

SUSTAINABLE AGRICULTURE

INSIDE

- NEW FACULTY, FELLOWS 2
- FROM THE DIRECTOR 3
- NITROGEN STUDY 4
- HALPRIN LEAVING UC 5
- IN BRIEF 6
- ART/SCIENCE FUSION 8
- RUSSELL RANCH 10
- FUNDING OPPORTUNITIES 18
- FUNDING 19

ASI hosts inaugural national symposium on food systems, sustainability

by Lyra Halprin, ASI/SAREP

DAVIS—More than 150 academic leaders, journalists, government officials, policy makers, global experts, and industry heads gathered at the University of California, Davis campus in March to tackle issues related to food, agriculture and the environment.

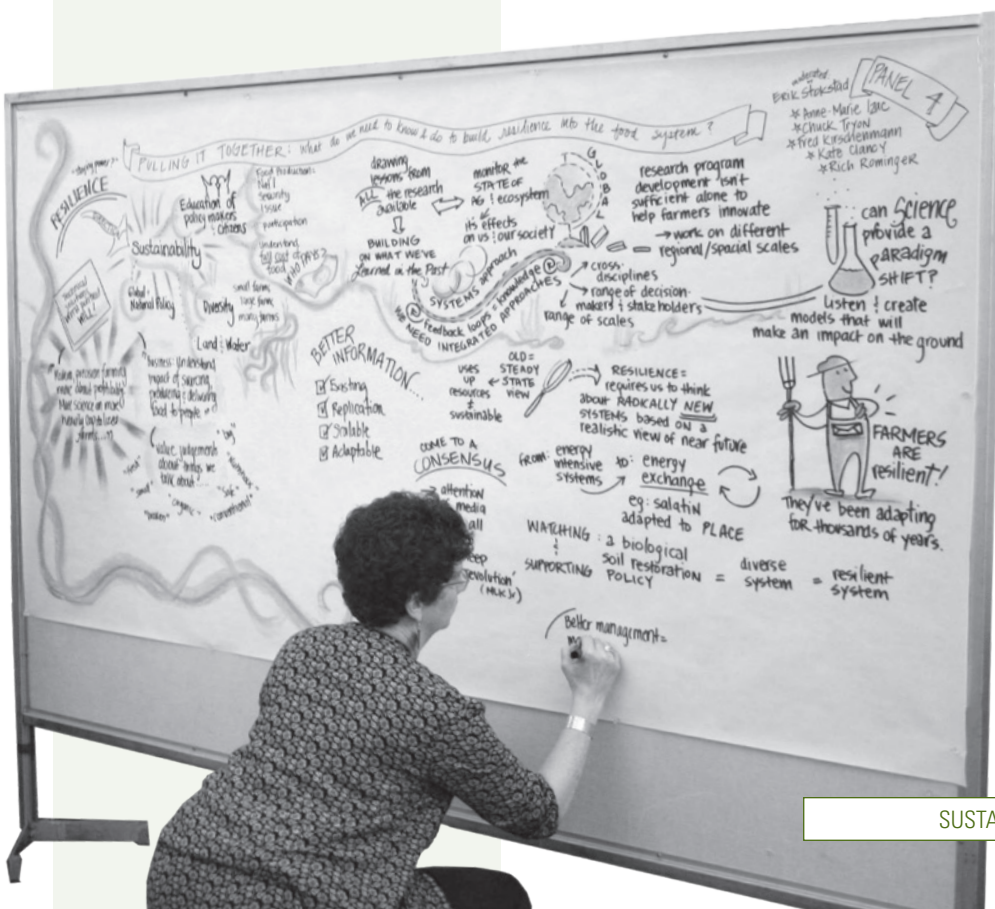
Hosted by the Agricultural Sustainability Institute at UC Davis (ASI) and funded by the W.K. Kellogg Foundation and other sponsors, the “Inaugural National Symposium on Food Systems and Sustainability: Where are we headed? Where do we want to go?” featured four panels covering food prices, health and access to food; impacts of climate change, including water scarcity and energy prices; regional perspectives; and building resilience into the food system.

“We brought the leaders from many disciplines here to build relationships and work together on providing better coordinated and more effective guidance on agricultural sustainability to policymakers, foundation leaders and community advocates,” said **Tom Tomich**, ASI director, who also led two follow-up days of meetings among academic leaders and government officials, as well as fellow directors of agricultural sustainability programs throughout the country. (See “From the Director,” page 3.)

Tomich said symposium objectives also included identifying major trends shaping the food system (and interactions among those trends), establishing a shared understanding of forces shaping opportunities for reform, considering how these may affect different regions and constituencies,

See ASI on p.12

Graphic recorder Nancy White illustrates ASI symposium discussions. (photo by Lyra Halprin)



New faculty, fellows, researchers join ASI

Three years since then-UC Davis Provost **Barbara Hinshaw** demonstrated her support for ASI by allocating eight new faculty positions to the Institute, nearly all of these positions have been filled, and a ninth one added. In a time of tight budgets, this dedication of new positions to agricultural sustainability is noteworthy. In addition to **Tom Tomich**, ASI/SAREP director, professor and W.K. Kellogg Endowed Chair in Sustainable Food Systems, and **Will Horwath**, professor, James G. Boswell Endowed Chair in Soil Sciences, land, air and water resources department, other new faculty include:

Ryan Galt, assistant professor, agricultural sustainability and society, human and community development department; **Pierre Merel**, assistant professor, economics of agricultural sustainability, agricultural and resource economics department; **Johan Leveau**, assistant professor, sustainable plant disease management/soil microbiology, plant pathology department; and **Johan Six**, professor, agroecology, plant sciences department.

Neal Williams is a new ASI faculty affiliate. An assistant professor in the entomology department focused on pollination ecology, Williams was previously an assistant professor of ecology at Bryn Mawr College, where he helped develop the environmental studies curriculum. As a postdoctoral fellow at Princeton University his field research was based at UC Davis, where he explored the influence of landscape structure on native pollinator communities and crop pollination. In addition to field-based research, Williams is involved in developing the Yolo County Habitat Conservation Plan.

Louie Yang, a former UC President's Fellow and new assistant professor in the entomology department, did his undergraduate work at Cornell University and received a doctorate in population ecology from UC Davis. His research focuses on how changes in resources, disturbance events and the timing of species interactions affect ecological communities, and resilience. His work has been published in the journals *Science*, *Ecology*, and *The American Naturalist* among others.

One additional ASI faculty affiliate will be appointed by the animal science department pending final approval of their choice for the Sesnon Endowed Chair in Animal Science, a position that will focus on sustainable animal agriculture.

ASI recently received funding from the David and Lucile Packard Foundation to support a two-year project focused on tradeoffs between nitrogen fertilizer use for increased productivity and the potential resulting greenhouse gas emissions and nitrogen pollution in California agriculture. This grant allowed the creation of five new

Packard fellowships – three postdoctoral researchers, and two fellows focused on communications and outreach. The fellows are:

Antoine Champetier, Policy Options Packard Fellow. He is finishing his dissertation at UC Davis in the agricultural and resource economics department. He is interested in the environmental aspect of agricultural policies and the design of economic incentives for environmental services; his dissertation explores the economics of use and pollination services in managed ecosystems. As a Packard Fellow, Champetier will identify policy options that take into account nitrogen cycles with farmer production decisions.

