

NOTES FROM THE CHAIR

Some thoughts after just two months on the job...

First off, my thanks to all—faculty, staff, students—who have been most hospitable and forthcoming in offering their help in my effort to get my bearings. I can say that the people, and physical surroundings in the new RMI complex, are primary elements that make this position most attractive.

We are moving forward on several fronts, with coordination through frequent meetings and other forms of input, and a faculty retreat in mid-March at a remote location (Winters). We are working closely to establish relationships with the Department of Viticulture and Enology and the Robert Mondavi Institute of Wine and Food Sciences—our new neighbors in the RMI complex—including how to get the most of the new facilities for academic programs and also to meet the exceptional public interest in our programs which the new facilities have helped to stimulate. Clare Hasler, executive director of RMI, Andy Waterhouse, chair of

VEN, and I meet frequently on both programmatic and facility issues, plus the departments are scheduling fun things like a cookie contest and Happy Thursday celebrations.

We're in a campus neighborhood where things are happening fast, with a new vineyard just west of RMI prepared for planting, a hotel and conference center, Museum of Visual Art and Graduate School of Management under construction within eyesight. Our planned laboratory and pilot plant break ground in May 2009, and the facility will be the only LEED Platinum Building of its type in the world. Along with the Robert and Margrit Mondavi Center for the Performing Arts and the Walter A. Buehler Alumni and Visitors Center, this is the new gateway to the campus with exceptional visibility and high public interest.

We take this opportunity to thank all who have helped to make the new food science facilities come to life, particularly: a long list of donors (Robert Mondavi, the Anheuser-Busch



Dept. Chair James N. Seiber

Foundation, the California Processing Tomato Industry and many other individuals, companies and friends); Chancellor Larry Vanderhoef, Dean Neal Van Alfen and all in the campus and college offices; and our own faculty, led by prior chairs Charlie Shoemaker and Charlie Bamforth, who had the vision and energy to make this all happen. I take this opportunity to salute Charlie Bamforth for leading the transition from Cruess Hall to RMI, and for involving the department in the campus-wide Foods for Health Initiative, and other cross- and multidisciplinary programs that will benefit us for many years to come (as well as being a superb Professor of Brewing Science).

(Continued on Page 2)

IN THIS ISSUE

- IFT UC Davis Reception.....2
- Picnic Day 2009.....3
- Winery/Brewery/Food Sci Lab Update.....4 & 5
- Alumni Spotlight.....6
- Faculty Profile - Bill Ristenpart.....7
- Staff Spotlight - Sam Matoba.....8

CALENDAR OF EVENTS

- Pre-Picnic Day BBQ.....Friday, April 17, 2009
- Picnic Day.....Saturday, April 18, 2009
- IFT UC Davis Reception.....Sunday, June 7, 2009

The University of California does not discriminate in any of its policies, procedures or practices. The University is an affirmative action/equal opportunity employer.

NOTES FROM THE CHAIR, Continued from Page 1

The FST major continues to grow, to 186 undergraduate majors, and over a thousand non-majors who take our courses including the hugely popular FST 3 and FST 10 courses, and microbiology and chemistry lab courses being offered for the first time at RMI. We have a total of 45 graduate students and postdoctoral scholars, and have recruited or are recruiting new faculty in Microbiology, Chemistry/ Metabolomics (joint with Nutrition and part of the campus Foods for Health Initiative headed by M.R.C. Greenwood), and Engineering (joint with Biological and Agricultural Engineering). At the same time we are adding these much overdue positions, we will be losing a position (Dave Ogrzydziak is retiring in 2009), and we are also facing some of the

leanest campus budgets in many years, including cuts of 10% in the 09/10 budget year. It is critical that we maintain this new momentum, occasioned in part by the new facilities and student interest in our programs, while addressing budget issues that seem more daunting with each passing day. Your ideas and support are most welcome!

We're entering a great time of the year, with end of the Winter Quarter in sight, Picnic Day (Saturday, April 18), and associated departmental activities such as the pre-Picnic Day BBQ, (April 17). UC Davis and Jiangnan University are also hosting a major conference on campus, the 8th International Conference of Food Science & Technology, June 4-5. CA&ES graduation is Saturday, June 13, and IFT is in Anaheim June 6-9 (see below). We look forward to

seeing many of you at IFT (look for the FST booth in the exhibit area), if not earlier. RMI is sponsoring some interesting upcoming events as well - including Cheese Loves Beer: Mastering the Marriage (May 16th) - coming on the heels of 'Tasting Histories' held at the RMI recently and several other food-related topics featuring beer, wine, olive oil and others over the past several weeks. Check out the department (<http://foodscience.ucdavis.edu>) and RMI (<http://rmi.ucdavis.edu>) websites for more information on events.

You are welcome to visit, so we can renew acquaintances and introduce our faculty and students plus the RMI facilities. Best wishes for the Spring and Summer!

