



Faculty Focus

Dina St. Clair

I grew up in a Midwestern family of engineers and artists that had moved to New York before I was born, for job opportunities after WWII. As a child in the suburbs I loved gardening with my grandmother and mother. I enjoyed school and reading, and particularly liked science classes. Some of my fondest childhood memories are of nature walks in parks and woods, collecting seeds, leaves, flowers, and bugs of all kinds. I collected insects in old glass jars, including wasps and bees, so I could study them – until my mom said this frightened her (so then I hid the jars in the garage!). My interest in genetics began with an exceptional 10th grade biology teacher who introduced me to Mendel and his experiments with garden peas – and how to use Punnett squares to reveal trait inheritance. His enthusiasm was contagious – I thought genetics was marvelous and wanted to learn more!

I started my biology studies at City College of New York, then transferred to UC Santa Barbara my sophomore year. At the UCSB Career Center I searched for ways to combine my interests in genetics and plants with an applied focus. But what career paths combine the two? As a suburban kid I had no idea. My wise UCSB advisors suggested transferring to the UC Davis College of Agriculture, which had majors that combined plants and genetics. I transferred to UCD and became a Plant Sciences major. I also did a year-long internship at a local

seed company, and then I knew that plant breeding was the career path for me. I finished my B.S. in Plant Sciences and a Masters in Agronomy (emphasis in plant breeding) at UCD, and then at the University of Wisconsin-Madison I completed my Ph.D. in Plant Breeding and Genetics. During graduate school I learned so much from my plant breeding professors, and realized how important a role they played in helping me develop my career path. I decided to pursue an academic career. My mentors advised doing a postdoc prior to a faculty position to be better prepared (more wise advice). As a postdoc in maize molecular genetics at the University of Florida, I hoped to return to my adopted home state of California – someday. After a year I started looking for faculty jobs, and found an ad for a professor of tomato breeding at UCD. I thought, “What are the chances I’d return to California and UCD as a professor?” – but I applied anyway. To my surprise I was invited to interview. I prepared as much as possible and thought the interview went well, but was still amazed when I was offered the position! I’ve been a professor at UCD since then.

A main theme of my research is using wild species relatives in breeding for crop improvement. Tomato provides a great opportunity for research on pre-breeding, given the relative lack of genetic diversity in the crop and the vast amounts found in wild species. I focus on agriculturally important quantitative traits (i.e., genetically complex), such as tolerances to abiotic stresses. My lab uses plants derived from interspecific crosses (cultivated x wild) and a research approach that combines plant breeding, quantitative genetics, statistics, and genomics. We’re interested in how genes governing quantitative traits interact with each other and with the environment to give rise to complex trait phenotypes, and how to use this knowledge in crop breeding.



For those interested in pursuing a career in plant breeding, my advice would be to seek out knowledgeable mentors and advisors, ask (many) questions, and listen carefully. Ask several people the same question, and then decide what you think the best/right answer is. Be curious. Be courageous even when you don’t think you can be. As Henry Ford said, “Whether you think you can or think you can’t, you’re right.”

CONGRESS FINALLY RATIFIES INTERNATIONAL TREATY -SEEDWORLD

The U.S. Congress made a “historic” move and passed the International Treaty on Plant Genetic Resources for Food and Agriculture — something the seed industry has been advocating for more than a decade.



“The treaty is a win for the American seed industry and for agriculture innovation around the world,” says Andy LaVigne, American Seed Trade Association president and CEO. “Ratification of the treaty has been one of ASTA’s top legislative priority for the past decade and has been supported by a wide range of agriculture and scientific organizations and universities.

“The treaty will ensure U.S. public and private plant breeders have secure access to the materials they need to address some of the world’s most pressing challenges — from evolving plant pests and diseases, to changing climate, and feeding a growing population.”

[...]The Germplasm Writing Team included Charles Brummer, David Stelly, Luigi Guarino, Molly Jahn, Paul Gepts, Rebecca Nelson, Sarah Collier and Thomas Payne. CSSA’s Policy Committee Chair was Stephen Baenziger.

[>>>read more](#)

MAIZE GENETICS MAY SHOW HOW CROPS ADAPT TO CLIMATE CHANGE -UC DAVIS NEWS

With the onset of climate change and changes in irrigation, adapting food crops to grow in diverse environments could help feed the world.



Now University of California, Davis, scientists are leading a major new project, funded by the National Science Foundation with \$4.1 million over five years, to study genetic adaptation to different environments in maize.

Maize (“corn” in the U.S.) originated approximately 10,000 years ago in a hot, low-elevation region in southwest Mexico. It independently adapted from low-elevation to high-elevation environments in Mexico and in South America in a relatively short time, by evolutionary standards.

[>>>read more](#)

WOODY PLANT BREEDER CANDIDATE SEMINARS SEMINARS WILL BE AT 10:00AM IN PES 3001

October 20th - Dr. Sara Montanari

October 24th - Dr. Vidyasagar Sathuvalli

November 3rd - Dr. Pedro Martinez

PBC SEMINAR

OCTOBER 27TH, 2016

4:00-5:00PM, PES 3001

DR. ASMUND BJORNSTAD

The PBC welcomes Dr. Asmund Bjornstad to campus. He will be leading a seminar titled “Do not privatize the Giant’s shoulders”: Recent European developments on intellectual property protection of plants. Register [here](#).

SCOPE PROJECT INTERNSHIPS FOR UNDERGRADUATE STUDENTS

The SCOPE Project is a student-led collaborative of student and faculty plant breeders working on improving crop varieties for organic farming systems. Using traditional plant breeding methods, we are developing new cultivars on certified organic land at the UCD Student Farm. These breeding projects were funded at just under \$1 million by the Organic Research and Extension Initiative of the U.S. Department of Agriculture. This project is currently offering internship credits for undergraduate students. To join the project, contact Amanda Saichaie. Find more information on the project [here](#).

NATIONAL ASSOCIATION OF PLANT BREEDERS 2017 ANNUAL MEETING AUGUST 7-10 2017 UC DAVIS

More information coming soon!

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