Daniel Liptzin, Biogeochemical Flows Packard Fellow. Liptzin completed postdoctoral work at UC Berkeley, where he studied the effect of soil oxygen on nutrient availability and greenhouse gas production in tropical forest soils. He received his doctorate at the University of Colorado where he focused on how landscape setting affected patterns of soil nutrients in an alpine region with increasing nitrogen deposition. As a Packard fellow, he will lead the biogeochemistry component of the nitrogen assessment for California agricultural ecosystems.

Todd Rosenstock, Best Practices and Technical Options Packard Fellow. Rosenstock earned a doctorate in agricultural ecology at UC Davis. His research has focused on issues constraining small- and large-scale production systems in California and overseas. He has worked on nutrient use efficiency, postharvest biology, horticultural assessment, and information exchange. He will assess the best practices and technical options for nitrogen management in California agriculture using his technical knowledge and experience with extension and assessment programs.

Colin Bishop, Communication and Outreach Packard Fellow. Bishop worked as a professional journalist in both print and broadcast media. He earned a master's in journalism at Indiana University and has a bachelor's degree in geography from UC Berkeley. Most recently he was a reporter and the local host of "All Things Considered" at WFIU, the NPR-affiliate in central Indiana.

Stephanie Ogburn, Communication and Outreach Packard Fellow. Ogburn has a master's degree from the Yale School of Forestry and Environmental Studies with a focus on sustainable agriculture, and an interdisciplinary bachelor's degree from the University of South Carolina Honors College. She has worked as a professional online and print journalist, focusing on agricultural and environmental writing, and has performed outreach and communications work for various non-profits.

From planning to action

In addition to the stimulating and successful First National Symposium on Food Systems and Sustainability that we hosted at UC Davis in March (see p. 1), we also convened two days of meetings and brainstorming sessions with policy makers, sustainability leaders from the academic and nonprofit communities, and a group of national university leaders who have come together to support positive change in our food and agricultural system.

The March 24 symposium goal was to identify benchmarks about trends that influence the food system and come to an understanding of the forces that shape opportunities for reform. The next day, 50 national academic leaders in sustainability met with policy makers to talk about using the benchmarks we identified as a way to shift national policy for food and farming.

I was very stimulated by the discussions and interactions that took place on both days focused on:

- Understanding necessary conditions for fundamental change: When there are opportunities for real reform, how will we recognize them?
- What do policy shapers need to know to advance an agenda for reform? What information will be most relevant and useful in supporting their positions? And how can it be presented in a way that is most useful in making policy decisions?

- What are the key policy research questions? Are there unique and necessary roles for an interuniversity network in conducting this research? If so, what are they?

This was a bit of an experiment for all of us—we will be incorporating lessons in future events.

After the stimulating discussions of Days One and Two, we convened the 25 national academic leaders of sustainable food systems and agriculture programs for one more day of discussion about institutionalizing our informal network and how that could help shift the national debate about sustainable agriculture policy. The university leaders agreed to collaborate on projects and seek funding to formally endow an Inter-institutional Network for Food, Agriculture and Sustainability (INFAS). They also agreed that ASI would be the institutional “house” for the network. We agreed to meet again with funding provided by the W.K. Kellogg Foundation.

I am happy to report that we’re moving ahead hiring several new key positions: five Packard Fellows, funded by the David and Lucile Packard Foundation and three new ASI-affiliated faculty (see “New Faculty, fellows, researchers join ASI,” page 2).

I recently had the pleasure of working with sixth graders at the Davis Waldorf School on a fantastic UC Davis Art-Science Fusion mosaic project. Under the direction of **Di-ane Ullman**, entomology professor, artist and associate dean of undergraduate academic programs, and **Donna Billick**, an artist specializing in large-scale public art and co-director with Ullman of the campus Art-Science Fusion Program, we are working together to create mosaic tiles on the theme of sustainability to cover a pillar at UC Davis’ Robbins Hall (see “ASI works with elementary school, UC Davis Art/Science Fusion Program,” page 8). It’s fun to work with kids of all ages and I was impressed how wonderfully they were able to translate abstract ideas about sustainability into compelling and clear works of art. A fantastic project and program—we’ll let you know when it’s finished.

—Tom Tomich, director, UC Davis Agricultural Sustainability Institute, and director, University of California Sustainable Agriculture Research and Education Program.



Making tiles for sustainability pillar.

UC Davis receives \$2.8 million to study agricultural nitrogen's impacts

Agricultural Sustainability Institute (ASI) at UC Davis researchers will receive \$2.8 million in new grants to study the use and impacts of nitrogen, a hero of the agricultural revolution that is increasingly viewed as a worrisome source of water and air pollution and potent greenhouse gases.

“This is one of the most important and least publicized environmental issues we face: Escaped nitrogen from agricultural production affects the quality of our air, water, and soil and has huge potential to contribute to climate change,” said **Tom Tomich**, ASI director.

“Many members of the public and politicians are unaware of the scope of this challenge. And many farmers are increasingly interested in nitrogen management to cut costs.”

Nitrogen is a chemical element that occurs naturally in Earth's air, water and soil. It is essential to life, and cycles through all plants, animals and people. Nitrogen-based fertilizers help California farmers produce more than 400 agricultural commodities -- vegetables, fruits, meats and dairy products worth \$36 billion a year.

But excess nitrogen is emitted from soils, seeps into groundwater and runs off into surface waters. Wastes from cattle, chickens and other livestock include nitrogen. Farm machines burning oil, gasoline and diesel release nitrogen to the air.

The resulting environmental impacts include:

- Trapped solar radiation in the atmosphere, contributing to the “greenhouse effect” that is changing the Earth's climate;
- Decreased high-altitude ozone, which allows more solar radiation to reach Earth's surface, causing skin cancer and adding to the greenhouse effect;
- Increased smog and ground-level ozone, which can cause or worsen respiratory diseases such as asthma and viral infections such as the common cold;
- High concentrations of nitrates in groundwater, which can cause methemoglobinemia, or “blue baby disease,” and possibly bladder and ovarian cancers; and

- Nitrogen runoff in bays and coastal areas, where it makes algae numbers spike then crash, drawing oxygen from the water and leading to “dead zones” -- areas that cannot support finfish, shellfish or most other aquatic life.

Those environmental impacts are not fully documented, Tomich said.

“With this new funding, we can start to fill in those blanks, and improve management of nitrogen, carbon and water to help move agriculture toward sustainability in significant ways,” he said.

Data on agricultural nitrogen pollution are limited and some nitrogen pollution forms are difficult to monitor. Measurements can be labor-intensive and expensive and are influenced by variables such as weather conditions, irrigation timing and method, and crop-specific fertilization practices.

The new studies should improve data-collection methods, said Agricultural Sustainability Institute researcher **Johan Six**, a professor in the Department of Plant Science.

See UC DAVIS on p.7

UC Davis researcher Amy Patrick measures nitrogen on a farm in Winters, Calif.



Lyra Halprin leaving UC



Lyra Halprin

Lyra Halprin, senior public information representative at the statewide UC Sustainable Agriculture Research and Education Program (SAREP) and the Agricultural Sustainability Institute at UC Davis (ASI), retired at the end of June after 21 years of service.

SAREP was started in 1987 at the request of the California Legislature. Halprin was hired in 1988 by **Bill Liebhardt**, SAREP's first director, and **Jill Auburn**, associate director, to promote the fledgling statewide program and the sustainable agriculture projects that received SAREP funding. She started the program's newsletter, *Sustainable Agriculture*, and helped bring name recognition to the program and to the ground-breaking sustainable agriculture projects that began to define an era.