-Jim Seiber, FST Dept. Chair

SAVE THE DATE - IFT RECEPTION 2009

**University of California Reception at IFT 2009, Hilton Anaheim
Sunday, June 7, 5:30 – 8:00 p.m.**

Tickets - \$16 - purchase in advance

Tickets can be purchased along with your Annual Meeting & Food Expo registration, but will not be sold on-site. Register early at:
<http://www.am-fe.ift.org/cms/?pid=1000642>



PICNIC DAY 2009

Picnic Day this year is April 18. On that day, we will have our usual FREE ICE CREAM and displays about hand washing, guessing the smell, and such. This year, we will be located in our new buildings. Pictures of our building are below. Our students are also going to be selling Food Tech Club aprons. Come out and get a cool new apron and support our student club. Because we are now in our beautiful new buildings, there will be exciting new displays from the Viticulture and Enology department which include grapevine give-aways and barrel making. As if that were not exciting enough, there will also be a UC Davis Olive Center tasting in our Silverado Sensory Theater. To get to our new buildings, take the UC Davis exit from Interstate 80 and head towards campus. We are the buildings that will be on your right just past the information booth.

For more information, please see <http://picnicday.ucdavis.edu/>



-pictures by Suvaluk Asavasanti

WINERY/BREWERY/FOOD SCIENCE LAB UPDATE

New Winery, Brewery and Food Science Laboratory Will Show 'Green' Leadership

February 19, 2009

Construction of the new Research and Teaching Winery and the August A. Busch III Brewing and Food Science Laboratory at the University of California, Davis, will commence in June after design plans were recently approved by the UC Regents. The new facilities are part of the UC Davis Robert Mondavi Institute for Wine and Food Science, and will be used for scientific research, student training and industry collaboration.

"It is a dream come true to have UC Davis' preeminent wine, food and brewing programs housed together in a brand new state-of-the-art complex," said Clare M. Hasler, executive director of the institute. "The new winery, brewery and food processing facility will further advance our teaching, research and outreach programs."

The three academic buildings of the institute, which house the Departments of Viticulture and Enology and of Food Science and Technology opened in fall 2008. The 34,000-square-foot building housing the winery and the laboratory will be completed in 2010.

The August A. Busch III Brewing and Food Science Laboratory will house a food processing pilot plant, a dairy processing facility, and a pilot brewery to be used by the Department of Food Science and Technology. The facility will be named in recognition of August A. Busch III's long-time contributions to the art of brewing. The Anheuser-Busch Foundation gave \$5 million toward the project.

Charles Bamforth, the Anheuser-Busch Endowed Professor of

Malting and Brewing Sciences at UC Davis, said, "This wonderful new resource confirms that brewing education at UC Davis is

second to none. There is no finer facility anywhere for the training of future brewery employees and the ongoing education of existing brewers."

The winery, which is yet to be named, will include a large experimental fermentation area, controlled temperature rooms for large-scale testing, barrel and bottle cellars, a testing lab, a classroom and a special bottle cellar for donated wines. The winery will be used for research, teaching and industry short courses. The landscape outside the winery will feature a 12.5-acre teaching and research vineyard, and educational gardens.

"This new facility will be a platform for experimentation in wine processing, with the ability to measure energy and water usage as well as waste output," said Andrew Waterhouse, professor and chair of the Department of Viticulture and Enology. "Our students will be able to learn about winemaking using the most advanced facility, and learn approaches to improve sustainable and precision wine production."

Both the winery and the laboratory will be constructed to achieve LEED (Leadership in Energy and Environmental Design) certification through the U.S. Green Building Council. The aim is to achieve LEED Platinum certification, the highest rat-



ing awarded, which would make this the first facility of its type in the world.

Sustainability and environment-friendly features that are incorporated into the building design include on-site solar power generation, rainwater capture and water conservation, energy efficiency, carbon dioxide containment and removal for sequestration, use of local and recycled construction materials, and reduction of building site waste.

The winery is intended to be the first wine-production facility in the world that is fully solar-powered at peak load; equipped to capture and sequester all carbon dioxide from its fermentations; and operated on captured rainwater for its cleaning needs, recycling solutions at least five times.

UC Davis is committed to green-building construction as part of a 2004 University of California policy to make all new buildings "eco-friendly." The winery and laboratory also will serve as a model for what the wine, brewing and food industries can achieve in environmental and energy efficiency. The innovative environmental design reflects UC Davis' effort to provide leadership in sustainable winemaking, brewing and food processing.

"The global wine community is acutely aware of climate change and
(Continued on next page)

WINERY/BREWERY/FOOD SCIENCE LAB UPDATE (continued)

the critical importance of efficient water use in sustainable winemaking practices,” said Roger Boulton, professor of viticulture and enology at UC Davis, who works with Kendall-Jackson and other wineries on sustainability issues. “The Live Winery aspect of this project will provide real-time data of all system technologies on a Web page for wineries. Implementing and sharing these sustainability systems with wineries everywhere exemplifies what UC Davis does beyond its education and research activities.”

