

FSHN News

The newsletter of the Department of Food Science and Human Nutrition

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Exciting year begins for FSHN

The Food Science and Human Nutrition (FSHN) department at Iowa State University kicked off the 2007-2008 academic year with the annual FSHN Welcome Picnic on September 4, 2007. FSHN students, faculty, and staff were invited to attend the event, which was hosted by the Food Science Club, the Nutrition Club, and the FSHN department.

The department begins the academic year with an enrollment of 358 undergraduate students, an increase of 48 students compared to spring 2007. A total of 48 graduate students are also currently enrolled in the department.

Dr. Matthew Rowling will join the faculty in January as an assistant professor in human nutrition. Rowling earned his Ph.D. with Kevin

Schalinske and has been a post-doctoral fellow with JoEllen Walsh at Notre Dame University.

Department Chair Ruth MacDonald says the department hopes to hire an additional five faculty members within the next year.

MacDonald also hopes the department can continue to make more connections with FSHN alumni during the 2007-2008 year.

“Our alumni are a valuable asset to the department as we seek to recruit incoming students and find internship and employment opportunities for our current students,” MacDonald said.

Above: FSHN students showcase the Campanile made with marshmallows and spaghetti at the Welcome Picnic on September 4.

FSHN News

The monthly newsletter of the Department of Food Science and Human Nutrition at Iowa State University.

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NEWS NOTE New wine lab in operation

The Midwest Grape and Wine Industry Institute's new Wine Lab is now operation under the direction of lab supervisor Sebastian Donner, Ph.D. Since joining the Institute in June 2007, Donner has been busy setting up equipment and developing analytical protocols to assess wine quality. The lab will function to provide analytical and diagnostic services to Iowa grape growers and wine makers and conduct enology research. Donner is currently conducting a survey of harvest fruit composition of grape varieties grown in different locations in Iowa. This information will be useful in recommending treatments and preferred vinification methods for quality wine production in Iowa. For more details visit www.extension.iastate.edu/wine.



Sebastian Donner

NEWS NOTE Beirman hired as Culinology® coordinator

Iowa State alumna Erica Beirman has been hired as coordinator of the Culinology® program, a proposed new major blending food science and culinary arts. Iowa State's program would blend courses in the Food Science program with those in the Hotel, Restaurant, and Institution Management (HRIM) program. The program is currently awaiting approval from the Research Chefs Association. Beirman begins her duties as Culinology coordinator on October 15. She has a B.S. in Dietetics and an M.S. in HRIM. She has worked for ISU Dining Services since 1997 and has served as Dining Service Manager since 2000. Learn more about the Culinology program on page 5.



Erica Beirman

NEWS NOTE Students active in Learning Community

Academic Advisor Sarah Bender reports that 45 students are participating in classes and activities offered through the FSHN Learning Community. The Learning Community is led by two peer mentors, Nettie McGuire (senior, Dietetics) and Megan Mier (sophomore, Dietetics) who provide assistance and lead activities for Learning Community students. McGuire and Mier have already led several activities this fall, including two social pizza dinners, a root beer float social, and group attendance at academic workshops, the College of Human Sciences picnic, Club Fest, Welcome Fest, and the FSHN picnic. On September 27, Learning Community students participated in a service learning project with the Horticulture Learning Community. Students picked apples at the ISU Horticulture Farmand donated them to the food pantry.

Student Update

Richmond Aryeetey, Ph.D. student, was a recipient of an ISU Research Excellence Award. This award honors students whose research accomplishments are among the top 10 percent at Iowa State in overall quality. Aryeetey is advised by Dr. Grace Marquis.

Kelly Williams, Ph.D. student, was awarded a \$5,000 Gerber Foundation Fellowship from the American Society for Nutrition which recognizes pre-doctoral nutrition students. Williams is advised by Dr. Kevin Schalinske.

Jeremy Davis, Ph.D. student, was admitted into the National Institutes of Health predoctoral intensive workshop in obesity and metabolic disorders. This is a highly select group of students selected for their research potential. Davis is advised by Dr. Mike Spurlock.

