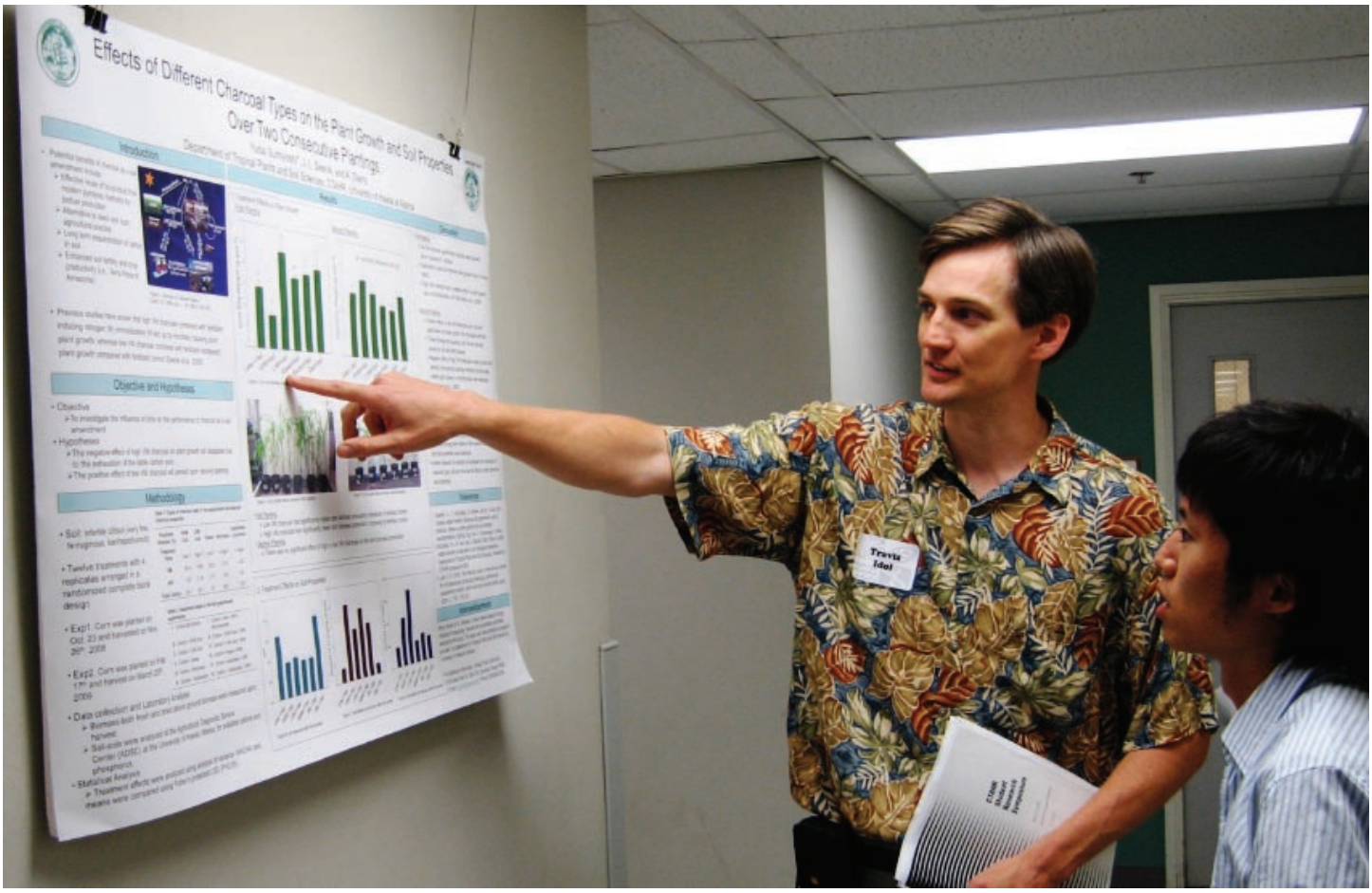
CTAHR celebrates its 21st annual Research Symposium

By Doug Vincent
Special Program Director for Grants and Contracts

Since 1988, students from the College of Tropical Agriculture and Human Resources have made presentations of their research as part of the CTAHR Student Research Symposium. From 34 students presenting in 1988, the Symposium has grew to 115 students presenting posters and oral papers in 2009. On April 3-4, 2009 student research was judged by 70 faculty and staff members. This year we had 27 undergraduates, 47 M.S. and 41 Ph.D students. All six CTAHR Departments were represented, with Molecular Biosciences and Biological Engineering (MBBE) leading the way with 52 (45%) presentations. Human Nutrition, Food and Animal Sciences (HNFAS) followed with 23 (20%) presentations. Natural Resources and Environmental Management (NREM) had 15 (13%), while Plant and Environmental Protection Sciences (PEPS) and Tropical Plant and Soil Sciences (TPSS) each had 11 (9.6%) and Family and Consumer Sciences (FCS) had 3 (2.6%) undergraduate presentations. Among the 27 undergraduate presentations, MBBE had the strongest presence with 59%, including the best undergraduate oral presentation, by Kehaulani Lee, "*Expression of 1-aminocyclopropane-1-carboxylase (ACC) deaminase gene from Sinorhizobium sp. strain BL3 in transgenic Arabidopsis thaliana plants.*" TPSS's Yudai Sumiyoshi won the best poster presentation for an undergraduate student with the "*Effect of different types of charcoal on the plant growth and soil properties over two consecutive plantings.*"

Among the 88 graduate students participating, 36 were from MBBE; 18 from HNFAS, 14 from NREM, 11 from PEPS, and 9 from TPSS. The best Ph.D. oral presentation was "*Effect of plant-based bio-fumigants on the bacterial wilt pathogen, Ralstonia solanacearum*" by Mathews Paret from PEPS. Philip Davy, a Ph.D. student in the Department of Molecular Biosciences and

Tough questioning by the judging faculty at the 21st Annual CTAHR Student Research Symposium Poster Session.



Dr. Travis Idol (NREM) poses a question to undergraduate Yudai Sumiyoshi (TPSS).

