

NEWSBITE

FOOD SCIENCE & NUTRITION DEPARTMENT

2013-14

Sweet Taste of Victory

FSN student teams win big at annual competition for food products they created



CAL POLY
SAN LUIS OBISPO

College of Agriculture, Food
& Environmental Sciences



Last September, the Food Science & Nutrition Department faculty and staff met at the Inn at Morro Bay for their annual fall conference department meeting. Pictured, front row, from left: Pamela Montalban, Department Head Gour Choudhury, Doris Derelian, Dwayne Jones, Scott Reaves, Julie Herring, Peggy Papathakis, Louise Berner. Back row, from left: Jill Victorino, Amy Lammert, Shohreh Niku, Susan Swadener, Arlene Grant-Holcomb, Aydin Nazmi. *Photo submitted by Gour Choudhury*

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FSN thanks the donors for support

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Welcome to the 2013-14 edition of Newsbite. It was a year of excitement, change and, unfortunately, the loss of some of our outstanding faculty.

First I want to congratulate our two product development teams that competed in and won national competitions in Chicago. Team Disney IFTSA came in first place with their product, Mike's S'creamy Dip & Scare Me Chips. Developing Solutions for Development Countries came in second with their product, Malawi Mix (MaMi). I am proud of their achievements! We continue to attract very bright undergraduate students as is reflected in our competition teams and with the continuous increase of applicants to our programs.

In addition, we are continuing to grow our graduate program. This year we accepted nine new graduate students in different areas of food science and nutrition. We have an approved pre-proposal for a new stand-alone Master of Science in food science and our proposal for a new stand-alone Master of Science nutrition program has been submitted and is undergoing final review for approval. We expect these two new programs to significantly increase our graduate student population as we fully implement the teacher-scholar model at Cal Poly.

We are making good progress in the implementation of our dynamic strategic plan (2012-2017) which includes building a new institute that will be a center of excellence for research and training in food science and nutrition. The development of this institute as a research and training home for California industry and other organizations continues to be our top priority. I have visited different sectors (e.g. rice, olive, prune, tomato, carrot, citrus, avocado, cut vegetables, machineries and engineering) of industry in northern and southern California and discovered strong interest in the institute. These meetings with industry leaders have been very encouraging.

Another important focus is upgrading our Learn by Doing infrastructure. We have added new equipment to our laboratories and pilot-plant and plan to do even more in this arena. We are aggressively recruiting premiere faculty in a number of areas, and expect to add four new full-time faculty members by fall 2014. In all, we continue to build a department with cutting-edge teaching and research programs to meet the food science and nutrition needs of California, the U.S. and the world. This will position Cal Poly and California as global leaders in food science and nutrition.

Finally, I am dedicating this issue of Newsbite to Professor Hany Khalil, who passed away over the summer break. Hany was a leader in the food science program at Cal Poly whose main focus was the success of our students. He was a phenomenal educator with extensive international expertise that raised the profile of our STEM-designated academic programs. We continue to receive notes from our students, industry colleagues and friends, proving Hany was a great friend who was loved and revered worldwide. To keep his memory alive, we are in the process of establishing the Professor Hany Khalil Memorial Scholarship, which will be used to support student learning and offer more Learn by Doing opportunities.

Warm wishes,



Gour S. Choudhury, Ph.D.
Department Head



"We continue to build a department with cutting-edge teaching and research programs to meet the food science and nutrition needs of California, the U.S. and the world."



Professor Hany Khalil teaches a group of women on a trip to Egypt in 2010.



Professor Hany Khalil walks with security on his trip to Iraq in August 2009.

Longtime professor unexpectedly passes away

FSN professor remembered for his great work at Cal Poly and throughout the world

BY BRIAN HAMPSON AND CHRISTINA BARTON

This past summer, the Food Science & Nutrition Department lost one of its own. Professor Hany Khalil unexpectedly passed away on Aug. 5, 2013. Khalil was a long-time faculty member in the Food Science & Nutrition Department, beginning his tenure as a lecturer in 1987, followed by a tenure-track

appointment in 1988.

Khalil earned an undergraduate degree in agriculture at the University of Alexandria, Egypt. Prior to emigrating from Egypt to the United States in 1978, he worked briefly for the Egyptian Ministry of Agriculture. Khalil then worked in the dairy processing industry before beginning his graduate studies. He graduated from the University of Illinois, Champaign-Urbana, in 1987 with a doctoral degree in food science with an emphasis on food process engineering. He also earned his M.S. degree from the University of Illinois in dairy processing. Khalil was very proud to become a

U.S. citizen, a Californian and a professor in the California State University system.

He was passionate about teaching food science, and the success of his graduates is evident in their accomplishments. He was also very passionate about his work in the department and the campus community. Khalil led the effort to develop and implement the ADAPT, or Agriculture Development for Afghanistan Pre-deployment Training, program in conjunction with the U.S. State Department, the U.S. military, and several other universities, including Fresno State. The primary mission of ADAPT was the delivery

Khalil hosts, teaches Armenian group about post-harvest

BY HANY KHALIL

Editor's note: Khalil wrote this article after conducting the workshop.

Professor Hany Khalil hosted a group of Armenian agribusiness men and women on March 26 and 27, 2013, who were on a visit to the United States to learn about post-harvest management. The group was in the U.S. on a Cochran fellowship awarded by the U.S. Department of Agriculture Foreign Agricultural Service. The fellowship is designed to help developing countries improve their agricultural systems and enhance trade links with the U.S.

The group was here to learn about appropriate post-harvest management and solar drying relevant to their country, and Khalil conducted a workshop on post-harvest and solar drying technology to the group. Khalil had previously worked in the Republic of Armenia on numerous post-harvest and solar drying assignments.

The group also had a chance to visit Gold Coast Packaging and California Giant Berry Farms in Santa Maria as part of their visit to the Central Coast.



Khalil talks about global trends in post-harvest management with the Armenian visitors.



Khalil and the Armenian group visit California Giant Berry Farms.



Professor Hany Khalil talks with two women about dehydrating tomatoes while on a trip to Afghanistan.



Khalil, far right, applauds as U.S. Marine Corp Maj. Middleton receives a graduation certificate from President Armstrong in the PAC lobby in spring 2011 for completing an agricultural training course for marines.

Photos submitted

of weeklong, hands-on orientation training in agriculture to members of the U.S. military and State Department prior to their departure to Afghanistan.

Khalil was very involved in international development, visiting and providing short courses in approximately 40 developing nations worldwide. He had just returned from a two-week assignment in Ghana, where he trained employees

at a mango processing facility in good manufacturing practices and continuous improvement of overall food processing capabilities. Another trip - to Kosovo - was already planned for Labor Day. He always volunteered his time, and he was loved and respected worldwide.