The FSHN 412 Food Product Development class from Spring 2007 was featured in the August issue of *Food Technology*. Access the article online at <http://members.ift.org/IFT/Pubs/FoodTechnology/Articles/> and click on "News."

French Sticks finish fourth at national finals

When Jovin Hasjim, Ph.D. student in Food Science, learned about a link between French fries and childhood obesity, he thought, "If Americans like French Fries so much, why can't we make healthy French fries?"

The idea was the inspiration behind French Sticks, a healthy, pre-baked vegetable snack similar to French fries, which was developed by Iowa State University's student product development team.

The innovative product finished fourth among the six finalists invited to compete at the Institute of Food Technologists Student Association (IFTSA) Food Product Development Competition July 28 to August 1, 2007, at the IFT Annual Meeting & Food Expo in Chicago.

Iowa State's team included 14 undergraduate and graduate students with backgrounds in food science, nutrition, meat science and business administration.

"They had a good team dynamic which I think contributed to their success," said Dr. Mark Love, team adviser. "It was very much a cooperative effort."

In the fall of 2006, the team began developing the product using a blend of cauliflower and potato. Team members spent months in the test kitchen adjusting the ratio of cauliflower and potato, testing binding agents, and perfecting the baking process. Team leader Deborah Jaya said finding a way to make the French Sticks

crispy was especially difficult. The team's efforts resulted in a low-calorie, pre-baked frozen food product that contains zero grams of fat and 70 percent fewer calories than typical French



French Sticks contain 70 percent fewer calories than French fries.



Iowa State product development team members (from left) Tint Fen Low, Sheue-Lei Lock, Sefriyani Johan, Deborah Jaya, Ivan Wibowo, Charlwit Kulchaiyawat, and Jovin Hasjim showcased their French Sticks poster presentation at the 2007 IFTSA competition in Chicago. Not pictured are team members Evelyn Hui Shian Tee, Hio Cheng Kuan, Rena Phalosa Joesoef, Robert Jayanagara, Shirley Yunita Witarsa, Yu Chin Low, and Zhen Li Lee.

fries. French Sticks are also a rich source of Vitamin C and a good source of dietary fiber and calcium.

In February the team submitted a preliminary proposal for the IFTSA competition, which outlined numerous aspects of the product including process, safety, profitability, marketing, and technical problem-solving. Of 23 preliminary proposals submitted, Iowa State was selected as one of six finalists.

"We didn't expect to be a finalist," Hasjim said. "We were happy and surprised at the same time."

The team was then required to submit a final written proposal by May 1 and began preparing for the final presentations. In July, Love and seven team members traveled to Chicago for the oral presentation, poster presentation, and defense with sample tasting.

Iowa State competed against peers from Michigan State University, the University of Wisconsin-Madison, Chapman University, the University of Minnesota, and Washington State University. First place

was awarded to Michigan State University's Chicken Noodle Bites, a microwavable snack resembling chicken noodle soup.

This is the fourth time a food development team from Iowa State has advanced to the IFTSA final competition. Past teams have finished as high as second place.

"Even though we placed fourth, the reward is that we learned a lot," Hasjim said. He says the product development process is a very good learning experience, and above all, "It is fun to play with food."

Love said it is commendable that the team advanced to nationals. He also thinks the team's poster, now on display in the Food Sciences Building, is "exceptionally well done."

As for the future of French Sticks, Hasjim says there has been commercial interest in the product. The team is also exploring the possibility of patenting the unique packaging they developed for French Sticks.

Students interested in joining the food product development team can contact Hasjim at jonsam@iastate.edu.

Hendrich, Oldham receive awards at Fall Convocation

Professor Suzanne Hendrich, Ph.D., and Academic Advisor Anne Oldham, M.S., R.D., were honored at the Fall University Convocation and Awards Ceremony on September 10, 2007, in the Iowa State Memorial Union.

Hendrich was awarded the Regents Award for Faculty Excellence. The award recognizes a faculty member who is an outstanding university citizen and who has rendered significant service to Iowa State and/or the state of Iowa.