Bioengineering won the best Ph.D poster for his paper, "*Fetal growth restriction is associated with accelerated telomere shortening and increased expression of cell senescence markers in the placenta*." For M.S. students, the best poster presentation was given by Adam Baker, MBBE, "*Manipulation of the arachidonate to eicosapentaenoate ratio and its effect on fry production in freshwater ornamental maturation feeds*. The top M.S. oral presentation was given Tai McClellan of TPSS for her paper "*Effect of volatile matter content in charcoal on soil biological properties*." Download a complete list of the award winners. The abstracts from these winning papers, along with the others, can be found at the CTAHR Student Research Symposium website. Click on "Download Symposium Program."

It needs to be said that the CTAHR Student Research Symposium does not materialize out of the ether – it takes considerable work and organization to run such a successful event. The effort is lead by Charly Kinoshita, Associate Dean for Academic and Student Affairs. He relies upon a Symposium Coordinating Committee that includes the following: Traci Sylva (MBBE) as Program Coordinator; Travis Idol (NREM), the Chief Judge; Anne Alvarez (PEPS) and Halina Zaleski (HNFAS) as co-Chief Judges; Dulal Borthakur (MBBE) as the Judging Coordinator; Wayne Toma (HNFAS), Equipment and Facilities Coordinator; Allene Chun (CTAHR), Registration Coordinator; and Susan Nakamura (CTAHR), Refreshment Coordinator. The Committee also included Richard Bowen (NREM), Lori Yancura (FCS), Thomas Lim (CTAHR), Vera Kadomoto (CTAHR), Erica Kubota (CTAHR) and Beverly Pang (CTAHR). Keeping the Symposium moving were the room and computer monitors: Joycelyn Chun, Sandro Jube, Anna Leychenko, Erin Mitsunaga, Archana Pal, Luzminda Carlos Refuerzo, Noah Jung and Jason Yeo. Thanks are also in order for Joannie Dobbs and Chef Mark Segobiano, both of HNFAS, who took care of us while we were visiting the Ag Sciences Building. For a full list of judges, see page 12 of the Symposium Program.

The research calabash

By Doug Vincent
Special Program Director for Grants and Contracts

Hatch Fund Proposals due May 14, 2009
CTAHR is seeking Hatch Project Proposals. For FY 2010, projects with total costs not exceeding $20,000 per year for a maximum of 3 years will be considered for funding. Multi-disciplinary and multi-functional approaches are highly encouraged. Integrated projects, which incorporate an outreach component, will receive higher priority than research only projects. Preference will be given to PI(s) that are new faculty, or to faculty pursuing new, exploratory and developmental research projects. Download the RFP and forms. **Proposals are due May 14, 2009.**

Seeking your kokua when submitting grant proposals
With the passage of the America Recovery and Reinvestment Act, otherwise known as the "Stimulus Package," and finally, there may be new or unanticipated funding opportunities. Regardless, there may be greater traffic through your Department offices, the CTAHR fiscal office, the UH Office of Research Services (ORS) and through Grants.gov. Please work closely with your Department fiscal APT to assist with budgeting and preparation of the final paper work to help lessen the load on CTAHR administrative staff. One way to make things move more quickly is to give people as much advance time to review your proposal. The preferred time frame is to give those that review your proposals **10 working days in advance of the submission deadline**. The CTAHR Fiscal Office is again short staffed, with Alan Young leaving us. ORS is also asking for your kokua and requesting that you **email ORS in advance of your proposal submission.** They are requesting, via email to helpline@ors.hawaii.edu, the following information:

1. Principal Investigator and PI's Contact Information
2. PI's Campus and School
3. Funding Agency (Sponsor) Information and Submission Deadline
4. Link to RFP and/or project announcement or attach the RFP to the email.

President's Emerging Leaders Program seeking applications for 2009-2010
UH President McClain is seeking applicants for the 2009-2010 cohort of the **Emerging Leaders Program**. This is a professional development program for UH faculty and staff. The program is seeking individuals who exhibit the attitude and capacity necessary for effective leadership within our academic community. Applications are due **May 22, 2009** for the program which beings on August 4, 2009. See the web site for more information. Download the application form (pdf).

Nominations sought for Governor's Awards for Service
The University of Hawaii is seeking nominations for the 2009 Governor's Award for Distinguished State Service, State Manager of the Year, and Team of the Year. The deadline for submission is **May, 29, 2009**. See the **UH Office of Human Resources** for more information and how to apply.

Your tax dollars at work: Grants.gov on the verge of collapse?
The goal of "eGovernment" is a lofty, perhaps quixotic one. With the increased traffic into Grants.gov, there have been several recent announcements that Grants.gov is on the verge of collapse. For the month of March 2009, Grants.gov processed 78% more applications than February. Grants.gov just successfully did a build out of an updated version on April 18-19, 2009 to improve and expand the functionality and provide improved proposal tracking capability. You can track changes and follow other information in Grants.gov by subscribing to the Grants.gov blog. But worse case scenario – if you do all the right things and your proposal is not accepted by Grants.gov, what do you do? First step is to call the **Grants.gov Contact Center at 1-800-518-4726.** The hours of operation are 7:00 am to 9:00 pm (ET). When you call have the following information, if there are problems: **1) Funding Opportunity Number (FON); 2) Name of the agency you are applying for and 3) some idea of the nature of the problem.** Grants.gov will log your call and provide you with a **case number**. The next step is to **contact the program leader** (the funding agency contact) for the agency that you are applying. Provide him or her with your case number and they can go back and verify that grants.gov was contacted. It is usually up to the program leader whether the proposal will be accepted or not.

