

PLANT SCIENCES WEEKLY NEWSLETTER – October 16, 2009

UC Davis will lead \$15 million global horticulture project

Intent on helping the world's poorest people break out of a persistent cycle of poverty by producing and marketing high-value crops, the U.S. Agency for International Development (USAID) has selected the University of California, Davis, to lead a new \$15 million, five-year global Horticulture Collaborative Research Support Program. The new program will select and support U.S. and international partners as they undertake research, training, curriculum-development and outreach activities in the neediest countries, most located in sub-Saharan Africa, southern Asia and Latin America. Activities of the newly created horticulture program will address priorities identified in the USAID-sponsored Global Horticultural Assessment, conducted by a team of international horticultural and development experts led by Professor Patrick Brown. The Horticulture CRSP (hortcrsp.ucdavis.edu) will be housed in the Department of Plant Sciences and the College of Agricultural and Environmental Sciences under the leadership of Ron Voss, "retired" extension vegetable specialist. Cooperative Extension Specialist Beth Mitcham will be associate director and Professor Michael Reid will be part of the management team along with Heather Kawakami and Sabrina Morgan from the department's accounting office. The Horticultural CRSP will be located with the International Program Office in the Environmental Horticulture complex. Jim Hill, associate dean of the international program, will provide programmatic oversight. A special seminar will be held on October 27 or 28 (exact date, time and location to be announced) to further introduce and explain the project to faculty who may be interested in participating.

What role does aroma play in flavor?

Assistant Professor Florence Negre-Zakharov has received a three-year \$297,000 grant from the Plant Biochemistry Program at USDA-CSREES to investigate aroma volatile formation in melon. Volatile compounds are important in determining produce flavor quality, but aroma formation in fruits is a highly complex biological trait that is still poorly understood. Some volatile compounds belonging to the category of esters are abundantly found in the aroma of many fruits such as apples, bananas and melons. These volatile esters come from the breakdown of certain amino acids, but the precise mechanisms involved in converting amino acids to volatile esters are not yet known. The goal of Negre-Zakharov's project is to identify the genes involved in this biological process in melon, and to better understand of how the aroma-forming process is regulated when melons ripen. Since volatile esters are among the most common aroma components in many other fruits, this research is applicable and transferable to a wide range of fruit crops.

USDA-AFRI grant funds research on glyphosate-resistant weeds

Associate Professor Marie Jasieniuk and Cooperative Extension Specialists Tom Lanini and Brad Hanson are part of a team that has been awarded a three-year \$495,000 grant by USDA/NIFA/AFRI for their project "Evolution, Impacts and Management of Glyphosate-Resistant Weeds". Also on the team are Anil Shrestha and Srinivasa Konduru (CSU Fresno), Kurt Hembree (UCCE-Fresno) and Steve Wright (UCCE-Tulare). The integrated project involves research on the mechanisms, genetics, evolution, and spread of glyphosate-resistant weeds in orchards and vineyards of California, and an assessment of economic and environmental impacts. Tradeoffs of different resistance management strategies, in terms of financial and environmental costs, and their influence on the further evolution and spread of glyphosate-resistant weeds will also be evaluated. Alternative resistance management practices will be

demonstrated and communicated to orchard and vineyard owners, managers, and workers, pest control advisors, and pest consultants using multiple approaches. The effectiveness of the research and extension activities in providing stakeholders with useful information on resistance management will also be assessed and used to improve research and extension education programs on glyphosate-resistant weeds.

Award supports sustainable use of biomass energy

Steve Kaffka, extension agronomist and director of the California Biomass Collaborative (CBC), has been awarded a \$773,509 grant from the California Energy Commission. This two-year award will help fund the diverse activities of the CBC, including maintaining a web-based database on biomass in California, holding symposia on biomass related topics of broad interest to the biomass energy community, and in this contract, specific assessment activities on available biomass from purpose grown agricultural crops, forestry biomass, the food processing industries wastes, and the prospects for improving the efficiency of the existing biomass to electricity industry in California. The Collaborative is funded primarily by the California Energy Commission and is dedicated to achieving the sustainable use of biomass for energy in California.