Hendrich has led a nationally recognized research program in food science, nutrition, and toxicology in her 20 years as a faculty member at Iowa State. In her seven years as associate dean of the College of Family and Consumer Sciences (now Human Sciences), she led the development and implementation of improved assessment tools for teaching effectiveness and student learning, and improvements in teaching and learning technology. She has been principal or co-principal investigator on research that has brought in more than \$10.5 million, and she has published more than 90 articles. She is the Lura M. Lovell Fellow of the Iowa Botanical Center.

Oldham received the ISU Award for Academic Advising Impact. Executive Vice President and Provost Elizabeth Hoffman presented the award, which recognizes outstanding performance by an academic advisor over an extended period of time. Oldham's outstanding advising, mentoring, and recruitment have been instrumental in the growth of enrollment in the FSHN



Dr. Suzanne Hendrich (left) received the Regents Award for Faculty Excellence. Academic Advisor Anne Oldham (right) received the ISU Award for Academic Advising Impact.

department. Oldham assumed primary responsibility for undergraduate student advising in 2001. From 2001 to 2006, undergraduate enrollment in the department grew 36 percent, stemming a 15 percent decline over the previous five years. Oldham is a leader of the FSHN Learning Community. In 2006 she became director of the Didactic Program in Dietetics, which is responsible for ensuring that the curriculum meets professional accreditation criteria by the American Dietetic Association. She was a Wakonse Fellow in 2004 and received Iowa State's Outstanding Innovations Award for Learning Communities in 2005.

Faculty/Staff Update

Dr. Lester A. Wilson, FSHN professor, was recognized by the Institute of Food Technologists Quality Assurance Division as an Outstanding Volunteer.

Dr. Tony Wang, associate professor of FSHN, **Dr. Larry Johnson**, director of the Center for Crops Utilization Research, and FSHN professor **Dr. Tony Pometto** were awarded \$113,462 from the Grow Iowa Values Fund. They are studying ways to remove oil from the co-products of corn fermentation for ethanol production. The oil could be used to provide biodiesel or to enhance livestock feed.

Dr. Suzanne Hendrich, FSHN professor, was awarded \$18,954 from the Grow Iowa Values Fund. She will test a new dietary fiber product based on corn bran to see how it affects human digestion.

Dr. Pamela White received \$495,229 for a study entitled "β-Glucan Structure and Interactions Modulate Physicochemical, Physiological and Sensory Functions of Oats" from the USDA National Research Initiative, Competitive Grants Program.

Dr. Pamela White was appointed to the Nutrition Committee for the Council on Nutrition, Physical Activity, and Metabolism of the American Heart Association (AHA). This body is the primary AHA committee that focuses on nutrition and sets or recommends policy on diet and lifestyle.

Dr. Jay-lin Jane, FSHN professor, **Sathaporn Srichuwong**, FSHN post-doctoral research associate, **Dr. Tony Pometto**, FSHN professor, **Dr. Larry Johnson**, director of the Center for Crops Utilization Research, and agricultural and biosystem engineering professors **Dr. Jacek Koziel** and **Dr. Charles Hurburgh** were awarded \$149,233 from the Grow Iowa Values Fund. Their project will develop a technique for converting uncooked dry-grind corn into ethanol.

The Iowa Center for Research on Botanical Dietary Supplements under the direction of **Dr. Diane Birt**, FSHN professor, has received \$4.4 million in continuation funding from the National Institutes of Health. The center is dedicated to understanding and improving *Echinacea* and *Hypericum perforatum* (St. John's wort), two top-selling dietary supplements. The renewal is for three years.

Professors explore culinary arts for new Culinology® major

After a week of intensive training, two FSHN faculty members have a new appreciation for the culinary arts. Dr. Pamela White and Linda Svendsen participated in a five-day continuing education course August 27-31, 2007, at the Culinary Institute of America in St. Helena, Calif. The course provided the culinary arts experience needed for Iowa State University to offer a major in Culinology®, a new field that blends culinary arts and food science.