Western Sustainable Agriculture Research and Education RFAs released

The Western Sustainable Agriculture Research and Education (WSARE) program has just released its RFAs for FY 2010. SARE advances farming systems that are profitable, environmentally beneficial and good for communities through a nation wide competitive grants programs. You can find more information at the WSARE web site including the latest edition of "Simply Sustainable" the WSARE newsletter. Other information available are tips about writing WSARE proposals.
Two programs require **immediate attention:**

- Western SARE Graduate Student Grants are due **May 29, 2009**.
- Western SARE Research and Education Grants Pre-applications are due **June 12, 2009.** If invited to submit, full proposals will be due **November 13, 2009.**

Successful WSARE proposals are those that specifically address the goals of the WSARE:

- Promote good stewardship of the nation's natural resources by providing site-specific, regional and profitable sustainable farming and ranching methods that strengthen agricultural competitiveness; satisfy human food and fiber needs; maintain and enhance the quality and productivity of the soil; conserve soil, water, energy, natural resources and fish and wildlife habitat; and maintain and improve the quality of surface and ground water;
- Enhance the quality of life for farmers and ranchers and ensure the viability of rural communities, for example, by increasing income and employment - especially profitable self-employment and innovative marketing opportunities in agriculture and rural communities;
- Protect the health and safety of those involved in food and farm systems by reducing, where feasible and practical, the use of toxic materials in agricultural production, and by optimizing on-farm resources and integrating, where appropriate, biological cycles and controls;
- Promote crop, livestock and enterprise diversification; and
- Examine the regional, economic, social and environmental implications of adopting sustainable agricultural practices and systems.

New USDA CSREES Requests for Applications

Two recent USDA CSREES RFA's bare special attention. The **USDA CSREES Beginning Farmer and Rancher Development Program** has released it's RFA with a due date of **May 13, 2009**. There is no letter of intent required but there is a 25% cost sharing requirement. Download the Request for Applications. Also recently released is the **Food and Agricultural Sciences National Needs Graduate and Postgraduate Fellowship Programs**. There is no cost sharing or LOI required and the proposals are due **May 8, 2009.** Download the Request for Applications.

CTAHR legacy of leadership in the Hawaii State Science and Engineering Fair

The 52nd Hawaii Science and Engineering Fair was held at the Neal Blaidell Center on April 6-8, 2009. Once again, CTAHR was well represented among the volunteer judges. CTAHR also shows its leadership in serving as Category Head or Deputy Head Judges. **Halina Zaleski** (HNFAS) and **Spencer Malecha** (HNFAS) headed the Senior Research Animal Science / Microbiology / Cellular & Molecular Biology category. **Dian Dooley** (HNFAS) and **Soojin Jun** (HNFAS) served as Junior Research Heads in the Biochemistry / Medicine & Health category. The Plant Sciences Senior Research Head Judge was **Brent Sipes** (PEPS). Others judging from CTAHR were **Travis Idol** (NREM), **Charly Kinoshita** (ADMIN), **Yong Li** (HNFAS), **Robert Paull** (TPSS), **Glenn Taniguchi** (PEPS), **Doug Vincent** (ADMIN), **Ania Wieczorek** (TPSS) and **Mark Wright** (PEPS). Thanks to those that took time out to help nurture the next generation of scientists and engineers.

UH Office of Research Services
April 2009 Newsletter

See the **April 2009** issue of the **UH Office of Research Services Newsletter**. This month there is new information on how to register for electronic Research Administration (eRA). There is also new

information about E-Verify, the system to verify employment eligibility.

Grants.gov converts to Adobe Acrobat
Go ahead you can un-install your PureEdge Viewer for submitting your proposals to Grants.gov. As of **March 4, 2009**, Grants.gov has transitioned away from PureEdge Viewer to Adobe Acrobat Systems. Now and forever more (or until they change their minds), you must use Adobe Acrobat Reader or Adobe Acrobat Professional to prepare your grant proposals forms for Grants.gov submissions. In the past when you clicked on the "Download Application Package" the executable file would load up PureEdge Viewer, now that same process should open up one sort of Adobe Acrobat system automatically. But not all versions of Adobe Acrobat Reader works but it now appears that Grants.gov has sorted out issues with Microsoft Vista and Mac users. See the Grants.gov web site for more information and to download compatible Grants.gov Adobe Acrobat software for free. There have been problems with something called a "Broken Pipe Error" with some of the Adobe Acrobat software – currently **Adobe Acrobat Reader 8.1.3 and 9.1** do not have this problem. A reminder that any thing appended to your Grants.gov application must be in .PDF format – the proposal narrative, budget narrative, CVs and other appendages. If you do not have software to convert document files (.doc, .txt, .rtf) to .PDF format, you can also download conversion software. From Grants.gov:

Computer	Operating System	Forms Program	Compatible
Mac	Tiger	Adobe Reader (8.1.1,8.1.2, 8.1.3, 9.0, 9.1)	Yes
Mac	Leopard	Adobe Reader (8.1.1,8.1.2, 8.1.3, 9.0, 9.1)	Yes
PC	Windows XP	Adobe Reader (8.1.1,8.1.2, 8.1.3, 9.0, 9.1)	Yes
PC	Windows VISTA	Adobe Reader (8.1.1,8.1.2, 8.1.3, 9.0, 9.1	Yes

CTAHR Research Portfolio Available for Download - reprise
The CTAHR Office of Research has produced a **2009 CTAHR Research Portfolio.** Over the last year, **Associate Director C.Y. Hu** requested "one-pagers" outlining the research expertise of the CTAHR Faculty with research appointments. Originally, these were prepared to share with Chinese institutions with interests in sending students to CTAHR. The "one-pagers" have been compiled into the **2009 CTAHR Research Portfolio**. This 123 page .pdf file is sorted by Department and each one pager has contact information, research interests and recent publications of CTAHR faculty with research appointments. If you have any questions about the portfolio or need to update information, contact Dr. Hu at 956-8131.

Dates and Events – Mark Your Calendars Today

First Saturday at the Kanewai Lo'i – May 2, 2009
Everyone is invited to attend the monthly community clean up event at the Ka Papa Lo'i o Kanewai Cultural Garden. The garden provides experiential learning opportunities to school and community groups in the traditional farming practices and culture of Native Hawaiians. Come dressed to do yard work and get muddy. Light refreshments will be provided but donations of food and drink are always welcome. Contact the garden at 945-1562 or kanewai@hawaii.edu for more information.

