

WSU's Voice of the Vine– U.N. of Viticulture, Missoula Floods, Wine Science Center

Posted by cahnrs.webteam | August 28, 2014

The transoceanic pull of the wine grape

The grape is a very influential fruit. It's versatile in its use, dynamic in its variation, and even influential in bringing a team of 13 people from different corners of the world together in Prosser, Wash.



Burdet, Rocchi, and Yun bring their international experience and perspectives to bear on viticulture and enology in Washington vineyards.

Leading the team is Markus Keller, scientist and professor of viticulture, who has been with WSU since 2001. Originally from Switzerland, Keller taught in Australia before coming to WSU. Thirteen years later, Keller works at the [WSU Prosser Irrigated Agriculture, Research and Extension Center \(IAREC\)](#), conducting research on the irrigation and management of vineyards. He now leads a diverse team of 12, including post-doc research associates, graduate students, and technicians from across the globe.

A change of focus

Some of the team was looking for a change when deciding to study viticulture. Bernice Burdet, a native of Argentina and postdoctoral research associate, already has a doctorate in neurobiology. She went from studying the human brain to studying the localization of sugar transporter genes in grapes.

“I wanted to change my topic of research,” she explained. “I love wine and studied enology for two years in Argentina.”

Last year Burdet attended a microbiology seminar in Seattle where the speaker mentioned Keller and his work in Prosser. She began reading Keller’s book and papers on viticulture and became more and more interested in the field.

Graduate student Joel Perez also found himself pulled into viticulture while looking to make a career change. He has a master’s degree in government relations, but decided to pursue his interest in fermentation science and is working on a master’s in viticulture. As a result, he spent his summer analyzing when grapes begin to lose weight. Grapes are often priced by weight, so understanding when the crop’s weight begins to drop can help a grower earn the best return on their crop.



Bernice Burdet went from studying brains to studying the localization of sugar transporter genes in grapes.

He found the Viticulture & Enology program at WSU Tri-Cities. A native of San Diego, he took a chance and moved to Richland. Now he is pursuing his master’s in viticulture and spent his summer analyzing when grapes begin to lose weight. Grapes are often priced by weight, so understanding when the crop’s weight begins to drop can help a grower save money.

“I love coming into work,” he said. “It’s very refreshing to be in this environment where there are genuine and insightful discussions.”

Joelle Bou Harb, a doctoral student, originally went to school for chemistry and found that, while she enjoyed the subject, she wanted to find her own niche.

“I was doing well, but found the subject too wide,” she said. “I wanted to specialize.” She went back to school in her native country of Lebanon and

earned a bachelor's and master's in crop production. Her master's thesis was on the irrigation of grapevines and she decided to continue pursuing viticulture because, "The wine industry is booming in Lebanon."



Joelle Bou Harb, a native of Lebanon, is pursuing viticulture and irrigation research at the WSU Prosser Irrigated Agriculture and Research Extension Center.

Bou Harb is working on the classification of 30 wine grape varieties into iso- and anisohydric behavior groups, a task that requires pre-dawn and midday field measurements. During the summer that means she's up and in the field by 3 a.m.

Filling the gap

While pursuing her master's degree in agriculture and water resources in China, Yun Zhang became interested in grapes and viticulture. She decided to pursue her doctorate in the United States and earned a PhD in horticulture from WSU last year.

Zhang is now a postdoctoral research associate on Keller's team. In addition to helping advise graduate students, Zhang is now contributing to current grape irrigation research.

"There's plenty of research into the irrigation management of red wine grapes, but little research into the irrigation of white wine grapes," she said.

"Changing the irrigation can alter the fruit's quality. I want to help growers understand how to best irrigate."

Fruit cracking is a common problem for grape growers in high-rainfall areas. It is also the subject of doctoral student Ben-Min Chang's research. A native of Taiwan, Chang is using the semi-arid environment of eastern Washington to an advantage.

"It doesn't rain heavily here, which makes fruit water levels easier to control and monitor," Chang explained. "Now I can measure how much water it actually takes to cause cracking."