Svendsen says Culinology was developed because the food industry wanted employees who were knowledgeable in both food science and culinary arts. Iowa State's proposed Culinology program would be a new major that blends courses in the Food Science program with those in the Hotel, Restaurant, and Institution Management (HRIM) program.

After submitting a proposal last March, Iowa State is now waiting for approval from the Research Chefs Association (RCA) which oversees accreditation and developed standards for Culinology degree programs. Along with curriculum requirements and other standards, the RCA requires two food science faculty to have an appreciation of food science and culinary arts. The course at the Culinary Institute of America was designed to give White and Svendsen just that. Although the course and the entire experience were fun and invigorating, both professors say it was also a lot of hard work. Svendsen says it was eye-opening from her perspective as a food scientist.

"Seeing what [professional chefs] do really isn't so different from what we do as food scientists," Svendsen said. "The approach is more artistic. We're more scientific."

Svendsen and White hope to bring back aspects of what they learned to the classroom at Iowa State. They plan to introduce vocabulary consistent with culinary arts terms into two food science courses that involve preparatory skills.

The committee that developed the Iowa State Culinology degree program (Susan Arendt-Wohlsdorf, Terri Boylston, Jane Love, Cheryll Reitmeier, Svendsen, White and Lester Wilson) are now awaiting approval from the RCA. White says the committee has received positive feedback thus far and anticipates getting final approval very soon. If approved, Iowa State would become the 10th RCA-approved Culinology degree program in the U.S. The committee will then begin the process of seeking approval from the departments, colleges, University, and Board of Regents. White hopes Iowa State will be able to offer the new major to students beginning in fall 2008.

Until then, the committee has received a grant from the College of Human Sciences that will fund a half-time coordinator of the Culinology program. Iowa State alumna Erica Beirman has been hired as Culinology coordinator and will begin her duties October 15. Beirman has a B.S. in Dietetics and an M.S. in HRIM.



Above: Dr. Pamela White (left) and Linda Svendsen pictured at the Culinary Institute of America in St. Helena, Calif.



Left: Linda Svendsen is hard at work in the kitchen.

Photos:
Linda Svendsen

She has worked for ISU Dining Services since 1997 and has served as Dining Services Manager since 2000.

"We're really excited to have Erica join us," White said. "She has lots of energy and enthusiasm, which we hope will get students excited about the program."

Beirman will help to market the program to students, the general public, food industries, and food service and hospitality industries. She will also work to develop internship and career placement opportunities for Culinology students.

Once the four-year degree in Culinology is built at Iowa State, White hopes to develop partnerships with Des Moines Area Community College and other community colleges which would allow students to complete two years of the Culinology program at a community college before transferring to Iowa State.

White says the initial grant from the College of Human Sciences was helpful to get the program started. To maintain the program in the future, additional funds will be sought as they become available. And if funding is ever available for another educational opportunity at the Culinary Institute of America, White said, "We'd love to go back."

Alumna enters workforce as food scientist for manufacturer of corn-based products

Food Science and Human Nutrition graduate Kate Gilbert is passionate about food science.

“My favorite thing about food science is being able to explain everyday food phenomena,” Gilbert said. “Everything from relating meat quality with how livestock was raised to preventing tunneling in muffins to fermenting a good wine. It is all food science!”



Kate Gilbert

Just weeks after graduation in May 2007, Kate entered the workforce as an associate scientist for Grain Processing Corporation (GPC), a leading manufacturer and marketer of corn-based products located in Muscatine, Iowa. Gilbert says GPC is the largest producer of maltodextrin and corn syrup solids in the United States and is one of the largest producers of corn starches.

Gilbert earned a B.S. in Consumer Food Science and graduated with honors and distinction from Iowa State in May 2007. Gilbert says her studies at Iowa State gave her the knowledge base she pulls from when working on a wide array of applications and problem-solving situations.

As an associate scientist in the food technical service area, Gilbert works on application and formulation projects to showcase GPC's ingredients and help customers solve problems and improve their current products. Her duties include formulating ingredient applications, helping customers improve current products, and attending various food shows.