Khalil is survived by his wife, Marian Emyan, and his son, John Khalil, who resides in Emoryville, Calif.

"Dr. Khalil was one of the most dedicated teachers I've known. He had balance in the classroom and balance in his life at-large, teaching many people in many places during his tenure."

-Professor Brian Hampson

Montecalvo retires after 31 years at Cal Poly

BY CHRISTINA BARTON

After teaching and advising students for 31 years, Professor Joe Montecalvo will retire from Cal Poly in June. Montecalvo came to Cal Poly in 1983, after serving two years as a corporate scientist for Frito Lay and two years as an assistant professor in the Food Science Department at the University of Illinois, where he taught food processing and food chemistry.

Montecalvo served as department head from 1986-95 and raised more than \$1.5 million in contracts, grants and donations that contributed to the development of FSN 364 Food Chemistry and FSN 368 Food Analysis and Wine Analysis. Montecalvo also served as major professor for 26 master's degree graduate students and served on many national Institute of

Food Technologists committees.

"I will miss our students and staff and would like to sincerely thank them all, especially Jill and Pam in the department office and equipment technician Dwayne Jones for their supportive efforts," Montecalvo said. "They are truly the glue that keeps our programs functioning."

In retirement, Montecalvo and his wife of 42 years, Laura, will spend time traveling to Europe and Asia, visiting many friends cultivated over the past 30 years. Montecalvo will also spend time hunting and gun collecting, restoring vintage sports cars, and finishing a political novel based on his experiences in the 1960s and 1970s.

"Thanks again to past and present students, staff and faculty for a wonderful adventure," Montecalvo said.



Laura Hall leaves FSN

BY CHRISTINA BARTON

Laura Hall resigned from her position as assistant professor at the end of the 2012-13 academic year to be closer to her family. Hall taught in the FSN Department for more than three years, joining the department in winter quarter 2009. With her background in nutrition, she taught FSN 210 Introduction to Nutrition, FSN 315 Nutrition in Aging, and FSN 430 Clinical Nutrition II.



While at Cal Poly, she was involved in multiple research projects, including a study about the "Freshman 15" that looked at whether Cal Poly students gained weight freshman year and what contributed to the weight gain. She also worked on a study about vitamin D status and insulin sensitivity of obese adult women. Hall began a research project studying the effects of pistachio consumption on body composition, blood lipids, bone density, satiety, inflammatory markers and erythrocyte membrane incorporation of fatty acids in fall quarter 2012. Although Hall has left Cal Poly, she is still working with FSN graduate student Alison Bushnell to complete the study.

"Dr. Hall has been a wonderful advisor and she will be greatly missed at Cal Poly," Bushnell said.

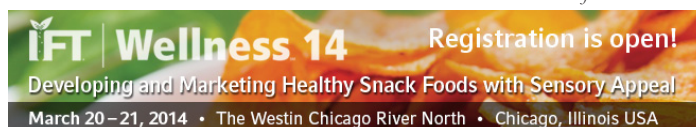
Student team finalists for IFTSA Heart-Healthy Product Development Competition

BY ADAM YEE

Cal Poly Food Science & Nutrition students have made it to the finals of the Institute of Food Technologists Student Association Heart-Healthy Competition, a product development competition sponsored by CanolaInfo. Competitors were challenged to make a product deemed "heart healthy." Based on market research, the Cal Poly team created a healthy, savory product that relied on ingredients other than salt, fat and sugar to achieve a likeable product. The team, comprised of Kyle Failla, Lauren Gross, Katie Lanfranki, Khadija Nafi, Racheal Redlo, Jaime Savitz, Hira Shafique and Adam Yee, created a savory "chip-and-dip" product.

The chip is composed of 50 percent oats, along with brown rice flour, kale, flax seeds and canola oil with herbs and spices and is paired with a spicy cauliflower-tomato dip. The team will be competing in the finals against Rutgers and the University of Massachusetts at the IFT Wellness Conference on March 20-21 in Chicago. The department wishes them the best of luck in the competition.

Photo from IFT website



Pilot Plant receives new equipment



- 1. vacuum-pack machine
 - 2. chocolate depositor machine
 - 3. sanitation spray unit
- Photos submitted by Brandon Coleman*

BY CHRISTINA BARTON

Last fall, the Pilot Plant gained 12 new pieces of equipment and instruments. According to Brandon Coleman, Pilot Plant manager, some of the more important pieces the plant gained were a chocolate depositing machine, a sanitation spray unit, and a vacuum-pack machine. The new equipment and instruments were either purchased

with account funds, grant funds or were donated. The chocolate depositing machine was purchased with money from the sales of Cal Poly-made products. The spray unit was donated by Hydrite Chemicals, and the vacuum-pack machine was purchased through grant funds. According to Coleman, the chocolate depositor greatly increased the overall efficiency of the chocolate-making

process, increasing production of chocolate bars from about 500 bars per hour to up to 3,000 bars per hour. The spray unit increases efficiency by allowing workers to spray the sanitizing agent onto various items with ease. The vacuum-pack machine increases packaging capability, allowing workers to package dry goods into pouches.

Cal Poly Products continues expansion with new items

BY BRANDON COLEMAN

Cal Poly Products has added two new items to its line: Raspberry Jam and Olallieberry Balsamic Vinaigrette. According to Brandon Coleman, Pilot Plant manager, the product team created the raspberry jam due to the high demand for gourmet berry products in the San Luis Obispo area. Because the team already had a recipe for a berry jam, the formula only needed small adjustments. Because of the popularity of the olallieberry, the team decided to create the Olallieberry Balsamic Vinaigrette. To make the dressing, the team had to add an emulsion process since oil and vinegar separate. Last spring, they released the Sweet Hickory BBQ Sauce and last fall, they released the Fiery BBQ Sauce. The team is currently testing two flavors of salsa for potential future production: Southwestern Style Spicy Salsa and Pineapple Salsa.



Poly Profile: FSN graduate students

The Food Science & Nutrition Department has 17 graduate students enrolled in its graduate program. We talked to four of them about what brought them to Cal Poly, what they are working on, and their future plans.

COMPILED BY CHRISTINA BARTON

Gregg Yasuda



Began program: winter 2013 **Concentration:** food science **Advisor:** Department Head Gour Choudhury

1. Why Cal Poly?: I chose the Cal Poly grad program because of the research opportunities available. Like most food science graduates, I want to get into product development, and the best chance for me to do that was to pursue my master's in that field. Department Head Gour Choudhury was the faculty advisor for my senior project, and he was gracious enough to accept the role of Thesis Committee Chair for my graduate work. What set Cal Poly apart from other programs was the growth and ambition of the Food Science & Nutrition Department. It is still early, but I am expecting big things for this department five to 10 years down the road.