Among the most well-known projects was the first biologically integrated orchard system (BIOS) project documented by farm advisor **Lonnie Hendricks**, which gained national recognition when NBC Nightly News anchor **Tom Brokaw** spoke about "the Almond Brothers" **Glenn** and **Ron Anderson** who farmed side-by-side in Merced County, and a book about bovine growth hormone called "The Dairy Debate."

Halprin was able to place stories about SAREP-funded projects and ASI work in media outlets throughout the world including the New York Times, the BBC, The Economist, The Nation, Oprah Magazine, Gourmet Magazine, Chicago Tribune, Associated Press, National Public Radio, U.S. television and radio networks, and the agriculture press including California Farmer, Arizona Farm Press, AgAlert, Capital Press and Western Farm Press. She publicized the dramatic changes that California winegrape growers have made in reducing pesticides and herbicides, and helped give voice to growers generating energy on their farms using crop waste. She promoted colleague **Gail Feenstra's** local food systems initiatives including farm-to-school salad bars, and ASI researchers' work on reducing greenhouse gases produced while growing food. A recent focus of her promotion has been ASI's initiatives on the impacts of nitrogen, a key component of the agricultural revolution that has emerged as a source of water and air pollution and greenhouse gases.

"She will be sorely missed," said ASI director **Tom Tomich**. "Lyra's unique combination of attributes – including her deep commitment to sustainable agriculture, infectious enthusiasm for communicating our stories, and deep rapport with media – make her irreplaceable."

Halprin, whose family raised walnuts and row crops in Sutter County from 1924 to 1978, combined her interest in agriculture with her work as a reporter. She earned a B.A. in sociology from UC Davis and a master's degree in journalism from UC Berkeley. She worked as a newspaper reporter in Southern California and Yolo County, was a radio reporter for KFBK and KXJZ in Sacramento, and was the agriculture reporter at Fox 40 Television in Sacramento before being hired by UC. She was also a member of Class VII of the California Agricultural Leadership Program, the first to include women. At UC Davis and in the surrounding community she has been committed to diversity and volunteers with the Juvenile Diabetes Research Foundation.

Halprin said she continues to be inspired by the entire farming community—from family farmers to large-scale operations to the more than 300,000 farmworkers in California.

"I am happy that the issues we care about, including the sustainability of family farms, and healthful and delicious food for everyone, are more a part of the public consciousness," she said. "I appreciate the hard work and dedication of my fellow communicators at the UC Davis campus and throughout the UC system. Together with researchers and those incredible UC Cooperative Extension farm advisors, we have made a difference."

The California State Senate passed a resolution introduced by Senator **Lois Wolk** honoring Halprin for her dedication, accomplishments and service to the state, while former Yolo County Supervisor **Helen Thomsen** declared June 7, 2009 "Lyra Halprin Day in Yolo County" in honor of her 21 years of service to sustainable agriculture.

Halprin, who has contributed commentaries to National Public Radio and Northern California NPR affiliates in Sacramento and San Francisco, will be expanding her freelance writing/radio work, enjoying more time with her family, open water swimming, the arts, and hanging out at her favorite haunt—the Davis Farmers Market.

Notable events

Compiled by Lyra Halprin, Colin Bishop and Stephanie Ogburn, ASI/SAREP

Honors

Ecology graduate student and Students for Sustainable Agriculture (SSA) member **Kelly Garbach** has won a \$10,000 grant from Brita's College Filter For Good Eco-Challenge. Garbach will use her award to educate the public about the importance of forest conservation by planting trees on UC Davis' Student Farm, analyzing the filtering power of trees and forests, and presenting the results of her research in community forums. Her major concentration of graduate study involves the effects of policy decisions on the ecosystems and agriculture of Costa Rica. The Brita contest is part of effort to reduce the number of disposable plastic water bottles littering the world.

UC Davis doctoral student **Damian Parr** won a \$2,500 scholarship for organic sustainable agriculture from Annie's Homegrown, an organic food company. Parr, co-founder of the UC Davis Students for Sustainable Agriculture, is studying agricultural and environmental education.

ASI/SAREP Presentations

Gail Feenstra, food systems analyst for ASI and the statewide Sustainable Agriculture Research and Education Program (SAREP), gave a number of presentations over the last several months. In April, she spoke about "Building the Good Food Toolkit," at the Food Systems and Public Health Conference in Warrenton, Va. Feenstra addressed the question of developing a healthful sustainable food system capable of feeding eight billion people by 2050, the relationship between climate change and the food system, and talked about what researchers can bring to the discussion. In March, Feenstra spoke at the National Farm to Cafeteria Conference in Portland, Ore. Feenstra made a number of panel presentations, one of which was "What Does Farm to School Research Tell Us? Making Fact-based Claims," where she shared some of the results from a recent publication on the impacts of farm to school programs.

Events

Tom Tomich, ASI/SAREP director, organized and hosted the first National Symposium on Food Systems and Sustainability, a three-day event in March 2009. The first day of the symposium brought together academic leaders, policy makers, journalists, and agricultural experts to create a shared understanding of major forces driving change in our food systems and how these forces shape opportunities to enhance sustainability. On its second day, the symposium featured a policy roundtable, which targeted 50 participants from key public agencies to discuss how science can support policy change. The event concluded with a meeting of the Network of Academic Leaders in Food Systems and Sustainability who discussed plans for continued collaboration, themes and logistics for the next national symposium, and next steps on securing long-term funding for the activities of the group. See "ASI hosts inaugural national symposium on food systems, sustainability," page 1 and "From the Director," page 3 for more information on the symposium.



Local food potlucks at the UC Davis Student Farm were part of Keepin' It Real Food Week!

Young adult awards

Maggie Lickter, UC Davis undergraduate and member of Students for Sustainable Agriculture, and **Damian Parr**, ASI post-graduate fellow, were awarded BLAST scholarships to attend the spring W.K. Kellogg Foundation annual Food and Society conference in San Jose, Calif. BLAST (Building Local Agricultural Systems Today) is a global network of youth and adults working together to build sustainable food systems. At the conference, Lickter and Parr were able to participate in seminars on food security, agriculture, and other issues, and to contribute their energy and creativity while getting to know established leaders in the field of sustainable food systems. <http://www.thefoodproject.org/blast/internal1.asp?ID=389>.



Keepin' It Real Food Week!

Food films and hands-on demonstrations made Keepin' It Real Food Week at UC Davis an interactive experience this year. From May 26-29, Students for Sustainable Agriculture (SSA), an ASI-affiliate group, organized activities aimed at educating the campus community on issues of social justice and ecology as they relate to food systems. The student group showed a documentary film, *Immokalee: From Slavery to Freedom*, featuring the stories of Florida's Immokalee farm workers. They accompanied this with a call from an Immokalee worker who discussed working conditions as well as the Coalition of Immokalee Workers' campaign to get campus dining services across the country to pay a penny more per pound of tomatoes in order to support better working conditions for Immokalee workers. Another documentary screened during the week, *King Corn*, follows two new farmers on a quest to discover the practice and impacts of growing industrial corn in Iowa. Other activities SSA sponsored included a solar cooking demonstration, and taste tests of "real" food as ways to engage the campus community in learning more about social justice and sustainable agriculture.

