



Happy New Year! The Plant Breeding Center is looking forward to an exciting 2015. One of the Center's goals is to bring together students, faculty, and staff interested in plant breeding on a regular basis. Toward that goal, we have implemented "Third Thursday," an informal monthly meeting at 4 pm, organized by the graduate students, during which participants can meet and discuss plant breeding over refreshments and listen to a presentation about practical aspects of plant breeding. Last fall, Alan Tenscher in Andy Walker's grape breeding program gave an excellent overview of methods they use in breeding grapes. We will continue in 2015 with these programs and, as the weather gets warmer, plan to head to the field for hands-on sessions. The second Thursday of each month is dedicated to the regularly scheduled Seed Central event that also involves many plant breeding personnel. We plan to add additional plant breeding seminars on the remaining Thursdays – so remember that Thursday afternoons are for Plant Breeding activities.

We are currently developing a one-day symposium for late May to be focused on the work of Dr. Gurdev Khush, with a theme of plant breeding for food security. As details unfold they will be added to our website. This symposium will be the start of a regular PBC symposium series to be held annually. In addition, the plant breeding symposium sponsored by Pioneer and organized by the plant breeding graduate students will be held again this year in April. Speaker and schedule

information will be available on our website shortly. As we continue to work on revamping the curriculum and developing a Graduate Academic Certificate Program in plant breeding, one requirement for our graduate education program has become clear: we must provide the opportunity for all plant breeding students to have experience in the field, working on an actual breeding program. Although some students have breeding activities as part of their thesis research, others do not.

Our first task is developing a course in field breeding methods. This course will enable students to visit field-based breeding programs at UC Davis, as well as in the private sector, to learn practical methods for plot design, data collection, and other aspects of breeding.

Second, we are developing an internship program for graduate students to spend time in the plant breeding industry or at another breeding program for a short period during their degree program. Although internships currently exist, we would like to make the internship experience more standardized so that students can receive useful training.

Finally, we are discussing a hands-on breeding program in connection with the student farm. We are devising a strategic plan, and our mission is to assist graduate students in managing a breeding program and collaborating with faculty, staff, and undergraduates to evaluate germplasm, make crosses, evaluate progeny, make selections, and conduct other aspects of breeding programs at the student farm, including on-farm trials. The end goal, in addition to the necessary hands-on breeding training, would be releasing new cultivars for farmers and/or gardeners, particularly ones that fill market niches not targeted by larger breeding programs and companies.

For further information, please contact Amanda or me. As always, we welcome your ideas for projects and your involvement in Center activities. - **Charlie Brummer**

## UC DAVIS NEWS

### THIS CROP IS NOT AN ORPHAN ANYMORE: IT NOW HAS A HOME AGROFORESTRY WORLD BLOG

Standing before 20 other senior scientists at the World Agroforestry Centre (ICRAF), Dr Wonder Nunekpeka spoke the words on everyone's mind. "My crop has been an orphan but is not anymore! I will be a father for it." Breeders of plants such as the edible aroid cocoyam applauded and roared their approval. The fight to combat hunger and preserve Africa's indigenous foods is on.



Tears welled in some eyes, however. In Sub-Saharan Africa, almost 40% of under-fives are stunted while over 15 million children have lost one or both parents, many because their mothers were anemic in childbirth. Anemia, a lack in the number or quality of red blood cells, is largely a preventable nutritional deficiency. The drive to work with the genetic richness of the continent's traditional diets is long overdue.

[>>> read more](#)

### THE NPR/IQ2US DEBATE ON GMOS INTELLIGENCE SQUARED U.S.

UC Davis's Alison Van Eenennaam, Animal Biotechnology and Genomics Extension Specialist, took part in the Intelligence Squared U.S. debate on genetically modified foods.



From Intelligence Squared U.S.: "Genetically modified (GM) foods have been around for decades. Created by modifying the DNA of one organism through the introduction of genes from another, they are developed for a number of different reasons—to fight disease, enhance flavor, resist pests, improve nutrition, survive drought—and are mainly found in our food supply in processed foods using corn, soybeans, and sugar beets, and as feed for farm animals. Across the country and around the world, communities are fighting the cultivation of genetically engineered crops. Are they safe? How do they impact the environment? Can they improve food security? Is the world better off with or without GM food?"

[>>> watch the debate](#)

## RELATED NEWS

### PLANT BREEDERS BUILD CAPACITY TO RESUSCITATE AFRICAN ORPHAN CROPS ENVIRONNEWS NIGERIA

Two Nigerians – Dr Sunday Makinde of the Lagos State University, Ojo and Dr Godson Nwofia of the Michael Okpara University of Agriculture, Umudike – are among 21 senior plant scientists from sub-Saharan Africa who recently graduated as the first cohort to complete training with the African Plant Breeding Academy (AfPBA) in Nairobi, Kenya. From 11 countries and 19 institutions, they are returning to their respective countries to work on neglected crops that are fundamental to their peoples' nutrition and culture.