2. Graduate work: Most of my work so far has been process optimization. My project is the development of a healthy alternative to candy using fruits and nuts. I spent this past summer determining the best ways to process pistachios and peaches and apply them to my project.

3. Current research: Currently I am working on formula optimization. I need to conduct a series of sensory tests to determine which attributes of my product are resonating with consumers.

4. Biggest take-away as a graduate student: My biggest take-away is the scope of the project. My senior project was limited to two quarters of research and development. The increased timeline for my thesis project has allowed me to fully flesh out the development of this product.

5. Best part of being a graduate student in this program: The best part of being a grad student in this program has been networking with other graduate students throughout the College of Agriculture, Food & Environmental Sciences. People come from all walks of life, and learning about other students' projects and

career goals has been an experience in itself.

6. Future plans: I am in the process of interviewing for jobs, but nothing yet is set in stone as of now. The possibility of continuing my education has been thrown around, but I am still on the fence. The fact of the matter is that 2014 will be my sixth consecutive year of college, and I am starting to feel the weight of all that schooling. I think I will revisit the topic of pursuing my Ph. D after I spend some time working in the industry.

Began program: winter 2013 **Concentration:** food science **Advisor:** Assistant Professor Amy Lammert

1. Why Cal Poly?: I went to Cal Poly for my undergraduate degree and had a great experience. A few months before graduation I heard of the opportunity to stay for graduate school. After talking to many professors in the Food Science & Nutrition Department, I decided it would be a great fit! Cal Poly's unique program has allowed me to work closely with my advisor and choose classes that apply to my specific area of research.

2. Graduate work: My advising professor is Amy Lammert, and my research is focused on sensory science and the sensory evaluation of food products through the eating experience. I have had the opportunity to design and execute several sensory tests for many different companies that have contacted Lammert. My specific project for my thesis is the measurement of emotion through the eating experience to gain a better understanding of the drivers of consumption. Additionally, I have attended many industry conferences and have presented our research in Brazil.

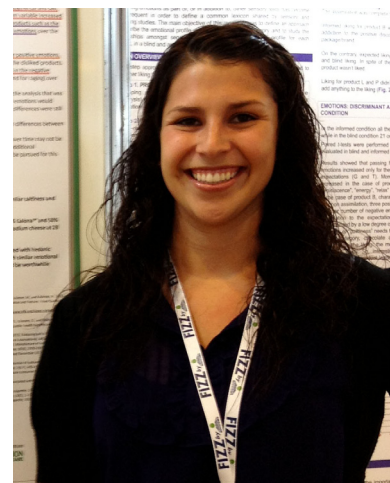
3. Current research: Currently I am analyzing my data, drafting manuscripts for publication, and writing my literature review for my thesis. I plan on graduating in June 2014.

4. Biggest take-away as a graduate student: The long days and endless hours of working to complete different projects has been a true Learn by Doing experience (or as many call it: "Learn by screwing up"). There is no better way to learn!

5. Best part of being a graduate student in this program: The food science graduate program is pretty small, and I have really enjoyed working with the other graduate students. I feel a sense of community in our program and enjoy being part of it!

6. Future plans: I am on the job hunt now and hope to have a job lined up before I graduate. So far, I have applied to a few companies, and I have had a few preliminary interviews. No firm plans yet!

Kristine Martinez



Jaime Lockhart



Began program: fall 2011 **Concentration:** nutrition **Advisor:** Professor Lisa Nicholson

- 1. Why Cal Poly?:** Cal Poly's excellent reputation and the individualized nature of the graduate program are what drew me in. Also, being able to complete the Didactic Programs in Dietetics (DPD) coursework while working toward my master's degree was ideal!
- 2. Grad work:** So far I have worked on completing my DPD coursework and have also been involved with Cal Poly STRIDE. STRIDE has allowed me to gain valuable community outreach experience and also led me to my thesis work, a program called Pink and Dude Chefs.
- 3. Current research:** I am currently in the data collection phase of my master's thesis. I am coordinating the Pink and Dude Chefs program, which is a nutrition and culinary intervention, at a local middle school. I will use the survey data I collect to research the effect this program has on participants.
- 4. Biggest take-away as a grad student:** My time as a graduate student has significantly improved my time-management skills, professionalism, communication skills, confidence, and of course, my understanding of the field of nutrition and dietetics.
- 5. Best part of being a grad student:** Meeting and working with a diverse group of people, learning from wonderful professors, and constantly working on personal development.
- 6. Future plans:** I plan to apply for a dietetic internship next year and hope to work as a registered dietitian afterward.

Began program: fall 2012 **Concentration:** nutrition **Advisor:** Laura Hall

- 1. Why Cal Poly?:** One thing that sets Cal Poly apart from other schools I looked into is that it allows students to complete a master's degree while taking courses to fulfill the Didactic Program in Dietetics (DPD). This was important for me because I came to Cal Poly after graduating with a non-nutrition background. Because of this unique program, I am able to complete the requirements I need to enter into a dietetic internship while obtaining my master's degree.
- 2. Grad work:** Currently I am working with Dr. Hall on a pistachio feeding study. We are examining the effects of pistachio consumption on body composition, blood lipids, bone density, satiety, inflammatory markers, and erythrocyte membrane incorporation of fatty acids.
- 3. Current research:** We conducted the pistachio study last year, and we are now in the process of examining our data.
- 4. Biggest take-away as a grad student:** One of the most beneficial aspects of being a grad student in the FSN Department is getting the opportunity to be involved in research. Being a part of our pistachio study from beginning to end has shown me a tremendous amount about the research process. It has been incredibly valuable to experience the challenges of conducting a research study firsthand.
- 5. Best part of being a grad student:** One of the best parts of being a grad student so far has been getting to work closely with some amazing professors. I was lucky to be able to work with Dr. Hall while she was still at Cal Poly and benefit from her immense knowledge. Even though she is no longer at Cal Poly, she is still heading up our research, so I continue to learn from her as we move through each new step in the research process.
- 6. Future plans:** After I graduate, I plan on becoming a registered dietitian. Next fall I will be applying for a dietetic internship to attend the following year.

Alison Bushnell



Dietetic Internship

In addition to the 17 graduate students, FSN also has nine dietetic interns under the leadership of nutrition lecturer Susan Swadener. The internship is one year, and the interns undergo rotations in either San Luis Obispo County or Santa Barbara County. According to the program mission, after completing the internship, the students will be qualified to enter clinical dietetics, food service management, community programs and to take the registration examination for their Registered Dietitian credential.