UC DAVIS CONTINUED FROM PAGE 4

"It's urgent that we know how much nitrous oxide and other greenhouse gases are released during irrigation and fertilization of farm lands in California," Six said. "The good news is we know that it is economically feasible to reduce these emissions. The first step is quantifying the necessary reductions."

The new ASI grants and objectives include:

- \$1.5 million from the David and Lucile Packard Foundation Packard for a statewide assessment of existing scientific evidence on nitrogen use in conventional and alternative farming systems, and relevant practices and policy options. Also: a program to improve communication about nitrogen concerns among California farmers, ranchers, extension advisors, environmental and community groups, agribusiness (including the fertilizer industry) and government agencies (including California Department of Food and Agriculture and U.S. Environ-

mental Protection Agency). This grant is to the Agricultural Sustainability Institute, in collaboration with the University of California Agricultural Issues Center, Kearney Foundation for Soil Science, and the UC Sustainable Agriculture Research and Education Program.

- \$500,000 from the California Energy Commission and \$350,000 from the David and Lucile Packard Foundation to Johan Six for new research on nitrous oxide emissions in various farming systems.

- \$300,000 from the California Air Resources Board to **Will Horwath**, professor in the UC Davis Department of Land, Air and Water Resources, for research on practical ways to reduce nitrous oxide emissions in California agriculture.

- \$150,000 from the California Department of Food and Agriculture's Fertilizer Research and Education Program to Horwath,

Six and **David Goorahoo**, an assistant professor at the Center for Irrigation Technology at California State University, Fresno to measure nitrous oxide emissions from cotton, corn and vegetable cropping systems.

About the Agricultural Sustainability Institute

Established in 2006 by the UC Davis College of Agricultural and Environmental Sciences, the Agricultural Sustainability Institute (ASI) includes the University of California's statewide Sustainable Agriculture Research and Education Program (SAREP), the Student Farm at UC Davis, and the Russell Ranch Sustainable Agriculture Facility at UC Davis, as well as programs at other campuses across California. More information: <http://asi.ucdavis.edu>.



ASI works with elementary school, UC Davis Art/Science Fusion Program on mosaic pillar

by Diane Ullman, associate dean, undergraduate academic programs, UC Davis entomology professor, co-director UC Davis Art/Science Fusion Program and Donna Billick, co-director, UC Davis Art/Science Fusion Program

“Sustainability” is the theme of a new mosaic column being created by the UC Davis Art/Science Fusion program in collaboration with the Agricultural Sustainability Institute (ASI) at UC Davis and the Davis Waldorf School’s sixth grade class.

The sixth grade students have created tiles that mirror sustainability themes and designs determined by UC Davis Art Science Fusion co-directors and artists **Diane Ullman** and **Donna Billick** and an ASI group headed by **Tom Tomich**, director of ASI and the UC Sustainable Agriculture Research and Education Program (SAREP), which included **Raoul Adamchak** of the UC Davis Student Farm and **Robert L. Bugg** and **Lyra Halprin** of ASI and SAREP.

A mosaic mural will be installed on a 13-foot existing pillar in front of Robbins Hall, the building that houses ASI offices at the UC Davis campus. The new mosaic-covered pillar will complement the five existing pillar mosaics created by the campus Art/Science Fusion Program and the Plant Genomics Program at the same site. Each side of the ASI pillar will address a different element of sustainability: ecology and society, ecology and agriculture, farms and the economy, and food and society. The top of the column will mirror the landscape design on the top of the five existing Plant Genomics Program pillars with the addition of the sun, a key element of sustainability. A waterway will flow out of the scene, providing a primary visual element that wraps around the four sides of the sustainability pillar.



The process used in creating the ASI sustainability pillar follows the procedure developed by the Plant Genomics Program, the Art/Science Fusion Program, Billick Rock Art and the UC Davis Architects and Engineers to create the existing pillar mosaics.

Tomich, Billick and Ullman made a presentation to the Waldorf sixth graders about the sustainability topics and images that were approved by the ASI group. Students took responsibility for specific areas of the pillar and made drawings that incorporated sustainability themes. Tomich, Billick and Ullman returned to the school to help students fine-tune their images, after which students went to Billick's Davis studio and created mosaic depictions of their drawings. Ullman and Billick fabricated the full mosaic and will install it with a professional team in the fall. The students will be invited to celebrate the outcome of their work and learning once the mosaic is installed.

The ceramic tiles used for the mosaic, both those designed and hand-built by the participants and those purchased commercially for the background, will be secured on the wall with high grade thin set in a latex base. The spaces between the tiles will be filled with a custom grout created with sand, white cement and masonry stains. These materials are highly durable in heat, cold, sun, rain and all sorts of weather conditions. They are readily cleaned with a pressure washer, are rarely tagged by graffiti artists and are made to stay beautiful and durable in an outside environment.

Sixth graders at Davis Waldorf School work on sustainability pillar for Robbins Hall at UC Davis. (photos by Lyra Halprin)



Russell Ranch Sustainable Agriculture Facility update

by Emma Torbert, ASI/SAREP

Field days like this one for the Sustainable Agriculture Farming Systems (SAFS) project at the Russell Ranch Sustainable Agriculture Facility at UC Davis are an important part of the facility's role as a showcase of sustainable agriculture research and a living laboratory for students, researchers, policy experts and others.

The UC Davis Russell Ranch Sustainable Agriculture Facility, an affiliate of the campus Agricultural Sustainability Institute (ASI) is located seven miles west of the main campus. It is home to the Long Term Research on Sustainable Agricultural Systems (LTRAS) and the 21-year old Sustainable Agriculture Farming Systems (SAFS) project.

Now at a critical juncture due to new scientific priorities, and constraints brought on by a reduction in funding, investigators at Russell Ranch are reevaluating the original goals of the project and developing a new vision for the facility, according to **Kate Scow**, ASI deputy director and Russell Ranch director. A new scientific plan is in progress, including an improved Web presence and database that builds on the original vision, but also re-engages faculty and students and incorporates lessons learned so far, according to Scow.

Russell Ranch's needs fit prominently into ASI's overall fundraising campaign; it is anticipated that private, philanthropic support will allow the ranch to operate at its potential, Scow noted. "Our goal is to ultimately diversify and expand current cropping systems to include perennials, and vegetable crops in collaboration with the UC Davis Student Farm, and mixed crop-animal systems," Scow said. "We envision capitalizing on Russell Ranch's unique agriculture-

natural environment interface to develop a research and outreach program linking the site to surrounding habitat restoration areas and the Putah Creek Riparian Reserve. We also hope to showcase and expand Russell Ranch as a living laboratory for course field trips, class projects, and student research on sustainable agriculture, and we plan to improve existing operational facilities and develop new ones for education and outreach."

The facility is undergoing transitional changes as it integrates fully into ASI. A new Russell Ranch Web site will be launched soon, and will include publically accessible data. A pamphlet describing research results from 1998-2008 is now available at the ASI Web site (http://asi.ucdavis.edu/publications/russell_ranch/pamphlet_4_22_09.pdf).

The SAFS annual field day will not take place in June 2009 due to budget constraints; the spring SAFS newsletter has been similarly affected. However, a research presentation, tomato festival and barn dance will take place in early fall, when the Bradford/Rominger Agricultural Sustainability Leadership Award will be recognized. Please stay tuned for the announcement of the date on our Web site, <http://asi.ucdavis.edu>, and in the fall ASI/SAREP newsletter.