Grant funds analysis of water stress tolerance in tomato

Professors Dina St. Clair and Arnold Bloom have been awarded a three-year \$349,853 grant from USDA-CSREES for their project "Genetics and Genomics of Rapid-Onset Water Stress Tolerance in Tomato." As St. Clair explains, "One of the most consistent methods of imposing rapid-onset water stress is by chilling roots. When roots are chilled (5 degrees C), wild *Lycopersicon hirsutum* responds by closing stomata and maintaining shoot turgor. In contrast, cultivated tomato (*L. esculentum*) does not close its stomata in response to root chilling and shoots wilt, suggesting deficiency in root-shoot signaling and/or stomatal response to signaling. In an interspecific population (*L. esculentum* × *L. hirsutum*), we detected a major QTL for shoot turgor maintenance under rapid-onset water stress via root chilling on chromosome 9 (stm9), accounting for 33% of the phenotypic variance; stm9 was subsequently fine-mapped to ~2.7 cM." St. Clair and Bloom will conduct genetic and genomic analysis of QTL stm9 to determine the gene(s) from *L. hirsutum* responsible for the tolerance phenotype.

Pumpkins and Chili: Reserve your spot

The Pumpkin Patch Fall Social and Chili Contest will be held at the Plant Sciences Field Facilities (old Veg Crops Headquarters) on Thursday, October 22, from 4 to 7 p.m. Tickets are \$5 in advance, \$7 at the door, and they buy you an evening filled with good food, pretty pumpkins, hay rides and more. Before Oct. 20, you can buy tickets for \$5 from James Cabbage or Lauri Brandeberry in Asmundson Hall, Bette Lerol in PES, Pam Francis-Tuss in PBR or Susie Hermle in Wickson Hall. Children under 10 are free. If you buy tickets at the door, please bring cash or a check made out to the Plant Sciences Courtesy Fund. No matter where you buy tickets, you need to register by Oct. 20 – one form per family – here:

<http://ucce.ucdavis.edu/survey/survey.cfm?surveynumber=4106> Questions?
Contact Bette at 2-9830 or Angela at 2-1469.

Calling all future seed executives

The next FuSE (future seed executives) meeting will be hosted by the Harris Moran Seed Company in Davis on Oct. 23. Harris Moran has taken a Global Markets view in putting together a full agenda, with facility tours, scientific presentations and an interactive session on Intellectual Property. For a detailed agenda and registration

form visit www.futureseedexecutives.com. FuSE seeks to provide education, support and networking opportunities for those with fewer than seven years of experience in the seed industry. For more information, see www.futureseedexecutives.com.

Farm-fresh food back in the quad

The East Quad Farmers Market is back for fall quarter. It will be held every Wednesday until November 18 (except Veteran's Day, November 11) from 10 a.m. to 2:30 p.m. on the East Quad. Health Education and Promotion, a unit of Student Health Services, coordinates the market during fall and spring quarters, offering a convenient shopping place for students, staff, and faculty who might not otherwise have the time to pick up fresh fruits and vegetables, nuts, and more.

Seminars/Conferences/Field Days

Plant Sciences Fall Seminar

Wednesday, Oct. 21

PES 3001, noon

Florence Negre will present "Volatile Tales: Understanding the metabolic networks Involved in fruit aroma formation"

Arboretum plant

Oct. 17, UC Davis

Central Valley gardeners can learn about the best plants and techniques for successful gardens in local conditions at two UC Davis Arboretum Fall plant sales, Oct 3 and Oct. 17. Hundreds of types of plants will be for sale, including varieties not available in nurseries. The Oct. 17 event will include a special tribute to Superintendent Warren Roberts, who is retiring after 37 years with the Arboretum. For details, see arboretum.ucdavis.edu

California Nursery Conference 2009

Oct. 29, 2009, Ontario, CA

This year's popular event will be held at the Hilton Ontario Airport Hotel from 7:30 a.m. to 3:30 p.m. on Oct. 29. Registration is \$65 before Oct. 22 and \$80 after. For details and to register, see <http://ceorange.ucdavis.edu/cnc/>

California Weed Science Society Conference

January 11-13, 2010, Visalia

"Looking Into the Future of Weed Control" is the topic of this 62nd annual conference, featuring the latest in weed control. To register, visit www.cwss.org or call CWSS at (831) 442-0883 to obtain a program agenda and registration form.