Sweet Taste of Victory

FSN student teams win big at international competition for Disney-themed product and HIV supplement

BY CHRISTINA BARTON

Cal Poly Food Science & Nutrition (FSN) students placed first and second in their respective categories at an international competition held by the Institute of Food Technologists (IFT) this past July. The competition, which took place during IFT's Annual Meeting & Food Expo in Chicago, judged student teams on their ability to develop nutritious food solutions for a variety of real-world challenges. Cal Poly's undergraduate FSN students competed against undergraduate and graduate students from 67 domestic and international universities.

Cal Poly's FSN students were awarded first place in the Disney – IFTSA Product-Development Competition. The team was challenged with creating a market-relevant, nutritious and delicious snack that integrated a fruit or vegetable in a product targeted to children under 12. The FSN students developed a sweet fruit-based dip with a serving of baked apple that contained more than one full serving of fruit and a vegetable component. The entry was judged on final proposal, sensory evaluation and oral presentation. A \$3,500 prize was awarded for the first place finish. The student team included Rima Abukazam, Alison Shapira, Adam Yee, Taryn Yee and Andrea Zeng.

The team went through a long development process to create the winning product. According to Zeng, once Taryn Yee and Shapira came up with the idea of a sweet hummus and an edamame-based hummus, the team brainstormed various fruit combinations and flavors. The first iterations for the sweet hummus included pear, apple and banana, and for the savory hummus included tahini, garlic and a few other flavors.

"Based on these initial trials, the favorite was a combination of apple,

banana and edamame," Zeng said. "We then altered ratios until we found the perfect balance."

In the end, the team decided to pair the dip with dehydrated apple chips since, according to Zeng, they were the most feasible and best-tasting option. After deciding to use apple chips, the team tried different shapes that would best deliver the dip as well as complement their unique package concept based on the character Mike Wazowski in the film

"Monsters University."

The circular container holds the apple chips around another circular container for the creamy dip. With the help of a packaging technician studying industrial technology at Cal Poly, they were able to physically make the packaging. With the help of a team member's roommate, Melanie Lapovich, who is studying graphic design, the team was able to create a label and cover for the product.

For the team, the win was a great accomplishment.

"As a graduating senior it was really exciting to end my undergrad career with a big bang," Taryn Yee said. "Competing on a national scale was exciting, especially against teams who have a long history of qualifying."

Having competed with the Product Development Team for three years, it was really satisfying even qualifying for the finals in Chicago, so finishing in first place was one of the best feelings ever."

Another team of Cal Poly FSN students took second place in the Developing Solutions for Developing Countries category. Their challenge was to create food product supplements to address malnourishment of patients served by HIV clinics in developing nations. Entries were judged on their ability to address the issues specific to a selected region based on

"The IFT competition demonstrated that our Learn by Doing experience gives our students a clear advantage when it comes to solving real-world problems."

*-Department Head
Gour Choudhury*



Above: From left, Andrea Zeng, Alison Shapira, Adam Yee, Taryn Yee and Rima Abukazam pose for a picture at the IFT Food Expo on the day of their presentation of Mike's S'creamy Dip and Scare Me Chips. The team won first place for their dip and chips. *Photo submitted by Taryn Yee*

Above, right: The Malawi Mix team pose for a funny picture at the IFT Food Expo in Chicago. The team was represented by, from left, back row, Matthew Goldstein, Adam Yee, and Kyler Walters and front row, Emma Sandquist, Christina Neumayr, Rebecca Flores, Ashley Long, Maxine Funk and Jaime Savitz. *Photo submitted by Jaime Savitz*

available raw materials, limited utilization and nutritional requirements of the region's HIV-positive individuals. Cal Poly's team developed a product named Malawi Mix, which utilized local ingredients such as Malawian fish, and process technology available in the region. The product provides children infected with HIV essential daily nutrients in a sweet and salty paste that is easy to swallow. A \$1,000 prize was awarded for the second-place finish. The team included students Rebecca Flores, Maxine Funk, Matthew Goldstein, Ashley Long, Christina Neumayr, Emma Sandquist, Jaime Savitz, Jade Stenzel, Kyler Walters, Adam Yee and Andrea Zeng.

According to Savitz, the development process for the Malawi Mix helped make the team successful. The team first determined the nutrients that were needed by HIV patients, and then the team chose to focus on Malawi due to its high rates of HIV. The team researched what foods were available in Malawi that would meet the nutrient needs and then they began to develop the product. During the development, the team had to extensively research the cultural diet and food preservation methods in Malawi. The final product ended up being a paste made of groundnuts, groundnut oil, tilapia, sweet potato and mango.

The second-place finish was also a great accomplishment for the team. "When they announced that we had gotten second place, I cried,"

Savitz said. "It was so overwhelming. I think one of the most awesome parts of the whole competition was the fact that we were the only all undergraduate team; we were competing against master's and doctoral students. To see that Cal Poly could do so well reassured me that Cal Poly was one of the best schools in the country. I don't know that I've ever been more proud to be a Cal Poly student!"

The teams were advised by FSN faculty members Amy Lammert, Amanda Lathrop, Hany Khalil and Peggy Papathakis.

For FSN Department Head Gour Choudhury, the teams' successes



Mike's S'Creamy Dip and Scare Me Chips

Dip: apple and banana puree, chickpeas, edamame, silken tofu, lemon juice and ascorbic acid
Dehydrated apples

Photo submitted by Taryn Yee

showed how Cal Poly helps prepare students in addressing real-world problems.

"We are extremely proud of our students and their ability to develop creative, innovative solutions, not just in international competitions, but every day," Choudhury said. "The IFT competition demonstrated that our Learn by Doing experience gives our students a clear advantage when it comes to solving real-world problems."



2
brothers

2
bikes

4
wheels

11
states

60
days

3,500
miles



HOPE ON A BIKE

FSN student, brother ride across the country, bring awareness about the world cocoa trade

BY CHRISTINA BARTON

Three thousand five hundred miles is a long way to travel for chocolate, especially when your mode of transportation is a bike. But for Cal Poly senior nutrition major Garrett Morris, traveling across the country on a bike was the perfect way to help raise awareness about the cocoa trade around the world and Project Hope and Fairness (PH & F). PH & F is a nonprofit organization founded and led by Food Science Professor Tom Neuhaus that works to help African cocoa farmers through direct assistance and education. Last summer, Morris and his brother, Brandon, biked across the United States, starting in Astoria, Ore., and ending in New Jersey to help raise money for PH & F.