National leaders on ASI symposium panels

The March 24, 2009 *Inaugural National Symposium on Food Systems and Sustainability: Where are we headed? Where do we want to go?* featured four panels moderated by nationally-known journalists with experts from academic institutions and agriculture-related organizations and industry. Panelists and moderators included:

Panel 1: Food prices, health, access to food

- Journalist/moderator: **Lia Huber**, freelance journalist and contributor to *Prevention* and *Cooking Light* magazines.
- Population, health and nutrition: **Gail Feenstra**, nutritionist and food systems analyst, University of California Sustainable Agriculture Research and Education Program (SAREP).
- Food systems and social equity: **Patricia Allen**, director, Center for Agroecology and Sustainable Food Systems, University of California, Santa Cruz
- An Urban perspective on access to food: **Oran Hesterman**, pPresident and CEO, the Fair Food Foundation, Ann Arbor, Michigan
- Food prices: **Daniel Sumner**, Frank L. Buck, Jr. professor of agricultural and resource economics at UC Davis, and director of the UC Agricultural Issues Center.

Panel 2: Climate change: uncertainty and interactions including conflict over water; energy prices and supplies; nutrient cycles and contaminant flows

- Journalist/moderator: **Andrew Martin**, writer, The New York Times.
- Climate change: **Jon Padgham**, director, Environmental Risk, Vulnerability and Adaptation Program, International START Secretariat (global change SysTem for Analyst Research and Training), Washington, DC.
- Water: **Mark Shannon**, professor of engineering and director, Center of Advanced Materials for Purification of Water with Systems (WaterCAMPWS), University of Illinois, Urbana-Champaign.
- Energy: **Cutler Cleveland**, professor of geography and environment, and director, Center for Energy and Environment Studies, Boston University; Editor-in-Chief, *The Encyclopedia of Energy*.
- Ecosystems: **William Clark**, professor of international science, public policy, and human development, John F. Kennedy School of Government, Harvard University and chair of the Design Committee, *State of the Nation's Ecosystems* Reporting Program, Heinz Center for Science, Economics and the Environment.

Panel 3: Regional Implications: threats, opportunities, adaptive capacity and managing vulnerability: How do we prepare for an uncertain future?

- Journalist/moderator: **Jim Downing**, business/agriculture reporter, the Sacramento Bee.
- Southern perspectives: **Nancy Creamer**, professor of horticultural science and director, Center for Environmental Farming Systems, North Carolina State University.
- The Northeast: **Kathy Ruhf**, principal, Land for Good, and coordinator, Northeast Sustainable Agriculture Working Group, Belchertown, Mass.
- The Corn Belt: **Michelle Wander**, professor of natural resources and environmental sciences, University of Illinois, Urbana-Champaign.
- Great Plains and Mountain Region: **Neva Hassanein**, associate professor, environmental studies, University of Montana.

Panel 4: Pulling it together: What do we need to know and do to build resilience into the food system?

- Journalist/moderator: **Erik Stokstad**, staff writer and editor of *Science* magazine.
- **Richard Rominger**, farmer, former Secretary of the California Department of Food and Agriculture, former Deputy Secretary at the U.S. Department of Agriculture.
- **Anne-Marie Izac**, Chief Alliance Officer, Alliance of the Centers of the Consultative Group on International Agricultural Research (CGIAR), Rome.
- **Chuck Tryon**, director, Applied Sustainability, General Mills, Inc., Minneapolis, Minn.
- **Fred Kirschenmann**, food systems consultant and Senior Fellow, Minnesota Institute for Sustainable Agriculture, University of Minnesota, St. Paul.
- **Kate Clancy**, food systems consultant and Senior Fellow, Minnesota Institute for Sustainable Agriculture, University of Minnesota, St. Paul.

Webcast presentations are online at the symposium home page at <http://asi.ucdavis.edu/conferences/fss2009/>.

ASI CONTINUED FROM PAGE 1

and analyzing opportunities for reform of U.S. agriculture and food policy.

“We were happy to have four distinguished journalists as our moderators, which is the first time we’ve had such a direct connection to the media at an event,” he said.

Participating journalists included **Lia Huber**, a freelance writer and contributor to *Prevention* and *Cooking Light* magazines, who moderated a panel on food prices, health and access to food; *New York Times* reporter **Andrew Martin**, who led the panel on climate change, water issues, energy, nutrient cycles and contaminant flows; **Jim Downing**, *Sacramento Bee* business writer, moderator of the panel on regional responses to an uncertain future; and **Erik Stokstad**, staff writer and editor of *Science Magazine*, who moderated the panel on building resilience into the food system.

Food prices, health, access

Gail Feenstra, ASI/SAREP food systems analyst, participated in Huber’s panel on food issues.

“It is exciting to hear a discussion of some of the real issues we face surrounding health and access to food,” she said. “Our older and young populations and the poor are especially challenged when it comes to access to fresh fruits and vegetables and minimally processed food. Food purchases from smaller farms have increased dramatically, but represent a fraction of all food purchases.”

Feenstra said there is now a growing consensus among nutritionists and other food professionals on a definition of healthy food.

“The three main principles of healthful food outlined by a group at the Kellogg Food and Society conference in 2008 are that it be wholesome; produced, processed and transported in a way that prevents the exploitation of farmers, workers and natural resources,

and the cruel treatment of animals; and it should be available, accessible and affordable to everyone,” she said.

Daniel Sumner, Frank L. Buck, Jr. professor of agricultural and resource economics at UC Davis, and director of the UC Agricultural Issues Center, talked about food prices in the context of sustainability. He noted that in the last 150 years, there has been a downward trend in food prices, with occasional spikes. In 2008 there were sharp increases in corn and rice.

“The prices have gone down, but not to their previous level,” he said. “Feed prices haven’t gone back down to previous levels, although dairy prices have. That raises the question of sustainability for dairy farmers. We see a variety across prices, but we still don’t know if they will return to previous levels.”

Sumner noted that one of the reasons for the spike in the last few years is the demand by governments to use agricultural commodities for food, which has kept food prices from going down.

He expressed concern that there has been a general lessening of investment in food production research and development.

“If we’ve really decided to invest less in agricultural ‘R and D’, it means more people will be hungry,” he said.

Climate change

On the climate change panel, **William Clark**, professor of international science, public policy and human development at the John F. Kennedy School of Government at Harvard, and chair of the design committee of the Heinz Center’s “The State of the Nation’s Ecosystems 2008” report, made observations about trends shaping the ecosystem.

“The big message of the State of the Nation’s Ecosystem report is that agriculture

is intimately bound up in an increasingly interdependent global ecosystem, and we can’t understand where agriculture is going unless we understand where those ecosystems are going,” he said. “So goes the global ecosystem, so goes agriculture—and ag is getting clobbered.”

“The big surprise to me is the ubiquitous contamination by chemical and biological exotics – ‘bad stuff’ in our ecosystem – DDT, PCBs, and mercury,” he said. “Ninety-eight percent of the streams in the U.S. have contaminated bottom soils.”

Clark said there is no data about the contamination of the food system.

“We haven’t the faintest idea in terms of a science-based data set what percent of these contaminants are going into our mouths,” he said.

He added that the USDA did not participate in the State of the Nation’s Ecosystem Report.

“The USDA was conspicuously unwilling to show up,” Clark said. “And that’s a bad deal for the American consumer and a very bad deal for farmers and others trying to do a good job. We have undermined potential and rewards for those who are doing a good job.”