Lei Making at OUGC – Saturday, May 9, 2009

Join the Oahu Master Gardeners at the **Oahu Urban Garden Center at Pearl City** for information about organic home gardening. On **Saturday, May 9, 2009** from **9:00 am to 12:00 noon** come make Ti leaf leis and Ti leaf rosettes. Exhibits on lei plants and how to grow them in your home garden! Special presentation by the Garden Hula Dancers!

98th Annual UH-Manoa Commencement Exercises – Saturday, May 16, 2009.

Join the celebration of our graduates. UH-Manoa Commencement Exercises will be held on Saturday, May 16, 2009. Undergraduate Ceremony is 9:00 am – 12:00 noon. Advanced Degree Ceremony is 3:00 pm to 5:00 pm. For more information see the Commencement web site.

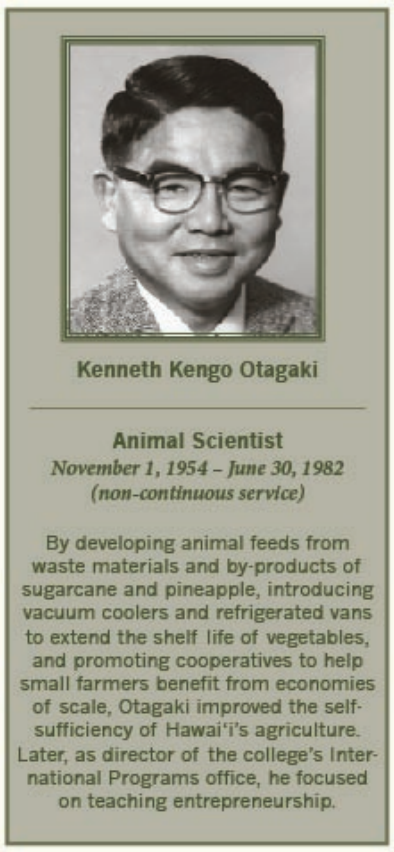
14th Annual Mealani's A Taste of the Hawaiian Range – Friday, September 18, 2009.

Mark your calendars for Hawaii's foodie event of the year! The 14th Annual "Mealani's A Taste of the Hawaiian Range" will be held again at the Hilton Waikoloa Village on the Kohala Coast of the Island of Hawaii on Friday, September 18, 2009. See the "Taste's" web site for more information.

In memorial to

Dr. Kenneth Kengo Otagaki

July 2, 1917 – March 26, 2009



Dr. Kenneth K. Otagaki
A Man Who Spoke Truth To Power
By Mike Markrich

During the course of doing research work on Combat Chaplain I came across a small article written during World War II in Pacific Citizen, which was then a newspaper directed primarily to Japanese-Americans. There was a photo of him standing with his crutches in the snow amidst black dairy cows in the middle of a cold Iowa winter, taking notes for a student project. He was at the time a graduate student at Iowa State University working on his master's degree in Animal Science. The writer asked him how he was doing and he replied. "Well I can't see out of one eye and not too well out of the other but otherwise I am doing all right."

..... *read more here:*
http://www.ctahr.hawaii.edu/vincent/Dr_Otagaki_Eulogy.pdf

Why it is important to track FTE assignments

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

We are all very fortunate to have a steady job: our paychecks arrive faithfully every other week. We really do not care from which accounts our salaries are being paid out of, as long as we get paid. Since we all have different appointments: research, extension and instruction or a mixture, our salaries are paid from different accounts depending on our FTE assignment. Although most of our salaries are paid from the state General funds, we do not have sufficient General funds to cover all of our salaries and maintain the College's function. We also receive federal funds and for many of us, a part of our salaries are being paid from these federal funds, such as Hatch funds for research, and Smith-Lever funds for extension. To account for the use of these funds, we are mandated to annually certify that our time commitment matches what we actually do. Our Planning and Management Services Office sends a monthly FTE Certification Report to each unit, and Department Chair usually signs on this report on behalf of the unit. However, once a year, each faculty member is required to review and sign this certification sheet, usually in October to verify their activities. The reason we require a monthly report is in response to previous audits that our annual certification report did not accurately reflect faculty members' actual duties.

For example, we have faculty members with research FTE, but without a Hatch project. In this case, they must get paid from the departmental administration upkeep account. This practice artificially inflates our administrative costs, and must be avoided as much as possible. If you are successful, you will have multiple project accounts listed on the certification list. You need to verify the accuracy of the assigned % time FTE. As we submit more grant proposals to various funding agencies, more faculty have requested to use their salary and fringe benefits to meet the funding agency cost-sharing requirement. Along with grants and specific cooperative agreements which require cost sharing, our formula funds require State matching. We must use our State General fund salaries to meet these requirements. Consequently, our fiscal personnel must track your FTE commitments each time you submit a proposal. These time commitments are also critical in filling your Current and Pending Support Form when you submit any federal grant proposal. If you are not clear about the FTE certification process or why this is important, please contact me so that we can go over your individual FTE assignment and how to manage it to reduce potential stress for you and our fiscal personnel.