According to its website, PH & F works “to assist African cocoa farmers who suffer disproportionately from the inequities in the world cocoa trade with a particular focus on the participation of chocolate producers and consumers in the United States.” PH & F works to help in three ways: using direct assistance of grants and in-kind contributions to promote the sustainability of African cocoa farmers; educating Americans about the inequities the African cocoa farmers in particular suffer; and encouraging cocoa product producers to adopt Fair Trade policies that would benefit the African cocoa farmers.

According to Morris, PH & F has traveled to West Africa every summer for seven years, bringing aid and building relationships with cocoa farmers. As part of its efforts, PH & F set up a chocolate-making operation in Depa, Ivory Coast, last summer. For the first time, this operation enabled African cocoa farmers to make chocolate from the cocoa beans they produce, giving them full control over the process and full profits from what they grow.

Fair trade chocolate has been an important issue for Morris since his

freshman year, when he joined the Fair Trade Club on campus. According to Morris, taking the Cal Poly chocolates class and working with the Fair Trade Club helped him further understand chocolate and the humanitarian issues surrounding its production.

“I see something wrong with satisfying my wants – eating delicious chocolate – while hundreds of thousands of cocoa growers suffer,” Morris said.

Because of his feelings about the cocoa trade, he wanted to educate people about the issues surrounding the production and take steps to solve these problems.

While studying abroad in fall 2012 in Chengdu, China, Morris decided he wanted to bike across the country for fun. After getting his brother involved, they decided they should use their endeavor to raise awareness about the cocoa trade and the work PH & F is doing to address issues involved in the trade. During winter and spring quarters of 2013, the brothers contacted local companies and media sources in an effort to build momentum for their cause. The brothers gained support from Cliff Bar, Mustang News, the San Luis Obispo Tribune, KCBX radio and Promotion Plus. Inc., in addition to family and friends. According to Morris, much of the more than \$1,000 they raised for PH & F came from donations collected by their mother, Rita.

The brothers did some initial logistical planning for their route, but eventually decided to just “play it by ear,” starting their trip near Astoria, Ore., on June 25 and making their way east to New Jersey near their family. Along the way, they asked locals for advice on eastward direction.

The first week, they rode 40 to 60 miles a day, building up to 60 to 80 miles per day. On the longest day they rode 160 miles, nearly across



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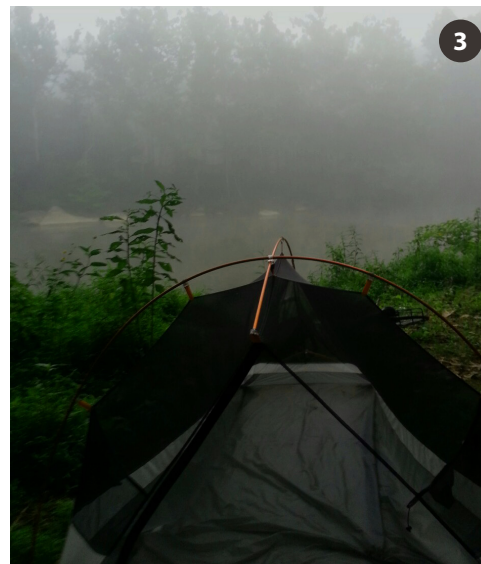
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opposite page:

Day 65: Brandon and Garrett celebrate the end of their journey in New Jersey. The journey took 65 days.

this page:

1. **Day 1:** Brandon and Garrett Morris “high five” at the Sunset Beach State Recreation Site in Astoria, Ore., on the first day of their journey.
2. **Day 45:** After riding 160 miles across Indiana, Brandon and Garrett stopped at Fats and Everetts in Waupecong, Ind., a former Shell Station converted into a restaurant and bar, for fresh-baked sandwiches.



3

3. **Day 51:** Brandon and Garrett pitched their tent and camped on the Great Allegheny Passage, a trail that connects Pittsburgh to Washington, D.C., after riding 60 miles across Pennsylvania.

4. **Day 58:** Garrett and Brandon pose with the staff at the Ten Thousand Villages store headquarters in Ephrata, Penn. Ten Thousand Villages is a fair trade store that has more than 70 locations.

Photos by Brandon and Garrett Morris



4



To learn more about Project Hope and Fairness, you can visit the website or like their Facebook page.

projecthopeandfairness.org

Indiana. Although they arrived at their cousin’s house in New Jersey on Aug. 23, they waited until Aug. 28 to officially conclude their journey, having promised their mother they would wait for her to arrive on the East Coast for the finish.

Throughout their journey, the brothers met many wonderful people. Strangers let them into their homes or camp in their backyards, fed them when they were hungry, and gave them directions along the way. They also stopped at fair trade or otherwise socially conscious shops along the way, including the headquarters of Ten Thousand Villages fair trade store in Lancaster, Penn., the largest fair trade store in the world.

The trip provided many take-aways, including a reminder to be thankful for the little things in life.

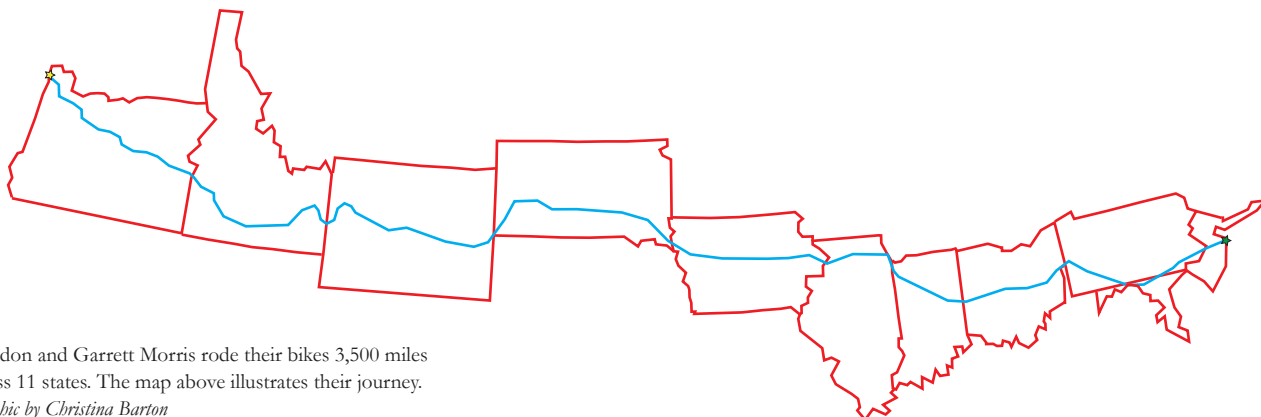
“It is so easy to get caught up in our personal problems and forget

that we have so much to be grateful for,” Morris said. “Our lives are full of chances to make the world a better place; we must strive for those opportunities and make the best of them.”