Clark’s main hope is for “an independent, evidence-based agency in the federal government responsible for all aspects of food safety.” He suggested that pushing for such an organization in the next decade should be a priority, and would give the sustainable community “the baseline against which best actors and best performance really stands out.”

Panel moderator Martin asked panelists how consumers could eat fewer contaminants and use less energy.

See ASI on p.14

ASI symposium green meeting choices

From the choice of caterers and use of local produce to the use of recyclable alternatives and carbon neutral travel, the Agricultural Sustainability Institute at UC Davis attempted to reduce the environmental footprint of the Inaugural National Symposium on Food Systems and Sustainability.

Carbon offsets

ASI purchased carbon offsets from BeGreen (www.BeGreenNow.com) to offset the carbon emissions from panelists and moderators flying and driving to the symposium. The Redwood Forest Stewardship Carbon Offsets purchased reduce the impact on global warming through investment in the sustainably managed Van Eck Forest Project. Over 39,800 lbs. of CO₂ will be removed from the atmosphere and stored through management interventions by the 2,200-acre Humboldt County, Calif. forest to offset symposium participants' carbon footprint for travel. That's an amount comparable to driving a car over 44,000 miles, or the annual forest sequestration of more than 2,300 trees. It is also equivalent to recycling more than 98,000 aluminum cans, or over 15,900 pounds of newspaper.

The emissions reductions are independently verified and registered by the California Climate Action Registry and are secured by a permanent conservation easement. For more information visit www.PacificForest.org.

Reduce, reuse, recycle

Where possible, all meeting materials were printed double-sided, using 100% post-consumer recycled paper. The binders also are made with 70% post-consumer content with no volatile organic compounds (VOCs).

ASI coordinated with caterers to reduce the amount of waste generated from the event by using bulk products and reusable materials. Attendees were encouraged to bring their own reusable cups. Signs and posters were mounted on Eco Board, a biodegradable foam core. Nametags were collected at the end of the symposium for reuse.

Locally grown, sustainable products used

Centerpieces were from the UC Davis Student Farm, which is certified organic by CCOF.

Much of the food and beverages offered at the symposium were produced with locally grown and sustainable ingredients, including:

- Bakery items from Fat Cat in West Sacramento and UC Davis Harvest Bakery
- Meat produced by UC Davis Department of Animal Science
- Vegetables were from Local Growers Collaborative and Monterey Farms
- Locally grown fruit and California juices
- Fair Trade Coffee (Starbucks)
- TAZO tea (a member of the Ethical Tea Partnership)
- Focaccia bread (certified by Food Alliance)
- Capay Valley Wildflower Honey

ASI CONTINUED FROM PAGE 12

Cutler Cleveland, professor of geography and environment and director of the Center for Energy and Environment Studies at Boston University, said to “eat lower on the food chain and you’ll consume less energy.”

“This raises issues of the energy it takes to produce and make food,” Cleveland said. “We don’t have good information on the different energy costs—how much it takes to grow and produce different kinds of food. That would be useful information.”

Mark Shannon, director of the U.S. National Science Foundation’s center for materials and water purification and professor and director of the WaterCAMPWS Center at the University of Illinois, Urbana-Champaign, talked about the challenges that arise among the intimately connected relationships among water, food and energy.

“The trend is that the available water worldwide per capita has been in decline for the last few decades, which reversed long-term trends where per capita water was increasing because people were building dams and tapping into aquifers,” he said. “But in

the last 20 years we’ve seen steep drops in per person use of water due to population growth, and a lot of these water sources have been exploited.” Shannon noted that in the U.S., the average person uses 190 cubic meters of water, while in Israel the rate was 105 per person.

“The other trend is an issue of climate change,” he said. “We’re seeing a reduction in snow-pack storage, and the implications this has on storage in the west.” Shannon said there are important confluences of increased population, increased demand for water and energy, and a decrease in water supply.

“Salting” is another critical issue regarding water that was raised by Shannon and speakers in several panels. As communities have to go deeper to find fresh ground water, the water is more saline. Treatment of water also increases salinity, and saltier water requires the use of more water to wash away the salt from crops.

“We know whole societies collapsed because of the salting of water,” Shannon said. “We need to find new ways to take the nutri-

ents out of water, and recover water, because these trends are real.”

Regional responses

Jim Downing, *Sacramento Bee* business writer, moderated the panel on regional responses to an uncertain future.

The panel included **Kathy Ruhf**, co-director of Land for Good, and coordinator of the Northeast Sustainable Agriculture Working Group in Belchertown, Mass. She spoke about regionalism as an important framework for food systems analysis and action.

“Regionalism addresses regional characteristics and needs, fosters regional approaches and solutions, and enables responsive policy solutions that are equitable, appropriate, and flexible,” she said. “A regionalist framework is important for food systems because ‘regions matter’— agriculture is place-based, and place functions more and more as a compelling brand.”

Ruhf said thinking in terms of regions “moves us beyond local food systems. Regions are nested and linked. Regionalism



Pelayo Alvarez asks a question at the ASI symposium. (photo by Lyra Halprin)

does not imply self-sufficiency, but it fosters inter-regional trade, appropriately scaled infrastructure and distribution systems, and competitive advantages.”

Richard Howitt, professor and chair of the agricultural and resource economics department at UC Davis, talked about why California was “not in a sustainable state” when it comes to resources.

“We’re not in a steady state on our ground water quantity,” he said. He noted that irrigation leaves behind half-a-million tons of salt per year in the San Joaquin Valley, which results in the loss of land through salinity, as well as nitrogen and phosphate accumulation in the soil.

“Soil erosion is not a problem in California, but it is elsewhere,” Howitt said. “These factors plus particle-based air pollution are occurring because things are priced incorrectly.”

“The metrics should include all the factors of production,” he said. “If in the process

of irrigating you generate salts, then you should be paying the cost when you consider what technology and crops and how you’re going to irrigate or dispose of those salts in a steady state manner.”

Howitt also said property rights, based on decisions in the 1800s, need to be updated.

“The best managed water system in California is in Orange County because they faced an external threat—the sea,” he said. “They were the first to be affected by salt water intrusion into the groundwater basin, and in the 1940s and ‘50s they devised minimal rules to deal with it.” Orange county officials did not limit the amount of water users could pump from the ground, but charged them for replacement water if they used too much and raised the salinity of the water that remained.

Howitt noted that although California has generally strong industry, it is far from a “steady state” in natural resources, due to the tendency for people to buy more items as

they improve their financial status, a condition sometimes called the “Costco Effect,” named for discount retailers and warehouse clubs that encourage consumers to buy more than they need.

“We need institutions like the university to lead us toward a sustainable steady state and not the present extractive path,” he said.