“Water conservation, energy efficiency and waste reduction are issues that food and beverage processors confront constantly in their quest to be competitive operations,” said James Seiber, chair of the Department of Food Science and Technology. “The new facility will showcase environmental and sustainable technologies that others can evaluate and put into practice in their own operations.”

The new winery and laboratory are being constructed entirely with private funds. Major gifts have been received from the late Robert Mondavi, the Anheuser-Busch Foundation, the California processing tomato industry with leadership from The Morning Star Packing Company, Jerry Lohr, Silverado Vineyards, and Ronald and Diane Miller. A second group of winery partners, led by Kendall-Jackson, J. Lohr Vineyards & Wine and the Wine Group, provided the extra funding to attain LEED Platinum certification. More than 150 individuals, alumni, corporate friends and foundations have contributed more than \$16.5 million for the new building. Additional funding is being sought to equip the facility and to develop the sustainable energy, water and carbon systems.

With this new winery and laboratory, the Robert Mondavi Institute for Wine and Food Science will be able to provide extraordinary outreach and partnership opportunities with the food and beverage industries in California and beyond. The completed academic buildings are already facilitating UC Davis’ ability to deliver unique educational curricula and to conduct world-renowned research and public education on critical food- and beverage-related topics. The team of architects, engineers and builders for the new building includes BNB Norcal of San Mateo, Flad Architects of San Francisco, F.M. Booth Mechanical, Red Top Electric, KPW Structural Engineers, Creegan + D’Angelo Civil Engineers, and HLA Landscape Architects.

Media contact(s):

* Kathy Sachs Barrientes, College of Agricultural and Environmental Sciences, (530) 752-1602, ksbarrientes@ucdavis.edu (For winery information)

* Melissa Haworth, College of Agricultural and Environmental Sciences, (530) 754-8562, mdhaworth@ucdavis.edu (For brewery, food science information)

* Ann Filmer, College of Agricultural and Environmental Sciences, (530) 754-6788, afilmer@ucdavis.edu

* Pat Bailey, UC Davis News Service, (530) 752-9843, pjbailley@ucdavis.edu



ALUMNI SPOTLIGHT - LISA CHAN LEONG

Lisa Chan Leong graduated from UC Davis with a B.S. in Food Science and Technology in 1997. Although she was originally declared a College of Agricultural and Environmental Sciences Biochemistry major with aspirations to go to medical school, she realized that medicine and biochemistry were not her passions. She searched to find a science major quickly and was immediately attracted to Food Science when she was introduced to the multifaceted discipline with many career opportunities while taking Food Science and Technology 1 (FST1).

She feels very fortunate to have attended a University of California school with an agricultural emphasis since she would not have had this educational opportunity had she attended another UC campus. Although she considered popular majors with large departments and faculty early in her search for a major, she was attracted to the friendly atmosphere, the camaraderie of the Food Science and Technology Department, and the excellent world renowned reputation. One of the highlights of her undergraduate experience that also helped her transition to the food industry was being a member of the Raspberry Wisdom Product Development Team that competed in the IFT national finals in Orlando, FL. She believes that this experience was the foundation for how she started working in R&D, and the teamwork and practical application skills learned are still fundamentals that she practices today in her career.

She has worked for the Blommer Chocolate Company in Union City, CA, for 11 years as

a food scientist in Research and Development and Technical Service and is a member of the Institute of Food Technologists and the American Association of Candy Technologists. Blommer Chocolate is a chocolate and confectionery compound wholesaler. On a daily basis she develops products for customers that either sell their products or use them as ingredients in finished retail food. She also reformulates chocolate or compound formulas for special consumer markets, specific applications or the latest food indus-



try/diet trends. Lisa enjoys working

Lisa Chan Leong and her husband Tim

for a family owned company that allows her the freedom to apply her degree to help customers make quality products that are so enjoyable to so many people. One of the best rewards is to see products she developed in many retail stores. Her previous positions in the food industry included R&D for Dr. McDougall's Right Foods vegan foods and International Home Foods.

Lisa believes that being a food scientist is natural to her personality and Chinese American background. Her mother was a UC Davis alumna, a former dietician and pastry chef

and, according to Lisa, the best cook of home-made food in the world. Lisa was born into a large extended family of food aficionados (aka Foodies). Everything they do is planned around eating or cooking! She has traveled around the US, Canada, Europe and most recently China to witness how food is such an important part of so many cultures.