USDA CSREES National Program Leader visits CTAHR

By Doug Vincent
Special Program Director for Grants and Contracts

On April 15-16, 2009, CTAHR was visited by Dr. Peter Burfening. Dr. Burfening is a National Program Leader in Competitive Programs in USDA Cooperative State Research, Education and Extension Service (CSREES) and serves as one of two USDA CSREES liaison's with CTAHR. The other is Dr. Luis Tupas. The purpose of the liaison program with CSREES is to serve as points of contact within the agency should there be questions about programs. Burfening or Tupas can then assist us by either answering the questions or directing us to others in the agency that might assist us. On Wednesday, April 15, 2009, Dr. Burfening made a presentation about the changes in the agency and the competitive programs to the CTAHR Leadership. You can download the PowerPoint presentation. As a result of the 2008 Farm Bill, CSREES will be reorganized into the National Institute of Food and Agriculture (NIFA). The director of NIFA will report to the Under Secretary of Research, Education and Economics, who will also serve as USDA's Chief Scientist. (Dr. Rajiv Shah, Director of the Agricultural Development Program for the Bill and Melinda Gates Foundation has been nominated as Under Secretary). NIFA's Director will also be political appointee for the first time. NIFA, along with Agriculture Research Service (ARS), Economic Research Service (ERS), National Agricultural Statistics Service (NASS) and parts of USDA Forest Service (FS) will also be reorganized under the Research, Education and Extension Office (REEO). REEO will be charged to coordinate all science activities across USDA and assist the Under Secretary in developing a roadmap for agricultural research, education and extension to identify major opportunities and knowledge gaps while incorporating stakeholder inputs. To date, appointments to serve as the Director of NIFA or REEO have yet to be made. Dr. Burfening also reported on the transitions in the reporting mechanisms for USDA. The USDA CRIS system, which had been housed at the University of Vermont, will be replaced **REEport**, which will be housed internally within USDA. There will be some changes to reporting, capturing additional information, but for most of us, the changes will not be too significant. It is hoped that two changes will improve the system – CRIS, previously had limited search capacity whereas REEport will be searchable through Google via the USDA Research, Education, and Economics Information System (REEIS) portal. The system will also be improved to capture post award termination data, meaning that there will be capacity to input other outputs, e.g. publication and outcomes after the termination of the project. It is anticipated that these changes will be implemented by the next reporting cycle in October 2009. Besides meeting with the CTAHR leadership, Burfening also visited with program leaders of important CTAHR programs, Agribusiness Education Training and Incubation Program (Steven Chiang); Agricultural Development in the American Pacific (Jim Hollyer); 4-H Youth Development (Gary Heusel) and Pacific Agrosecurity Program (Barry Brennan). Dr. Burfening also met with CTAHR Faculty for a discussion on writing grants for the new Agriculture and Food Research Initiative (AFRI) which replaced the NRI program. We also visited the Pope Lab and the Magoon Facility to look at the renovations

Peter Burfening accepting a copy of CTAHR's Centennial Book from Dean Andy Hashimoto and Eunice Morisaki.

at Magoon and to discuss facility issues with Pope Lab. On Thursday, April 16, 2009, Dr. Burfening visited the Oceanic Institute and the Waimanalo Experiment Station, before returning to Washington DC. To all those that made this visit successful, we thank you for taking time out of your schedule to help out.

In our discussion with faculty about grant writing we gleaned some tips for those writing grant proposals to the USDA AFRI program:

- Always write to the priorities of the individual program. Make sure early in the narrative that you address as many of the priorities as possible. If possible, use the same verbiage. Include this as part of the project summary, too.

- If you wonder whether your proposed research will fit among the priorities, contact the National Program Leader for the program you are applying. Given the time difference between Hawaii and Washington, DC, email and try to set up a time when you can make the call.

- Often overlooked in the proposal preparation is the content included in the short 2-page CV or biosketch. Make sure that the information included in the CV helps confirm that the PD and co-PD's have the capacity to do the work.

- Make sure letters of support from collaborators or subcontractors hold enough information to ensure that the work can be done.
- Review panelists are assigned 12-18 proposals to review. Not every reviewer reads every proposal. Write to convince – reviewers must be convinced that the proposal is worth funding. Panelists must then advocate for your proposal.

- If you have multiple objectives, don't make the success of achieving objectives 2, 3 or 4 solely dependent on accomplishing objective 1. If the proposal's success is dependent on achieving objective 1, then have a "Plan B" and outline alternatives in the pitfalls of the project.

- In writing about your experimental design, not only explain how many samples will be taken but why did you choose that number? Understand the "statistical power" of your proposed experiment.

Inferential statistics workshop

By Christopher A. Lepczyk
Department Natural Resources and Environmental Management

Recently CTAHR sponsored a two day workshop on Model Selection and Multimodel Inference, led by Dr. David Anderson the retired unit leader of the Colorado Cooperative Fish and Wildlife Research Unit and professor emeritus of Colorado State University's Department of Fishery and Wildlife Biology. Over the weekend of February 21 and 22, Dr. Anderson led 37 participants from across the university and federal agencies through the ideas of statistical model building and the use of information theory in determining 'best' models. Participants included graduate students, postdoctoral fellows, faculty, technicians, and federal research scientists from such disparate fields as genetics, geography, marine biology, and natural resource management. Attendees gained firsthand experience in discussing and comparing different statistical models and why the use of information theory provides a more robust approach over classic statistics. With the increasing use of information theory in the natural and social sciences, participants also gained experience reading results from journals and thoughts on how to conduct peer-review of statistical models.

In following-up with participants after the workshop, there was an overwhelming positive response. Most participants indicated that they gained new insights into the philosophy of science and how to conduct model building. One frequent response was that UH and CTAHR should host such workshops regularly as it built a sense of community and provided a much needed service. Overall, the feedback and experiences of the participants indicated that it was an extremely beneficial workshop.


David Anderson

For further information on model selection, workshops, and statistical consulting, please see Dr. Anderson's website at: http://aicanderson1.home.comcast.net/~aicanderson1/

Making plans for the summer? Try grant writing!

By Doug Vincent
Special Program Director for Grants and Contracts

The academic year is winding down. Commencement is just around the corner. Summer break is coming. It's time to think about that summer to-do list. It might be about submitting that half-done manuscript or wrapping up some field experiments or lab work. And your grad student needs some time. All good, but how are you going to support your activities for the upcoming year? The University of Hawaii is facing an enormous budget shortfall which means discretionary spending will be sparse, if at all. Have you considered submitting grant proposals this summer? There are several funding opportunities left in the current "grant season." The Western SARE deadline for research pre-proposals is coming soon. NSF might have some opportunities. Oh, you missed the deadline for that one program that fits this year? It happens. Why not take time now to sit down and assess why that happened. Do you need some more preliminary data? Get it. Do you need to assess the past reviewer comments so you can resubmit? Do it. Use the summer to rewrite the proposal narrative to address the reviewers concerns. Need new lab techniques? Find time to learn them or find a collaborator. Summer is a great time for forming teams and exchanging ideas. Just having time to review the literature and think, can be a blessing. But all of these things take effort on your part. Grant proposal writing is an active process and takes time. Shortly, you may have the time! Dr. Sharee Pepper, CTAHR's grant coach, has put together a list of open funding opportunities for you to consider. And she's willing to help you polish up your grant proposal. Take the time because "Autumn" will be here before you know it.