Resilience in the food system

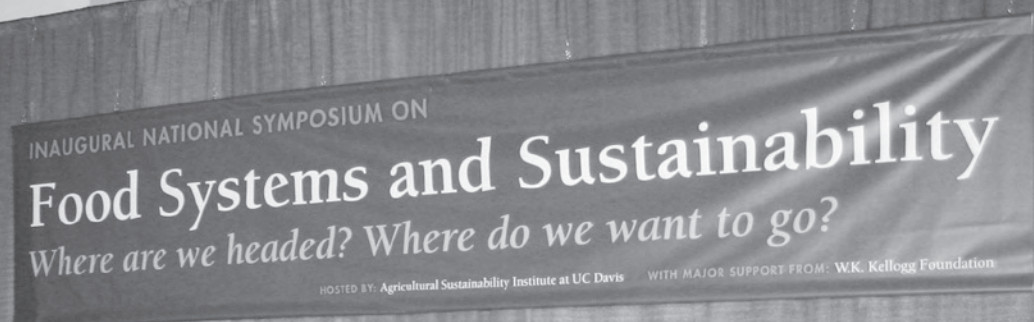
Science Magazine’s Erik Stokstad moderated the panel on resilience in the food system – an issue he believes boils down to several basic questions.

“What does resilience mean for the food system and are there examples, what do we know to move toward that end, and what are the opportunities for action in the short term – a few years – and the long-term – two to three decades?” he said.

Yolo County farmer **Richard Rominger**, who served as Secretary of the

See ASI on p.16

Lia Huber (left) moderates panel on food prices, health and access to food with panelists (l-r) Daniel Sumner, Gail Feenstra, Patricia Allen, and Oran Hesterman. (photo by Lyra Halprin)



ASI CONTINUED FROM PAGE 15

California Department of Food and Agriculture, and was the Deputy Secretary at the U.S. Department of Agriculture, said the biggest obstacle to resiliency in the food system is “political will.”

“Where there is the most hunger, there are politically dysfunctional governments, a lack of research and infrastructure and producer incentive, and a lack of constancy in purchasing power,” he said. “We need a national food and agriculture policy – not just the Farm Bill, and we all must play a part in it. The Land Grant universities must be a part of that. Here at Davis, ASI is developing an undergraduate major in sustainable agriculture to help prepare the next generation of farmers.”

Rominger said the people who are the entrenched beneficiaries of the current policies won't give up these programs easily.

“We have to convince them that a sustainable food policy will benefit them as well,” he said. “We need increased funding for agricultural conservation and biodiversity on farms. Ecosystems show that diversity is more resilient. We've seen what happens with concentration, as in the financial markets. For me, it's a national security issue. And everyone must help pay the full cost of food production—not just the farmers and ranchers. They grow the crops and also must protect soil, take care of workers and sell cheap food. The public has to participate.”

Anne-Marie Izac, chief alliance officer at the Alliance of the Centers of the Consultative Group on International Agricultural Research (CGIAR) in Rome, Italy, said society already knows what to do to make food systems resilient.

“We know what to do,” she said, “We must make the effort to draw the lessons from the whole world. We have the indicators—we must begin monitoring production, our natural resource bases, wild habitats

and the social effects. Right now we are gathering data in a ‘silo-like’ monitoring effort—we must do it globally, and then draw lessons and build on them.”

Izac called for more integrated systems approaches rather than looking for solutions in the increase in production or climate change.

“Developing the research techniques is no longer sufficient,” she said. “We must work at a different spatial scale as well as on different temporal scales, and include a whole range of stakeholders and decision-makers.

“Farmers are resilient,” she said. “This is more a crisis for academics.”

Fred Kirschenmann, a distinguished fellow at the Leopold Center, president of Stone Barns Center for Food and Agriculture, and Kirschenmann Family Farms, urged movement away from energy-intensive input systems toward systems based on energy exchange “through biological synergies within the system.”

“There are farmers starting to use this approach where one species is becoming the energy resource for the next in the system,” he said. “I'd like to see more awareness in Land Grant universities; we should be spending at least 30 percent of the public resource dollars exploring those types of systems in every local ecology and adapting it to ‘place’ – one size doesn't fit all.

“Also, we ought to be launching a global biological soil restoration initiative,” he said. “If we restore the biological health of our soil, it will go a long way toward solving these issues. Stored fertility in the soil reduces inputs and allows it to absorb and retain twice as much water and support a more diverse system that is more resilient.”

When participants talked about First Lady **Michelle Obama** planting a garden on

the White House lawn, Kirschenmann said the First Lady may be ready to be the standard bearer of the latest food revolution. He noted that there have been four major food movements in the U.S. – in the late 1800s, when citizens planted “potato gardens;” around the First World War, when they planted “liberty gardens;” during the depression when “relief gardens” were planted; and during World War II when “victory gardens” were the citizens' choice.

“The [latest] food revolution is already underway,” he said. “We ought to honor this, and realize that change doesn't all have to come from the Land Grant institutions and the USDA.”

Kate Clancy, senior fellow at the Minnesota Institute for Sustainable Agriculture, seconded other speakers when she said she would like to see more comprehensive systems research.

“The present situation in research falls extremely short. We know almost all the reasons why systems knowledge is important, but we haven't moved ahead,” she said. “There are many examples of excellent ecosystem research, but with no acknowledgement of social issues, which have to be involved. We must have systems research that is pragmatic and useful.”

Clancy says the European Union is far advanced in system research. “What we need here is a culture of systems thinking across the Land Grant system permeating teaching. A notion of systems needs to permeate all research, including basic research, and support at the top from deans, presidents and provosts,” she said. “Maybe we need to deliver more of the public goods.”

Clancy noted that some changes are taking place among consumers, and they should “insist that some of the things we've been talking about be institutionalized. Political will is an important issue, but we should take

advantage of the 30 percent of Americans who surveys show want to understand the food system and eat well.”

Chuck Tyron, director of applied sustainability at General Mills, Inc., talked about the resilience of business in agriculture. He noted that General Mills, Kellogg’s, and Campbell Soup are all more than 100 years old, and Mars, Inc. is almost 100.

“These are food companies who have been very resilient through decades of changes in the environment, changes in consumer behavior, changes in the supply system, changes in retailing. These are examples of one kind of resilience,” he said.

Tyron’s role is to look at General Mills’ impact in sourcing, production, transportation and sales. He said he was concerned about some of what he had heard at the symposium, particularly with regard to food safety.

“I was also concerned when I heard farmers markets and CSAs being called ‘good.’ Does that mean supermarkets are not good? I’m part of a CSA, but it is different based on the person and where you are located,” he said. “I heard the words ‘fresh’ and ‘nutritious’ linked together. I would challenge us to think about ‘nutritious’ as being the key part of that. Fresh is one way of getting that, but so is frozen, canned and dried.”

He noted that he worried when some said “the system is broken,” but was heartened when they recommended measuring the changes we are making to see if they are having the desired effect.

“I am a business person, and information is critical. That means understanding and measuring where we are,” he said. “The second point is to search for where in the system things are working better, and why is that the case? What practices are in place that allow some systems to work better? And how

do you determine if those different practices and technologies can be replicated in other areas or scaled up?”

Green symposium

ASI purchased carbon offsets for all panelists and moderators from BeGreen, a division of Green Mountain Energy Company. (See “ASI symposium green meeting choices,” page 13.)

Online Webcast of symposium

Webcasts of presentations are online at the symposium home page at <http://asi.ucdavis.edu/conferences/fss2009/>. Click on “Webcast/Blog” link at the top of the page.

Additionally, colorful graphic records of the event are available here: <http://ucanr.org/graphics-ag symp>. The graphic recorders were **Mariah Howard** of Half Moon Bay and **Nancy White** of Seattle.

Organic farming/gardening apprenticeships at UC Santa Cruz

Applications for the 2010 six-month organic gardening/farming Apprenticeship in Ecological Horticulture at UC Santa Cruz’s Center for Agroecology are due October 15, 2009. The 2010 full-time apprenticeship program is from April 10-October 13, 2010.