Lisa has interests in cooking, especially healthy, great tasting food and loves anything related to the kitchen where she spends time reading Cook's Illustrated, collecting over 100 cookbooks and occasionally watching Alton Brown on the "Food Network". Her latest interests are the relationship between nutrition, diet and optimal health, and she likes to spend time understanding issues related to food politics and the nutrition transition, the phenomenon of not having enough food to overeating.

Lisa and her husband Tim have been married 4 years, and he is her best friend of over 15 years. Tim is also an UC Davis Environmental Resource Science alumna ('95) who works for the Port of Oakland as an Environmental Scientist with specialties in air quality and greenhouse gasses. They share their home with their tuxedo cat-child named Mittens. In their spare time they enjoy spending time with family and friends, watching sports, exercising and traveling. Some of their favorite places to visit are Maui, Hawaii and Tokyo, Japan. Last year they took a 9-day trip with friends to New York City where they ate their way through all 5 boroughs.

FACULTY PROFILE - BILL RISTENPART

By Ho Phang

People often think of red blood cells as passive cellular cargo trucks, that just deliver the oxygen to various parts of the body without doing much else. Dr. William Ristenpart, a new face at the Department of Food Science and Technology, would beg to differ. He studies red blood cells as a member of the Foods For Health Institute, and is particularly interested in how metabolites affect their activity.

“Red blood cells are more sophisticated than people think,” says Dr. Ristenpart, who received a B.S. in Chemical Engineering right here in UC Davis before obtaining a Ph.D. at Princeton. “They release a molecule called ATP when they deform, causing blood vessels to expand.” The release of ATP by red blood cells helps to regulate blood pressure by causing blood vessels to expand.

In preliminary experiments, Dr. Ristenpart has shown that fatty acid ethyl esters (FAEEs) from beverages like beer can make red blood cells more rigid, as demonstrated by experiments where red blood cells treated with FAEEs move more slowly through simulated blood vessels than control cells. “The implication is that red blood cells affected by FAEEs release less ATP. Decreased ATP may mean a decreased ability to regulate blood pressure.” Dr.

Ristenpart says.

Beer metabolites are not the only compounds that Dr. Ristenpart is interested in, however. He also wants to study the effects on red blood cells from the intake of



metabolites from other foods, like wine and chocolate. His hope is that his research might shed light on the French Paradox, which is the observation that the French have relatively low incidences of heart disease despite having a diet high in saturated fats.

Beyond his current research, Dr. Ristenpart is also an expert in pulsed electric fields. He has an active research program in electric field effects on emulsions (such as vinegar in olive oil) and

he is collaborating with Dr. Diane Barrett in the Department of Food Science and Technology in using pulsed electric fields to dry onions.

These kinds of practical applications are what attracted Dr. Ristenpart to chemical engineering research, calling it “science with concrete benefits to society.” Research gives him the opportunity to work on unanswered questions in science, which is another reason why he has chosen to conduct research in his field.

For undergraduate students looking to follow in his footsteps, Dr. Ristenpart has this word of advice: “Go out of your way to do undergraduate research – the experience is invaluable for your job search and for admission into graduate school.” Dr. Ristenpart is giving opportunities for students to do just that – he is currently seeking enthusiastic graduate and undergraduate students for his lab for the summer and beyond. Interested students may contact him at: wdristenpart@ucdavis.edu.

STAFF SPOTLIGHT - SAM MATOBA



When talking with our students, we often advise them to keep their options open about future careers when going through school. For our very own Sam Matoba, this advice certainly holds. Sam holds a many-faceted position here in Food Science & Technology. He is the department's safety officer, the staff support for Dr. Diane Barrett's T4 project and is the support person for our FST104L (Microbiology) class. Interestingly, Sam's background is in chemistry and biochemistry, and he admits he never even took a microbiology class in college because there was too much memorization. We think this is one of the reasons Sam has been so good for our students because he is so empathetic to what they are going through. Sam also works closely with our students on the T4 project. He trains all of the students, schedules the harvests of the tomatoes and deals with the day-to-day project needs.

In his personal life, Sam has been very involved with youth sports here in community. He has coached teams for his children mainly because, according to Sam, he gets "to be around (his) kids more." He enjoys all things mechanical, has a great workshop, and is the fix-it person at home.

Sam has been here at UC Davis since 1976 and has been with Food Science & Technology since 1981. We hope he continues his support of our programs and our students for many years to come. When asked what he thinks about our new facilities, Sam comments, "I think the new building is beautiful. I really like the areas that allow people to gather for relaxing, studying and sharing a meal."

SPECIAL THANKS TO:

The Food Science and Technology department is grateful to the Department External Relations and Outreach Committee for their efforts in research and writing the articles for this newsletter. Members are: Carl Winter (Chair), Stephanie Dungan, Michael McCarthy, Michael O'Mahony, Pamela Tom, Karen Nofziger, Carol Cooper, Jamie Brannan, Jamie Ruffolo, and Ho Phang.