The trip also taught him that, like Gandhi said, “You have to be the change you want to see in the world.”

“This trip taught me that if you want something to happen, you must go out there and make it happen,” he continued. “If you want something, go out there and get it, one step at a time — or one pedal at a time.”

After he graduates this spring, Morris plans to volunteer for the Peace Corps. Post-Peace Corps, he wants to work in the international public health realm, using the knowledge of nutrition that he learned at Cal Poly to help improve the lives of others who lack resources.



Brandon and Garrett Morris rode their bikes 3,500 miles across 11 states. The map above illustrates their journey.
Graphic by Christina Barton

All About Alumni: Interview with Two Cal Poly Alumnae

COMPILED BY CHRISTINA BARTON

Kathryn David B.S., Food Science, 2010



Tell us about your journey from Cal Poly graduation to your current professional role.

A few months before graduation, I began applying for positions in research and development. With my culinary degree and cooking background paired with my Cal Poly food science degree I knew I wanted to work in the field of product development. I applied for various positions on both the East and West coasts and gladly accepted the position of research chef with Garden Lites.

Tell us about your job and what you do.

We are a fresh and frozen food manufacturer in Queens, N.Y. We have a nationally distributed line of frozen vegetable soufflés, vegetable dishes, and our newest product, Veggie Muffins. Our products are low in calories and fat, and gluten-free and very focused on vegetables!

As our company's research chef, I am responsible for new product development and product improvement and for ensuring the consistent quality of our products. I also oversee nutrition and ingredient information on our packaging. I am involved with products every step of the way, from bench-top development to large-scale production of new items. I research new ingredients and flavor and health trends to get inspiration for our new products. As a small company, we pride ourselves on our innovation. Each day may be focused on several different types of new products to try and grow the brand and expand our product offerings.

Tell us about the work you did with the veggie muffins.

The process took about a year from development to launch. Veggie Muffins were a unique challenge because we wanted to create a new product that had a different eating occasion than our core product of savory vegetable soufflés, but the muffins needed to be appealing to the mainstream consumer while still remaining gluten-free like the rest of the Garden Lites brand. We developed more than a dozen versions of our first-launched flavor, Zucchini Chocolate Veggie Muffins. Our main concern was finding the right cocoa supplier and the best combination of cocoa powder and chocolate chips. We then used that basic formulation to create four other flavors, all of which needed unique adjustments depending on the moisture content of the vegetables being added and the additional fruit and flavor ingredients.

As a graduate of Cal Poly, how did your years in the Food Science Department help prepare you for working in the industry?

Cal Poly gave me the hands-on experience necessary to be comfortable and knowledgeable in a food manufacturing setting. I became familiar with equipment, manufacturing processes, food packaging and safety, and sanitation requirements. The academic knowledge I gained at Cal Poly has allowed me to understand every area of the manufacturing process and to communicate well with different departments and ingredient and equipment suppliers. The academic experience at Cal Poly introduced me to functional ingredients in the industry as well as what interactions ingredients will have, which helps me in the development process. Cal Poly gave me confidence and helped me get the exact career position I wanted!

What has been the most rewarding part of the work you are currently doing?

When I walk into a grocery store in any part of the country and see my product on the shelf, it's a great feeling of accomplishment. Plus, hearing the feedback we get from consumers telling us how much they enjoy the products and make them a regular part of their diet makes my job truly rewarding.

What have been the biggest challenges of your work?

Adjusting to the fast-paced environment we sometimes have. We may get last-minute sample requests or need to re-do products quickly to fit a certain buyer or store's desires. We may have to stop in the middle of a project to work on a more immediate opportunity, but it's always worth it in the end.

Do you have any advice for students who are about to graduate?

I would tell them to be active in organizations that interest them, such as the Academy of Nutrition and Dietetics, the Institute of Food Technologists or the Research Chefs Association. Besides providing additional opportunities to learn, getting to know members of these organizations is a great way to network and make connections for future positions, gain industry knowledge, and find suppliers. Also, never hesitate to use Cal Poly and your professors as resources. There have been times I have had questions or wanted some advice, and I knew I had a fantastic group at Cal Poly that could share their knowledge and real-world experience to help me problem solve.



Cal Poly alumna Kathryn David displays some of the Garden Lite products, including the muffins she helped develop.
Photo submitted by Kathryn David



Anna Bassett B.S., Food Science, 2013

Tell us about your journey from Cal Poly graduation to where you are now.

After graduating with a Bachelor of Science in food science in June 2013, I started working at Blossom Hill Winery (a part of Diageo Chateau & Estate Wines) in Paicines, Calif., as a winemaking harvest intern. I got the job through the winter career fair on campus and the internship lasted from July 9 to Dec. 20.

Tell us about how you found this job and decided it would be a good fit for you.

I began to research jobs after the 2013 harvest and accepted a position at Delegat's Wine Estate in Blenheim, New Zealand, in the Marlborough region. This position will last from March to May during the 2014 harvest. I found the job through a site called winemakingjobs.com. I knew this was a perfect opportunity for me to travel, meet new people, and explore winemaking techniques in another part of the world — 6,000 miles away from California.

Tell us about what you will be doing at this job.

The title of my position is lead cellar hand. Throughout harvest, I will complete a variety of jobs, including but not limited to: the yeasting of tanks, pump overs, monitoring fermentations, managing barrels, assisting in the bottling line, controlling micro-oxygenation equipment, completing benchtop trials (in fining/clarification, blending, heat/cold stability), participating in malolactic inoculations and chemical additions to fermenting juice/finished wines, and collaborating with other cellar hands/winemaking team to make decisions about active ferments.

How did your time at Cal Poly prepare you for what you will be doing in your job?

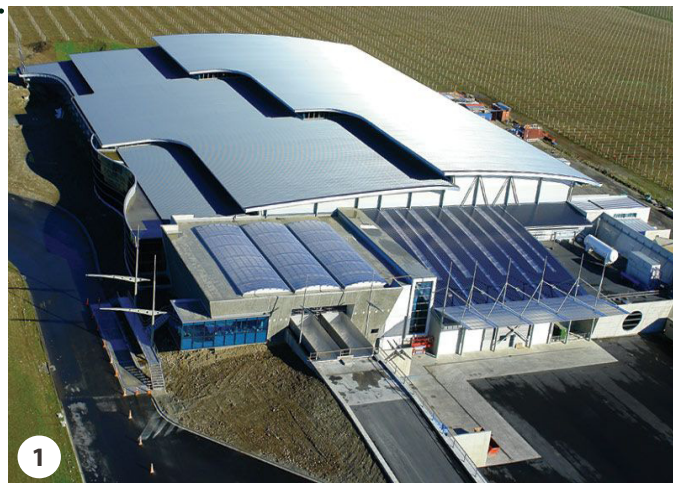
My time at Cal Poly gave me the ability to utilize my technical and creative skills on a daily basis at my work environment. I am able to apply countless methods and ideas that I was exposed to in our lectures and labs to the art of making wine and the practice of honing a specific craft. I am extremely pleased that I chose a major in which so many possibilities for employment were available to me after graduation.