The program provides training in the concepts and practices of organic gardening and small-scale farming and takes place at the Center’s 25-acre farm and three-acre Alan Chadwick Garden on the UCSC campus. Topics covered include soil management, composting, pest control, crop planning, irrigation, farm equipment, marketing techniques, and Community Supported Agriculture (CSA) practices.

Run in conjunction with UCSC Extension, the apprenticeship course carries 20 units of Extension credit for the approximately 300 hours of classroom instruction and 700 hours of in-field training and hands-on experience in the greenhouses, gardens, orchards, and fields. Tuition for the six-month course is \$3,250, with some scholarships available.

For more information, see the online application at www.ucsc.edu/casfs or contact Apprenticeship Information, CASFS, UCSC, 1156 High St., Santa Cruz, CA 95064; apprenticeship@ucsc.edu; or (831) 459-3240.

FUNDING OPPORTUNITIES

USDA: Value-Added Producer Grants

The Notice of Funds Availability for the FY 2009 Value-Added Producer Grant Program originally published in May 2009 is in the process of being re-issued. Please check <http://www.rurdev.usda.gov/rbs/coops/vadg.htm> for updates.

Grants may be used for planning activities and for working capital for marketing value-added agricultural products and for farm-based renewable energy. Eligible applicants are independent producers, farmer and rancher cooperatives, agricultural producer groups, and majority-controlled producer-based business ventures.

For more information about the program, contact State Rural Development Offices for information and assistance. In California, contact **Karen Firestein**, business and cooperative specialist, at the USDA Rural Development office, 430 G St. Agency 4169, Davis, CA 95616-4169.

Mini-grants to college ag clubs

Grants of up to \$1,000 each will be awarded to innovative leadership and professional development programs with an agriculture focus at colleges and universities. The CHS Foundation, the giving entity of CHS, Inc., a Minnesota-based energy, grains, and foods company, has launched the CHS Foundation College Club Mini-Grants program. Examples of eligible programs include leadership training opportunities, mentorship programs, professional development experiences, and student fundraising efforts. Grants will be awarded on an ongoing basis.

The applicant must be a campus-sanctioned club/organization and must have an agricultural-related focus. Regular and ongoing club expenses are ineligible. More information is available at the foundation's Web site at <http://www.chsfoundation.org/> or at the CHS, Inc. offices at 5500 Cenex Drive, Inver Grove Heights, MN 55077, or at (651) 355-6000 or (800) 232-3639.

Building Better Rural Places: Federal Programs for Sustainable Agriculture, Forestry, Conservation and Community Development

attra.ncat.org/guide/index.html

Publication written for those seeking help from federal programs to foster innovative enterprises in agriculture and forestry in the United States. The guide addresses program resources in community development, sustainable land management, and value-added and diversified agriculture and forestry.

Western Region SARE program wsare.usu.edu/

The Western Sustainable Agriculture Research and Education (SARE) program invites proposals for its 2009 competitive grants program. Areas of funding still open for 2009 are:

- Farmer/Rancher Grants - Applications due: December 4, 2009
- Professional Producer Grants - Applications due: December 4, 2009
- Professional Development Program - Applications due: November 3, 2009

People with disabilities or without Internet access may call Western SARE at (435) 797-2257.

Sustainable ag, food systems, organic farming

The Network for a Healthy California is soliciting applications from community-based, non-profit organizations to conduct innovative nutrition education among diverse, low-income populations. The RFA, attachments, resources for applicants and contract information are available at <http://www.cdph.ca.gov/programs/cpns/Pages/LFNERFA.aspx>. Or contact **Edye Kuyper**, program manager, at (916) 319-9164, www.networkforahealthycalifornia.net.

Sustainable Agriculture and Food Systems Funders safsf.org/

SAFSF is a national working group of grant-makers that seeks to promote a more sustainable agriculture and food system.

Western Region IPM Center Funding Opportunities List

wrpmc.ucdavis.edu/Research/index.html

List of funding opportunities and grant programs for Western Region researchers and educators.

Organic Farming Research Foundation / Scientific Congress on Organic Agriculture Research ofrf.org/research/index.html

OFRF is dedicated to promoting organic farming through funding of on-farm research and dissemination of the results. Proposals are considered twice a year. See their Web site for most current deadlines. For more information, contact **Jane Sooby** at OFRF, PO Box 440, Santa Cruz, CA 95061 or email research@ofrf.org or jane@ofrf.org.

USDA CSREES Funding Opportunities List

csrees.usda.gov/fo/funding.cfm

Sort by due date to get current Requests for Proposals.

US EPA Region 9 epa.gov/region09/funding/rfps.html

Calls for proposals on a variety of target issues and topics; variable funding cycles.

Community of Science (COS) Funding Opportunities cos.com/

A comprehensive database of published grants, scholarships, fellowships and awards with more than 23,000 entries. Other services available are COS Expertise, a worldwide database of profiles of researchers, scholars and other experts, and COS Abstract Management System, a comprehensive Web-based system for managing the submission, review and approval of abstracts.

FUNDING

Expanding access to local producers

ASI/SAREP community food systems analyst **Gail Feenstra**, and **Shermain Hardesty**, UC Cooperative Extension Specialist in the agricultural and resource economics department UC Davis, will lead a two-year project to help smaller farmers and ranchers who use sustainable methods get their products to consumers through business networks called “values-based supply chains.” These supply chains connect food producers with distributors and/or retail partners in ways that are economically, environmentally and socially sustainable. The team will examine the effects of various factors, such as regulations, producer business savvy and access to capital, and will teach the people who are the links in the chains (producers, agribusiness lenders and funders, policymakers and small business/community development consultants) how to establish and maintain successful distribution networks. The two-year, \$497,000 study is funded by the U.S. Department of Agriculture’s National Research Initiative. Team partners include Portland State University, Colorado State University and the Community Alliance with Family Farmers.

Children’s Garden funding

The Children’s Garden Program, an ASI affiliate at the UC Davis Student Farm, has received \$120,000 from the California Department of Food and Agriculture’s Specialty Crop Block Grant Program to provide professional development for the USDA’s Fresh Fruit and Vegetable Program in California schools. The Children’s Garden Program will continue in partnership with California Department of Education, UC Davis’ Center for Nutrition in Schools, UC Santa Cruz LifeLab Science Program, and the Greater San Diego County Resource Conservation District to develop and deliver “Fresh Fruits and Vegetables: A Centerpiece for a Healthy School Environment—Seasonal Trainings and Technical Assistance.” **Carol Hillhouse**, Children’s Garden Program director, will direct the grant; **Gail Feenstra**, food systems analyst at ASI/SAREP and **Sheri Zidenberg-Cherr** of the UC Davis Center for Nutrition in Schools are the co-directors. This funding is in addition to the \$107,000 the Children’s Garden Program received in January from the USDA Team Nutrition through California Department of Education for the same project.

ASI receives grants for undergraduate sustainable agriculture major

ASI has received \$100,000 from the **Constant Van Vlierden Estate** to support a scholarship program for the new undergraduate major (approximately \$4,750 annually). The major is tentatively called “sustainable food and agricultural systems,” and is expected to be approved in late 2010. Both undergraduate and graduate level courses are already underway.

Student Farm

The Student Farm has received \$8,700 from the Slosson Foundation at UC Davis. The grant money will go toward new signage for the Student Farm.



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