American Chemical Society Spring Meeting

March 21 to 25, 2010, San Francisco

The program theme for this 239th ACS meeting is "Chemistry for a Sustainable World", a focus central to the vision and mission of the Division of Cellulose and Renewable Materials. The ACS invites participation at the symposium on "Deconstructing the Cell Wall Structure" organized by the Division of Cellulose and Renewable Materials. Online abstract submission is open until October 19 (11pm CST): http://portal.acs.org/portal/acs/corg/content?_nfpb=true&_pageLabel=PP_MEETINGS&node_id=86&use_sec=false&_uuid=9f911fd1-22e3-4e08-a878-98f01df0d0ab

REQUESTS FOR PROPOSALS/SCHOLARSHIPS/FELLOWSHIPS

For more information on funding opportunities, go to OVCR's Web site at <http://www.research.ucdavis.edu/home.cfm?id=OVC,0,1154>

West Side REC proposals

West Side Research & Extension Center is soliciting proposals for new and continuing research and demonstration projects for the period Jan. 1, 2010, through Dec. 31, 2010. Located on 320 acres in the San Joaquin Valley, West Side REC has land suitable for growing row, orchard and field crops, turfgrass, landscape and nursery plants. The center also provides labor, equipment, facilities and technical and management support to UC academics and to personnel from cooperating non-UC organizations, such as USDA. Approximately 7,000 hours of labor are available to support approved projects. Project proposal forms are available at <http://danrrec.ucdavis.edu/rec/form/index.html>.

The deadline for applications is Nov. 16. All project proposals will be evaluated and support hours allocated at the Research Advisory Committee Meeting scheduled for Dec. 10. Please e-mail forms as attachments to Chris Robles at srobles@ucdavis.edu. For questions about the research proposal process or about research opportunities, please contact Bob Hutmacher, center director, at (559) 260-8957, rbhutmacher@ucdavis.edu, or Edwin Scott, center superintendent, at (559) 618-818, edscott@ucdavis.edu.

Milton D. and Mary M. Miller Plant Science Award

Cooperative Extension staff and graduate and undergraduate students with an interest in Cooperative Extension careers who are U.S. citizens are eligible to apply for the Milton D. and Mary M. Miller Plant Sciences Award. Deadline to apply is October 30, 2009. More information and application available online at: http://www.plantsciences.ucdavis.edu/plantsciences/undergrad_studies/scholarships_new.htm

Job Opportunities

New Listings

Graduate Student Researcher

The International Programs Office in the UC Davis Department of Plant Sciences has an opening for a graduate student researcher to provide logistical and organizational assistance to the USAID sponsored program on the Horticulture Collaborative Research Support Program (HORT CRSP). Qualifications include enrollment in any CAES graduate program, excellent communication skills, both written and oral, ability to work with diverse cultures, a valid CA driver's license and knowledge of computer operating systems and programs. Please send letter and resume to Rachel V. Abrenilla (rvabrenilla@ucdavis.edu) no later than Oct. 22. Questions? Contact Rachel at rvabrenilla@ucdavis.edu

Graduate Student Researcher

Short-term 3-6 mo position a for a postdoc or advanced student available immediately. Work will include organizing and summarizing data, writing reports and preparing manuscripts for publication. The topics are invasive species, plant interactions, and animal movement and space selection. Approaches have strong spatial and scaling component. Great opportunity for honing spatial analyses skills. For more information and to apply, contact éalaca@ucdavis.edu

Emilio A. Laca
One Shields Avenue, 2306 PES Bldg.
Plant Sciences Mail Stop 1
Davis, California 95616
(530) 754-4083
Cell (530) 220-5315

Seed Scientist

Mendel BioEnergy Seeds, a division of Mendel Biotechnology, Inc., invites applications for a Seed Scientist. This position can work out of either Hayward, CA or Lafayette, IN locations. The successful candidate will join a team of plant breeders, agronomists, product development professionals, seed production specialists, molecular biologists and biotechnology scientists involved in the development of high performance *Miscanthus* varieties to service the emerging biofuels and power industries. The key objectives of this position are to identify the factors that affect the health and performance of *Miscanthus spp.* seed from seed production to delivery to the market. Applicants must hold a Ph.D. in plant physiology, seed science or related field; and possess a thorough understanding of seed physiology and applied seed technologies in the seed industry. Applicants must be able to demonstrate the organizational skills necessary to design and implement a creative and integrated research program. To apply, please send a letter of interest, CV, and contact information for three references (including email addresses) to job142@mendelbio.com
<http://www.mendelbio.com/jobopportunities/index.php#142>

Post Doc Researcher- Fruit Quality (Vegetables Division)

Monsanto Vegetable Seeds is seeking an enthusiastic person to join a diverse team identifying and understanding valuable traits in our genetic resources for vegetable and fruit improvement. This position will focus on understanding genetic regulation of quality traits as well as understanding the expression of biochemistry relevant to sugar compositions, flavor components, texture, extended post-harvest quality, and nutrition for tomatoes, peppers, melons, and other relevant crops. An ideal candidate has the ability to work with minimal supervision, and develop and leverage networks for hypothesis driven science. The successful applicant will have, or will be acquiring in the next 6 months, a PhD in plant physiology, biochemistry, genetics, or a related field. Familiarity with experimental protocols in biochemistry and molecular biology, comfort with field and greenhouse work, and skill in analysis of experimental data are required. Additional highly desirable skills include proficiency in MS office programs (Word, Excel, Access) and web-based databases. Experience with vegetable crops is desirable, but not required. To view a more complete and detailed job description of this exciting position, visit www.monsanto.com/careers/ and to apply online select req. # 000IZ.