What excites you most about this job? What kinds of challenges do you see ahead?

I am most excited to move to another country and see New Zealand! I am thrilled to work another harvest to obtain more experience in the industry. The greatest challenge will be missing family and friends, but this will be a life-changing experience, and I thank them for their support of my ambitions.

Do you have any advice for students who are about to graduate?

I would advise new graduates to take jobs that seem fun and rewarding, in a positive environment that allows them to grow, but also allows them to teach other colleagues. Additionally, it is important to maintain relationships with professors and other graduates so that you can build a network of people in the working world. Have fun; the world is your oyster!



1. Delegat's wine facility in New Zealand.

2. Crownthorpe Terraces, the vineyards Bassett will be working at during her time in New Zealand.

3. Bassett pipets a liquid tannin into a red blend of various wines she mixed together. She was investigating which tannin would work best to bring out the correct mouthfeel and create a good structure in the body of the wine. Photos submitted by Anna Bassett

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STRIDE members work on various research, outreach programs across campus, San Luis Obispo County, and the country

BY AYDIN NAZMI AND CHRISTINA BARTON

Photos from STRIDE website

Nutrition professor heads STRIDE

Since coming to Cal Poly in 2009, Assistant Professor Aydin Nazmi has been working with STRIDE (Solutions Through Research in Diet and Exercise), an interdisciplinary team of faculty and students from across campus, as well as members of the community. During his phone interview for his position at Cal Poly, Nazmi spent an hour speaking with the previous STRIDE director, Ann McDermott. When he came to Cal Poly, Nazmi began conducting research with STRIDE and continued to do so through 2013. At the end of the last school year, McDermott took a job at Johns Hopkins University in Maryland. The Kinesiology and Food Science & Nutrition Department heads presented Nazmi with the opportunity to be the interim director of STRIDE. He accepted and is the interim director until June.



To learn more about STRIDE and the work they do, visit its website:

stride.calpoly.edu



STRIDE partners with national program



STRIDE has partnered with FoodCorps, a national organization that places service members in limited-resource communities for a year of service. According to its website, members “teach kids about what healthy food is and where it comes from, build and tend gardens, and bring high-quality local food into public school cafeterias.” The goal of this collaboration is to provide FoodCorps with a snapshot of the population it serves and to evaluate the overall impact of its programming on participants and their families. The STRIDE team developed a survey and protocol that was sent to select FoodCorps sites across the country. The team will analyze the data they collect and create a comprehensive report of their findings.



Pink and Dude Chefs program expands

The Pink and Dude Chefs program connects Cal Poly students to local middle school students to provide nutrition education and hands-on culinary skills. Cal Poly students, including Health Ambassadors, a STRIDE program that works in campus-community outreach efforts to promote healthy lifestyle behaviors, teach middle school participants healthy and safe cooking skills in a fun environment. Participants learn the basics of kitchen safety and how to prepare nutritious snacks and meals for themselves and their families during the six-week after-school program. STRIDE is in the process of completing an online train-the-trainer program that is intended to empower individuals in schools and youth organizations to implement the chefs program in their own communities anywhere across the nation. The proceeds from the online trainings will be used to develop additional phases of the program.



Group analyzes FLASH study results

A team of Cal Poly students and faculty completed the nation's largest longitudinal college health study in 2012. FLASH (Following the Longitudinal Aspects of Student Health) tracked the health behavior and outcomes of students throughout their college careers from 2009-12. A group of interdisciplinary faculty from across campus is collaborating to analyze the data from FLASH with the goal of producing peer-reviewed scientific manuscripts on topics ranging from weight gain and stress to media use and texting behavior.



CPAPH creates network across disciplines

This year, during his time as STRIDE interim director, Aydin Nazmi initiated the Cal Poly Alliance for Public Health (CPAPH) to increase awareness and visibility of public health in the Cal Poly community. The alliance is a SMART (students, mentors, advocates, researchers, teachers) network that includes the Cal Poly Public Health Club, STRIDE, the Student Health Center, the Pre-Health Careers Advising Center in the College of Science & Mathematics, Friday Night Life, the Department of Public Health and others. During fall quarter, CPAPH ran a campaign called "This Is Public Health," posting fun health facts across campus.



SNAP-Ed promotes health through work in local schools

A team of four STRIDE students — coordinator Lynsey Ricci and student assistants Chelsea Eismann, Christine Gilbert and Christina Inouye — are working with San Luis Obispo County's Public Health Department to promote nutrition and physical activity in three local elementary schools through the SNAP (Supplemental Nutrition Assistance)-Ed project. Each quarter, the team plans and creates health promotion events at Fairgrove Elementary in Grover Beach, Cambria Grammar School in Cambria, and Winifred Pifer Elementary School in Paso Robles.

According to Ricci, they set up three "stations" at the events, each staffed by one or two team members. The first station features a sampling station for students to see, touch, smell and taste seasonal fruits and vegetables, such as butternut squash in fall and tangerines in winter. The education station teaches students the benefits of eating

fruits and vegetables through a game or poster. At the activity station, kids learn more about fruits and vegetables through a physical activity.

The SNAP-Ed program allows the team's nutrition majors to learn what it is like to work with elementary children and how to best communicate the important information the team is trying to deliver.

"As dietitians in the making, we get an opportunity to reach out into the community and help make a real-life difference," Ricci said. "The children are thrilled when we come to the schools to visit, and they look forward to our next visit. This tells me that we are also setting a solid example for the kids — and that they look up to us."

The SNAP-Ed project is funded by a grant from the U.S. Department of Agriculture.



Above: Students participate in activities with vegetables during a visit from the SNAP-Ed team.

Left: STRIDE's SNAP-Ed team of nutrition students (from left) Christina Inouye, Chelsea Eismann, Lynsey Ricci and Christine Gilbert.





Professor Scott Reaves, bottom row far left, poses with the basketball team and from left, nutrition student Morgan Podmajersky, assistant Chris Borgard, and nutrition student Sebastian Zorn. Borgard, Podmajersky, and Zorn are all helping Reaves with the research.