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, CSREES Grants.gov Application Guide – A guide for the preparation and submission of CSREES applications via grants.gov.**
http://www.csrees.usda.gov/funding/grant_forms/electronic_app_guide.pdf

Agriculture

$ - USDA, CSREES - Agriculture and Food Research Initiative (AFRI) Competitive Grants Program (Note: includes prior NRI grants)
Deadline: See Table on last page for revised LOI and application deadlines
http://www.csrees.usda.gov/funding/afri/pdfs/program_announcement.pdf or
http://www.csrees.usda.gov/funding/afri/afri.html

$ - EPA - Quantifying Soil Carbon Sequestration Potential Through Improved Pasture Management
Deadline: April 20, 2009
http://www.epa.gov/air/grants/09-07.pdf

$ - USDA Farmers Market Promotion Program (FMPP)
Deadline: April 27, 2009
http://www.ams.usda.gov/AMSv1.0/getfile?dDocName=STELPRDC5075760&acct=fmpp

$ USDA, CSEES - Interregional Research Project #4 Minor Crop Pest Management Program
Deadline: May 4, 2009
http://www.csrees.usda.gov/funding/rfas/minor_crop.html

$ USDA, CSREES - Global Change Ultraviolet Radiation Monitoring Program
Deadline: May 5, 2009
http://www.csrees.usda.gov/funding/rfas/ultraviolet_rfa.html

$ - USDA, CSREES – Integrated Pest Management: Crops at Risk, Risk Avoidance and Mitigation, and Methyl Bromide Transitions Competitive Grants Programs
Deadline: May 11, 2009
http://www.csrees.usda.gov/fo/methylbromideicgp.cfm

$ - USDA, CSREES - Integrated Pest Management: Risk Avoidance and Mitigation Program
Deadline: May 11, 2009
http://www.csrees.usda.gov/fo/riskavoidancemitigationicgp.cfm

$ - USDA, CSREES – Integrated Pest Management: Crops at Risk Program
Deadline: May 11, 2009
http://www.csrees.usda.gov/fo/cropsatriskicgp.cfm

$ - USDA, Risk Management Agency - Commodity Partnerships for Small Agricultural Risk Managment Education Sessions
Deadline: May 11, 2009
http://www.rma.usda.gov/aboutrma/agreements/

$ - USDA, CSREES – Beginning Farmer and Rancher Development Program
Deadline: May 13, 2009
http://www.csrees.usda.gov/funding/rfas/bfrdp.html

$ - USDA, CSREES - Community Food Projects Competitive Grants Program
Deadline: May 13, 2009
http://www.csrees.usda.gov/funding/rfas/community_food.html

$ - CTAHR Hatch Fund
May 14, 2009
http://www.ctahr.hawaii.edu/ctahr2001/Research/Downloads/cy/Hatch%20fund%20RFP_FY%202010.doc

$ - USDA & EPA - Enhancing Ecosystem Services From Agricultural Lands: Management, Quantification, And Developing Decision Support Tools
Deadline: May 26, 2009
http://es.epa.gov/ncer/rfa/2009/2009_star_ecosystem_services.html

$ - USDA & EPA - Agriculture and Food Research Initiative - Global and Climate Change
Deadline: May 26, 2009
http://es.epa.gov/ncer/rfa/2009/2009_star_ecosystem_services.html

$ - USDA, Western Sustainable Agriculture Research and Education (SARE) -
Research & Education Grant Pre-Application (PRE)
Deadline: Jun 12, 2009
https://wsare.usu.edu/grants/RFA/PRE_10.pdf

$ - USDA, Western Sustainable Agriculture Research and Education (SARE) -
Farmer Rancher Grant (FRG)
Deadline: Dec 04, 2009
https://wsare.usu.edu/grants/RFA/FRG_10.pdf

$ - USDA, Western Sustainable Agriculture Research and Education (SARE) -
Professional + Producer Grant (PPG)
Deadline: Dec 04, 2009
https://wsare.usu.edu/grants/RFA/PPG_10.pdf

$ -USDA, CSREES - 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

Education

$- US Dept of Education , Office of Postsecondary Education; Overview Information; Minority Science and Engineering Improvement Program (MSEIP)
Deadline: May 1, 2009
http://edocket.access.gpo.gov/2009/pdf/E9-7306.pdf

$ - USDA, CSREES - Food and Agricultural Sciences National Needs Graduate and Postgraduate Fellowship Grants Program
Deadline: May 8, 2009
http://www.csrees.usda.gov/funding/rfas/national_needs.html

$ - USDA, Risk Management Agency - Crop Insurance Education in Targeted States (Targeted States Program)
Deadline: May 11, 2009
http://www.rma.usda.gov/aboutrma/agreements/

$ - USDA, Western Sustainable Agriculture Research and Education (SARE) -
Graduate Student Grant (GSG)
Deadline: May 29, 2009
https://wsare.usu.edu/grants/RFA/GSG_09.pdf

$ -NSF - Research Experiences for Undergraduates
Deadline: June 5, 2009
http://www.nsf.gov/publications/pub_summ.jsp?ods_key=nsf07569

$ **-** National Education Association (NEA) Foundation **-** Foundation Supports Professional Development for Educators
Deadline: June 6
http://www.neafoundation.org/programs/Learning&Leadership_Guidelines.htm
Link to Funder Profile

$ - USDA, Western Sustainable Agriculture Research and Education (SARE) -
Research & Education Grant Pre-Application (PRE)
Deadline: Jun 12, 2009
https://wsare.usu.edu/grants/RFA/PRE_10.pdf