Assistant Professor, Vegetable Crops Specialist

University of Florida/Institute of Food and Agricultural Sciences has a vacancy for a 12-month, tenure-track position, 60% extension and 40% research, available in the Horticultural Sciences Department in Gainesville. The successful candidate is expected to establish an effective statewide research program in vegetable crops management focusing on potato and alternative crops and cropping systems that lead to increased crop diversification and sustainability for vegetable farms in Florida. This faculty member will develop a statewide extension program on potato production/cultivar evaluation and the alternative crops/cropping systems research program. Qualifications include a Ph.D. in horticulture, agronomy, or a closely related

plant science discipline. Postdoctoral and/or previous extension experience and participation in interdisciplinary research programs are preferred. Review date is November 1, 2009. For detailed information visit <https://jobs.ufl.edu>, referencing requisition #0802585. Questions can be sent to Steven A. Sargent at sasa@ufl.edu

Director, the State Botanical Garden of Georgia

The Vice President for Public Service and Outreach at the University of Georgia (UGA) invites nominations and applications for position of Director, The State Botanical Garden of Georgia. (www.uga.edu/botgarden) The State Botanical Garden, a unit of the University of Georgia, is a 313-acre facility located in Athens, Georgia approximately three miles from the university campus. The Director is the chief spokesperson and advocate for the Garden, and is responsible for fiscal, personnel and program management including operating policies, short- and long-term planning, and strategic goals. The successful candidate should have an understanding of nonprofit organizations and academic institutions including contributed and earned revenue. Masters required. Applications received by November 1, 2009 will be assured full consideration. Send questions and submissions to executivesearch@uga.edu

Assistant/Associate Extension Professor: Soil Management

The position announcement for an Assistant/Associate Extension Professor: Soil Management, University of Kentucky has been posted at the ASA-CSSA-SSSA Career Placement Service. It may be viewed at <https://www.careerplacement.org/index/job/detail/500>.

Managing Director, All-America Rose Selections

[All-America Rose Selections](http://www.all-america-rose.com) is a nonprofit association dedicated to the introduction and promotion of exceptional roses. AARS runs the world's most challenging horticultural testing program, and consistently recognizes roses that are easy to grow and require minimal care by today's busy homeowner. The Managing Director (MD) is a newly created position and will work under the guidance of the Board of Directors, a diverse group of well-established rose growers across the US. Of paramount importance will be determining how to implement the recently-developed strategic plan. Additionally, the MD will be responsible for growing the organization's market presence, and leading the transition of the AARS Winners from a nationally-based to a regionally-based program. The MD will initiate discussion and program development around new funding sources and models to ensure increased market visibility. Because AARS has no bricks-and-mortar office, the location of this position is flexible. There will be significant travel in the first 6 months to fully understand the organization and business practices of individual members. Qualifications include a Bachelor's degree or equivalent. Send a cover letter and your resume to jobs@rose.org.

Repeat Listings

Postdoctoral position in Sensory Analysis of Tree Fruit

The UC Davis Department of Plant Sciences has an opening for a postdoctoral position in the laboratory of Carlos H. Crisosto (Wickson Hall). This two-to-three-year postdoctoral position (with annual renewal subject to performance and funding) is available to establish a sensory evaluation system to understand fruit sensory losses during postharvest handling and propose innovative treatments to reduce these barrier problems. This sensory evaluation system will consist of a trained panel

(descriptive analysis) that will be validated by several in-store consumer panels. Preference will be given to applicants with demonstrable experience in laboratory and statistical analysis techniques relating to descriptive analysis and consumer testing, and postharvest technology of fresh fruit. Requirements include a Master's or PhD degree, good interpersonal skills, well organized, and proficient in written and oral communication. Applicants should submit a letter of interest, curriculum vitae, a brief statement highlighting research interests and experience related to the position, and contact information for three references to: Carlos H. Crisosto, chcrisosto@ucdavis.edu; tel. 530-752-7549 and Gayle Crisosto (gayle@uckac.edu).