Nataliya Shcherbatyuk, originally from Ukraine, is another doctoral student on Keller's team. Her internship with the Washington Tree Fruit Commission helped her decide to pursue a doctorate in viticulture at WSU. She is studying when ripening begins, how it happens, and how it differs among grapes.

"Have you ever paid attention to the way grape berries in one cluster ripen?"

They never do it at the same time,” said Shcherbatyuk. “There is something that tells each berry when to start and when to slow down. My goal is to find out what that something is.” [Read more.](#)

–Emily Smudde

Wine Science Center takes shape



The Wine Science Center is in its eleventh month of construction. At completion, the facility will be the most technologically advanced wine science center in the world. Strategically located at the WSU Tri-Cities campus, it pairs wine education and research in close proximity to the industry. With construction progressing on budget, the projected date for substantial completion is November 30, 2014. The first classes will be held in January of 2015. Visit the Wine Science Center at WSU Tri-Cities Facebook page or click the photos above for regular updates.

What makes Washington soil so special?



Read more about Washington's unique wines and the impacts of the Missoula Floods, [here](#).
Infographic courtesy of friends and colleagues at the Washington Wine Commission and WineFolly.com.

Native plants attract beneficial insects to vineyards

Research entomologist Dr. David James spent several years learning which native plants attract beneficial insects to vineyards. Now, armed with a plant list, he's ready to encourage Washington State grape growers to bring diversity and beneficial insects to their vineyards.

His plant list is still being fine-tuned due to the large amount of data –generated from his three-year research project. But he's anxious to get information to Washington State wine grape growers, an industry interested in reducing pesticide use, restoring and conserving beneficial insect habitat, and bringing biodiversity back to monoculture farming.

Read more from Melissa Hansen in this month's [Good Fruit Grower](#).

Women's Leadership Symposium 2014

The [2014 Women's Leadership Symposium, "Redefining Body Image,"](#) will be held from 9 a.m. to 4 p.m., Friday, Oct. 3, in Ensminger Pavilion on the WSU Pullman campus. This full-day workshop will empower participants to live life by intentional design. [Register now](#) to create a blueprint for conscious living by exploring how to develop courageous relationships, discover beauty within yourself and in the world, and share wisdom through skillful actions.



Symposium facilitator Krista Petty, M.A., is an international life skills enhancement coach and trainer who has created workshops in leadership, personal mastery, individual effectiveness and integral learning. Krista also co-developed with Dr. Kim Kidwell the popular University Common Requirements course Human Development 205, Developing Effective Communication and Life Skills.

Registration for the symposium is \$85 per person, or \$40 for students.

ABOUT

- [Executive Leadership](#)
- [CAHNRS Administration](#)
- [Locations](#)
- [Departments](#)
- [Latest News](#)
- [Learn About CAHNRS](#) ▶

ACADEMICS

- [Degrees](#)
- [Graduate Studies](#)
- [Scholarships](#)
- [Internships](#)
- [Careers & Clubs](#)
- [Visit Academics](#) ▶

RESEARCH

- [Centers & Facilities](#)
- [Grant Resources](#)
- [Intellectual Property](#)
- [Weekly Published Research](#)
- [Safety](#)
- [Visit Research](#) ▶

EXTENSION

- [About Extension Programs](#)
- [Publications](#)
- [Locations](#)
- [Impacts](#)
- [Visit Extension](#) ▶

ALUMNI

- [Where to Give](#)
- [Ways to Give](#)
- [Scholarship](#)
- [Donor Profiles](#)
- [ReConnect](#)
- [Magazine](#)
- [Connections](#)
- [Magazine](#)
- [Archive](#)
- [Visit Alumni](#) ▶

FACULTY & STAFF

- [Quick Links](#)
- [Business Services](#)
- [Budget & Finance Unit](#)
- [Civil Rights](#)
- [Compliance](#)
- [Strategic Planning](#)
- [Visit Faculty & Staff](#)
- ▶