"It's profound," said Howard Shapiro, chief agricultural officer for Mars, Incorporated, which currently funds the academy. "Only 57 plants in the world have ever been sequenced. Now we are adding another 101. These scientists are at the top of their game. Many of them are professionals and heads of research institutes. Now with the AfPBA training, they have the ability to make decisions about plant breeding quicker, which will lead to better plants with, among other things, much higher nutrient content."

[>>> read more](#)

### SEED CENTRAL: PUBLIC-PRIVATE PARTNERSHIP SEEKS TO BECOME THE SILICON VALLEY OF THE SEED INDUSTRY CSA NEWS

Five years ago, François Korn was sitting in a board meeting of the Seed Biotechnology Center at the University of California-Davis



(UC-Davis) when talk turned to exactly how many seed and seed-related companies were situated around the university. No one was quite sure, so when Korn returned to his office at SeedQuest—the central information website for the global seed industry, which he runs—he identified every nearby seed company he could and pinpointed them on a map. Fifty were located within an hour's drive of campus, he discovered, and twice that many within a three-hour drive.

"So what we had was a seed industry cluster" in the backyard of UC-Davis, Korn says, "the premier agricultural university in the world." He also knew the cluster held tremendous prospects for the region, if someone would just give it some juice.

[>>> read more](#)

## OPPORTUNITIES AND EVENTS:

### 2015 SUMMER PLANT BREEDING WORKSHOPS THE OHIO STATE UNIVERSITY MAY - JUNE, 2015

Intensive training in theory, practical application and hands-on data analysis covering:

- Phenotyping: Field design and analysis (May 18-22)
- Marker Assisted Selection (June 1-5)
- Genome Wide Analysis (June 15-19)

Find more information on the workshops [here](#).

### APPLY FOR THE FUTURE LEADERS IN SCIENCE AWARD

**DEADLINE: JANUARY 15, 2015**

There's still time to apply for the 2015 Future Leaders in Science Award. ASA, CSSA and SSSA graduate student members with an interest in advocacy and science policy are encouraged to apply for the 2015 Future Leaders in Science award. Recipients of the award will travel to Washington DC to participate in the 2015 Congressional Visits Day, March 16-17. This is a unique opportunity to meet with your members of Congress to discuss the importance and impact of food, agriculture and natural resources research. Be an advocate for science and apply for the Future Leaders in Science award today!

[>>> read more](#)

### OUTREACH OPPORTUNITY SHELDON HIGH SCHOOL

The California Partnerships Academy model calls for teachers, administrators, and business partners to work together to provide a program focusing on at-risk students that will not only prepare them for college, but also for entry into the workforce as a skilled employee. Sheldon High School was awarded a grant in the spring of 2008 to focus on the Biotech career field.

In an effort to connect our students with educational professionals, the Biotech Academy at Sheldon has instituted a mentor program utilizing e-mail. We are looking for individuals who are willing to make a commitment to communicate with a student at least once a week via e-mail. We would encourage these communications to be a source of positive feedback and encouragement for these students about their daily activities, education, plans, and goals. Sharing about your experiences in education, training and career decisions will be a tremendous resource of information for our students.

To participate or inquire about this program, contact:  
Laura Ziegenhirt - [lziegenh@egusd.net](mailto:lziegenh@egusd.net)

### SEEDS OF TIME SCREENING THIRD THURSDAY 6-8PM, JANUARY 15TH, 2015 GENOME AND BIOMEDICAL SCIENCES FACILITY ROOM 1005

The PBC will be hosting a community screening of the film **Seeds of Time**. This screening is open to the public, so invite your friends and family. We will meet at GBSF 1005 at 6:00PM. The film is 77 minutes and will be followed by a discussion led by UC Davis' Professor Paul Gepts after the completion of the film. Registration is capped and open to the public, so sign up early!

Register [here](#).

### PLANT BREEDING CENTER LOGO DESIGN DEADLINE: FEBRUARY 1, 2015

The Plant Breeding Center is looking to its students to design a logo to be used in publications, communications, websites, and social media pages. The deadline to submit design ideas is February 1st. Designs should be submitted as JPEGs, set against a circular or square background, and utilize up to three UC Davis colors. They should include the words Plant Breeding Center and UC Davis. Once submitted, designs belong to UC Davis in accordance with trademark regulations.

Reference UC Davis Marketing toolbox [here](#).

Submit designs to:

Amanda Pietras - [ampietras@ucdavis.edu](mailto:ampietras@ucdavis.edu)

### ABOUT THE NEWSLETTER

The Plant Breeding Center newsletter will be produced monthly for internal audiences, and quarterly for external audiences and industry partners. Newsletters will be distributed on the first week of every month. Submissions for the February newsletter will be accepted up to **Friday, January 30th**.

If you wish to be on the PBC mailing list please email [Amanda Pietras](mailto:Amanda.Pietras) with the names and email addresses of interested parties.

If you have information you'd like featured in the newsletter, send an email to:

[Amanda Pietras](mailto:Amanda.Pietras) - [ampietras@ucdavis.edu](mailto:ampietras@ucdavis.edu)

Program Representative

Plant Breeding Center

<http://plantbreeding.ucdavis.edu>