$ - Asia and Pacific Islander Organization (APIO) - 2009 APIO Scholarships
Deadline: June 30, 2009
http://www.apio.org/scholarship/APIO_Scholarship_Application_2009.doc

$ - USDA, Western Sustainable Agriculture Research and Education (SARE) -
Professional Development Program Grant (PDP)
Deadline: Nov 03, 2009
https://wsare.usu.edu/grants/RFA/PDP_10.pdf

$ - Human Frontier Science Program – Short Term Fellowship Program
Deadline: rolling – applications accepted year round
http://www.hfsp.org/how/appl_forms_STF.php

$ - NIH - Bridges to the Baccalaureate Program (R25)
Deadline: September 18, 2009
http://grants.nih.gov/grants/guide/pa-files/PAR-07-411.html

Environment, Water, Energy, Invasive Species Grants

$ - Water Environment Research Foundation (WREF) Offers Funding for Water Quality Research

Deadline: June 1, 2009
http://www.werf.org/AM/Template.cfm?Section=Paul_L_Busch_Award&Template=/CM/HTMLDisplay.cfm&ContentID=1427

$ - USDA, Rural Development - Energy Audits and Renewable Energy Development Assistance Grant
Deadline: June 9, 2009
http://edocket.access.gpo.gov/2009/pdf/E9-5154.pdf

$- NSF – Long Term Research in Environmental Biology (LTREB)
Deadlines: July 9 Annually
http://nsf.gov/pubs/2007/nsf07588/nsf07588.htm

$ - NOAA Broad Agency Announcement (for special projects)
Due September 30, 2009 (closes but applications accepted on a rolling basis)
NOAA Office of Education:
http://apply07.grants.gov/apply/opportunities/instructions/oppNFA-NFA-2008-2001388-cid2112140-instructions.pdf
National Marine Fisheries Services
http://apply07.grants.gov/apply/opportunities/instructions/oppNFA-NFA-2008-2001388-cid2112136-instructions.pdf
National Environmental Satellite Data Information Service
http://apply07.grants.gov/apply/opportunities/instructions/oppNFA-NFA-2008-2001388-cid2112133-instructions.pdf
National Ocean Service
http://apply07.grants.gov/apply/opportunities/instructions/oppNFA-NFA-2008-2001388-cid2112139-instructions.pdf

$ - U.S. Fish and Wildlife Service - Coastal Programs
Deadline: September 30, 2009
http://apply07.grants.gov/apply/opportunities/instructions/oppCOASTAL-09-cfda15.630-instructions.pdf

$ - 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

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

Financial Grants

$ - Department of Commerce, Economic Development Administration - FY 09 University Center Economic Development Program Grant
Deadline: April 21, 2009
http://www07.grants.gov/search/search.do?&mode=VIEW&flag2006=false&oppId=45417

$ - Money Management International Financial Education Foundation,
Financial Education Grants
Deadline: rolling – applications accepted year round
http://www.mmifoundation.org/GrantSeekers.asp

Health, Nutrition, Food & Biomedical Grants

$ - NIH - Challenge Grants in Health and Science Research (RC1)
Deadline: April 27, 2009
http://grants.nih.gov/grants/guide/rfa-files/RFA-OD-09-003.html

$ - NIH – Pre-Application for Dietary Supplement Research Centers: Botanicals (X02)

Deadline: April 30, 2009
http://grants.nih.gov/grants/guide/pa-files/PAR-09-091.html

$ - NIH - Improving Diet and Physical Activity Assessment (R21)

Deadline: May 7, 2009
http://grants.nih.gov/grants/guide/pa-files/PAR-06-103.html

$ - NIH -Pilot and Feasibility Clinical Research Studies In Digestive Diseases And Nutrition
Deadline: May 7, 2009
http://www07.grants.gov/search/search.do;jsessionid=LHSflHFSL4pBXG0Dtb7PpzkdDBMHJSl6vhyGyQ1tpTnGcSJ2WfZD!488375993?oppId=8805&flag2006=true&mode=VIEW

$ - CDC, NIOSH - Exploratory and/or Developmental Grant Program (R21) (Focus: Reducing Occupational Disease & Injury)
Deadline: May 8, 2009
http://grants1.nih.gov/grants/guide/pa-files/PAR-06-552.html

$ - NIH - Exploratory/Developmental Clinical Research Grants in Obesity (R21)
Deadline: May 7, 2009
http://www07.grants.gov/search/search.do;jsessionid=LHSflHFSL4pBXG0Dtb7PpzkdDBMHJSl6vhyGyQ1tpTnGcSJ2WfZD!488375993?oppId=8575&flag2006=true&mode=VIEW

$ - NIH – Improving Diet and Physical Activity Assessment (R21)
Deadline: May 7, 2009
http://grants.nih.gov/grants/guide/pa-files/PAR-06-103.html

$ - USDA, CSREES - Community Food Projects Competitive Grants Program
Deadline: May 13, 2009
http://www.csrees.usda.gov/funding/rfas/community_food.html

$ - USDA, CSREES - Agriculture and Food Research Initiative - Human Nutrition and Obesity
Deadline: June 15, 2009
http://www.csrees.usda.gov/fo/fundview.cfm?fonum=2083

$ - Wood Johnson Foundation (RWJF) – Active Living Research and Healthy Eating Research
Deadline: Letters of Intent are required through July 17, 2009.
Invited proposals from the LOI will be due either May 14, 2009 or August 14, 2009
http://www.healthyeatingresearch.org/content/view/184/177/

Humanities Grants

$ - Hitachi Foundation: Business and Communities Grants Program
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.