NUTRITION STUDY AIMS TO BE A

s l a m d u n k

BY CHRISTINA BARTON

The Cal Poly Men's Basketball coaches contacted nutrition Professor Scott Reaves in summer 2013 for advice on setting up a nutrition program for the team.

"I immediately thought that this would be a great opportunity for some students to get hands-on experience with a sports nutrition project," Reaves said. "This is an area that many of our students aspire to be involved in the future, and it is part of our department's strategic plan."

Reaves asked strength and conditioning coach Chris Borgard (M.S., Kinesiology, 2010) and nutrition students Morgan Podmajersky and Sebastian Zorn to be involved in the project. Borgard has worked with the St. Louis Rams Football and Oakland A's Baseball organizations.

Podmajersky is a fifth-year nutrition major with an applied nutrition concentration. After taking Metabolism 1 and 2 with Reaves, she expressed interest in working on research with him. Zorn, a fourth-year nutrition major with nutrition science and applied nutrition concentrations, has been asking Reaves about research opportunities since his freshman year.

For Zorn, this project was worth the long wait.

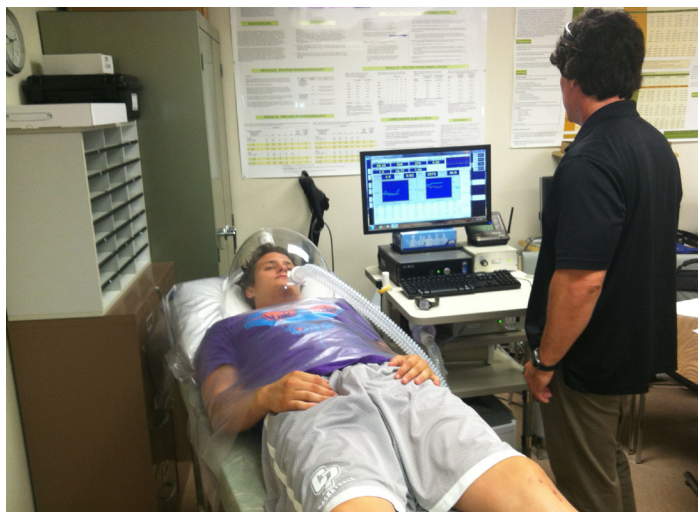
"I play lacrosse for Cal Poly and have always been interested in sports and how nutrition is a vital aspect of performance," Zorn said.

The group is working to assess and improve the dietary intake and performance of the players. The research team is using the DXA (Dual-energy X-ray Absorptiometry) instrument and

the Metabolic Measurement system to measure how body composition (amounts of muscle and body fat) and metabolism changed over the course of the study, which covers the basketball season. Data from these measurements were used to set initial dietary recommendations and then dietary intake was modified as necessary.

As part of the project, each player had their dietary intake analyzed several times and received a diet specifically designed to improve their performance and overall health. Throughout the season, the group will repeatedly measure the players' body composition, metabolism and anthropometrics to assess changes.

Podmajersky and Zorn were responsible for recording the initial three-day food records into



Cal Poly Men's Basketball player Reese Morgan undergoes testing with the Metabolic Measurement System. Professor Scott Reaves used the system to measure the players' metabolic rates and respiration rates under resting conditions. *Photo submitted by Scott Reaves*



Cal Poly Men's Basketball player David Nwaba gets scanned by the DXA (Dual-energy X-ray Absorptiometry) instrument. The DXA quantifies the amount of body fat and lean body mass (muscle) and bone density in a person. *Photo submitted by Scott Reaves*

a nutrition program called ESHA (Elizabeth Stewart Hands and Associates) and for creating personalized diet plans for each player. According to Zorn, to create the personalized diet plans, they summarized dietary deficiencies along with meal frequency and adequacy of intake for all macro- and micronutrients.

"We used ESHA throughout the new diet synthesis to make sure every macro- and micronutrient need was filled," Zorn said. "We also made sure to combine specific healthy food choices with flexibility to add variety to the diet while adhering to the nutrient needs."

According to Zorn, the idea of providing the players this flexibility was to give them some control over what they eat while ensuring they included the right food groups at every meal. For example, a player could substitute half of a baked sweet potato — a complex carb — for a serving of whole wheat pasta.

After creating the new diet plans, Podmajersky, Zorn and Reaves met with each player individually to discuss the implementation of his new diet plan. Podmajersky and Zorn will help measure the players' metabolism and assess their physical performance while performing sprints, vertical jumps, endurance runs, strengths tests, and a series of other tests being used by NBA scouts to assess player attributes. The program will continue until the season ends in April 2014.

The research, funded by a private donor, has been rewarding for both Podmajersky and Zorn. According to Podmajersky, this experience has opened her mind to other possible careers in nutrition and has helped her learn more about

doing research.

"This project fully exemplifies Cal Poly's Learn by Doing philosophy," Podmajersky said. "I have learned a lot in my classes and labs, but this project is the ultimate opportunity to put everything together."

The project is already bringing about positive change.

"The basketball guys love it," Podmajersky said. "Although I'm sure they have a couple hamburgers and there, they have expressed how much

"By cleaning up their diets, [the basketball players] feel better and have more energy not just for basketball, but off the court as well in the classroom and beyond."

-research assistant Sebastian Zorn

more energized they feel on and off the court due to the change in their eating habits. They also have been hitting all of their weight goals."

She believes this research project could lead to more connections between the Nutrition and Athletics departments.

"Nutrition students don't really explore nutrition from a sports perspective," Podmajersky said. "Getting future students involved would allow for more hands-on opportunities in the athletic field and benefit the athletes as well."

For Zorn, this project has helped him find his passion and opened his eyes to the growing field of sports nutrition.

"I love helping the players, and I truly believe I do my best working with real players and getting their feedback," Zorn said. "We are making a difference in their performance and their lives and it is immensely satisfying. It's an amazing Learn by Doing experience, and it has single-handedly taught me more about nutrition and counseling than any of my other classes."

Zorn also sees a huge benefit for the Nutrition Department in pairing with campus sports programs by bringing the department more publicity and potentially more funding. He also believes sports nutrition could be advertised to prospective students considering Cal Poly. He sees greater benefits for the basketball team than just this season or their careers at Cal Poly.

"We're giving them nutrition advice and diets that they can use for the rest of their lives that could prevent heart disease and allow them to thrive for many years," Zorn said. "Prevention through education is important for all people but especially those that need to perform and represent Cal Poly. By cleaning up their diets, they feel better and have more energy not just for basketball but off the court as well in the classroom and beyond."

Reaves hopes this research is just a beginning. "We hope this leads to significant improvements in player performance and more opportunities for our students and faculty to collaborate with the Athletics Department in the future," Reaves said.

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