Rural and Community Development Grants

$ - 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

$-Farm Foundation Grants
Deadline: Applications accepted on an ongoing basis
http://www.farmfoundation.org/news/templates/comm_template.aspx?articleid=357&zoneid=67

Science Grants

$ - National Geographic Society – Waitt Grants Program
Deadline: Rolling
http://www.nationalgeographic.com/field/grants-programs/waitt-grants-application.html

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_f.pdf

USDA, CSREES - Agriculture and Food Research Initiative (AFRI) Competitive Grants Program Contacts (Note: replacing NRI grants)

http://www.csrees.usda.gov/funding/afri/pdfs/program_announcement.pdf

USDA CSREES Agriculture and Food Research Inititative (AFRI) Competitive Grants	LOI Due	Deadline	National Program Leader	e-mail address
Air Quality	3/5/2009	6/5/2009	Raymond Knighton	rknighton@csrees.usda.gov
Animal Genome, Genetics and Breeding	3/5/2009	5/14/2009	Peter Burfening	pburfening@csrees.usda.gov
Animal Growth and Nutrient Utilization	none	7/8/2009	Mark A. Mirando	mmirando@csrees.usda.gov
Animal Health and Well-Being: Tools and Resources	6/1/2009	8/14/2009	Peter Johnson	pjohnson@csrees.usda.gov
Arthropod and Nematode Biology and Management: Suborganismal Biology	4/1/2009	6/24/2009	Mary Purcell-Miramontes	mpurcell@csrees.usda.gov
Arthropod and Nematode Biology and Management: Tools, Resources and Genomics	4/1/2009	6/24/2009	Mary Purcell-Miramontes	mpurcell@csrees.usda.gov
Food Safety and Epidemiology - Biological Approaches to Food Safety	3/4/2009	5/6/2009	Nancy Cavallaro	ncavallaro@csrees.usda.gov
Food Safety and Epidemiology - :Epidemiological Approaches to Food Safety	3/4/2009	5/6/2009	Nancy Cavallaro	ncavallaro@csrees.usda.gov
Food Safety and Epidemiology - Practical Approaches for Food Safety	3/4/2009	5/6/2009	Nancy Cavallaro	ncavallaro@csrees.usda.gov
Human Nutrition and Obesity	none	6/15/2009	Etta Saltos	esaltos@csrees.usda.gov
Integrated Solutions for Animal Agriculture	3/16/2009	6/30/2009	Peter Johnson	pjohnson@csrees.usda.gov
Managed Ecosystems	3/3/2009	6/2/2009	Diana Jerkins	djerkins@csrees.usda.gov
Markets and Trade	none	5/15/2009	Siva Sureshwaran	ssureshwaran@csrees.usda.gov
Plant Biology: Plant Breeding and Education	3/16/2009	6/15/2009	Liang-Shiou Lin	llin@csrees.usda.gov
Plant Biology: Growth and Development	3/2/2009	5/19/2009	Liang-Shiou Lin	llin@csrees.usda.gov
Plant Biosecurity	4/13/2009	6/26/2009	Liang-Shiou Lin	llin@csrees.usda.gov
Protection of Managed Bees	3/2/2009	5/1/2009	Mary Purcell-Miramontes	mpurcell@csrees.usda.gov
Rapid Response	7/30/2009	7/30/2009	Mark Poth	mpoth@csrees.usda.gov
Weedy and Invasive Species	4/20/2009	6/19/2009	Michael A. Bowers	mbowers@csrees.usda.gov

Faculty publications

Kenneth Grace (PEPS)
Gentz, M. C., D. Rubinoff, and J. K. Grace. 2008. Phylogenetic analysis of subterranean termites (*Coptotermes* spp., Isoptera: Rhinotermitidae) indicates the origins of Hawaiian and North American invasions: Potential implications for invasion biology. Proceedings of the Hawaiian Entomological Society 40: 1-9.

Leong, M. H. K., and J. K. Grace. 2008. Occurrence and distribution of mites and ticks (Acari) of public health importance on the island of Oahu. Proceedings of the Hawaiian Entomological Society 40: 19-31.

Leong, M. H. K., and J. K. Grace. 2008. Occurrence and distribution of ants (Hymenoptera: Formicidae), cockroaches (Blattodea), centipedes (Chiolopoda) and wasps (Hymenoptera: Vespidae) of public health importance on the island of Oahu. Proceedings of the Hawaiian Entomological Society 40: 33-49.

Campora, C. E. and J. K. Grace. 2009. Comparison of tunneling in the laboratory and field by the Formosan subterranean termite, *Coptotermes formosanus* (Isoptera: Rhinotermitidae). Sociobiology 53: 389-401.

C.N. Lee (HNFAS)
Hillman, P.E., K.G. Gebremedhin, S.T. Willard, C.N. Lee and A.D. Kennedy. 2009. Continuous measurements of vaginal temperature of female cattle using a data logger encased in a plastic anchor. Applied Engineering in Agriculture, ASABE, 25(2):291-296.

Russell Messing (PEPS)
Bokonon-Ganta, A. H. & R. H. Messing. 2008. Response of the egg-larval parasitoid, *Fopius ceratitivorus* Wharton (Hymenoptera: Braconidae) to the gall-forming tephritid fly, *Eutreta xanthochaeta* (Diptera: Tephritidae). Proceedings of the Hawaii Entomological Society 40: 61-66.

Messing, Russell H. & Trisha Kehaulani Watson. 2008. Biocontrol in Hawaii: more bureaucracy is not the answer. Proceedings of the Hawaii Entomological Society 40: 81-83.

New Academic Journal in Natural Resources Policy

Manoa Professor Chennat Gopalakrishnan is the chief editor of the Journal of Natural Resources Policy Research (JNRPR), a new academic journal published by the leading publisher Routledge. The inaugural issue of the journal was published in early January. It features contributions from some of the leading figures in the natural resource economics and policy field. The journal has a stellar editorial board, including Nobelist Robert Solow of MIT. It has garnered high praise from leaders in the field.

JNRPR publishes original policy-oriented papers addressing a broad range of natural resource fields including water, minerals, energy, fisheries, and forestry in a synthesizing fashion, rather than as stand-alone specialty areas. It will also publish papers on the natural resource implications of climate change, natural disasters, and biodiversity loss, among others. The first issue of the journal can be viewed online at www.tandf.co.uk/journals/JNRPR.

Chennant “Gopal” Gopalakrishnan with his new journal.