“I really enjoy the variety of my projects, as corn starches, maltodextrins, and fiber can be used in many product areas including dairy, meats, bakery, beverages, and nutrition products,” Gilbert said.

“I also value opportunities to learn new things from coworkers, classes, and everyday applications.”

While at Iowa State, Gilbert served as vice president and president of the Food Science Club and was also involved in the Dairy Science Club, Institute of Food Technologists, and the ISU Marching Band Colorguard. She was a member of the Honors Program, Phi Kappa Phi, Phi Upsilon Omicron, and Kappa Omicron Nu. In April 2007, she was also awarded one of the VEISHEA Outstanding Student Leadership Awards.

Gilbert's honors project, A Comprehensive Manual for Optimized Fudge Production, was especially memorable. It began as a fundraising idea for the Food Science Club to make and sell fudge at VEISHEA and then became her honors project.

“The project included research on recipe optimization, shelf-life, production efficiency, and marketing,” Gilbert said. “All the information was included in a detailed manual so the new fundraiser can become a tradition for years to come.”

Profits from fudge sales, which totaled \$1,800 in 2007, give the Food Science Club a budget for activities and trips each year.

Linda Svendsen, faculty advisor to the Food Science Club, says Gilbert wanted to make an impact and offer something to energize the club.

“[The manual] is something that she wanted to leave for the following club members so they could continue to make money and do activities,” Svendsen said.

Gilbert encourages new students in the FSHN department to join the clubs.

“The clubs provide great opportunities to network with other student in your major and professionals who can give you an idea of job opportunities long before you start applying for them,” Gilbert said. “Plus, club activities can be a lot of fun.”



Photo: Linda Svendsen

FSHN graduate Kate Gilbert (left) is an associate scientist for Grain Processing Corporation (GPC). She is pictured with GPC employee Melanie Kenyon, another Iowa State food science alumna, at the 2007 Institute of Food Technologists Annual Meeting & Food Expo in Chicago.



Know a graduate who should be featured in FSHN News? Send your ideas and suggestions to fshnnews@iastate.edu.

Alumni Update

New Trophy Case

Thanks to the financial contributions of FSHN alumni, the department was able to purchase a trophy case to showcase dairy judging trophies, VEISHA awards, and other historical pieces. The trophy case is located in the hallway near 2312 Food Sciences Building.



Dairy Industry Reunion Breakfast

Members of the dairy industry classes of 1950-55 are invited to participate in special events during Homecoming 2007. Professor emeritus William LaGrange is organizing the festivities. The group will have dinner at the Gateway Hotel on Friday, October 19, followed by a breakfast on Saturday morning in the Food Sciences Building hosted by the FSHN department. During the breakfast, the alumni will have the opportunity to tour the Food Sciences Building and enjoy breakfast with current students and faculty. Dairy industry alumni ('50-'55) may RSVP to fshnnews@iastate.edu or call 515 294-4432.



Additional resources for FSHN alumni are available online at www.fshn.hs.iastate.edu/alumni.

Unlikely Classmates in Culinary Arts

Dr. Pamela White (left) and FSHN alumna **Rebecca Easton** were pleased to discover they were classmates in a culinary arts course offered August 27-31 at the Culinary Institute of America in St. Helena, Calif. Easton graduated from Iowa State in 1999 and is now a food scientist for Advance Brands in Orange City, Iowa. Not pictured: Linda Svendsen also participated in the culinary arts course.



Photo: Linda Svendsen

In Memoriam

Charlotte Elizabeth Roderuck, 87, of Ames died July 7. Burial took place in Walkersville, Md. Charlotte was assistant professor in the Food and Nutrition department at Iowa State from 1948-51, associate professor from 1951-54 and professor from 1954 until she retired Oct. 31, 1988.

Alumni, We Want to Hear From You!

Tell us about any news and achievements in your life, job openings in the field, or prospective students who may be interested in FSHN. We are also interested in knowing if your company has openings for student internships. Send an e-mail to fshnnews@iastate.edu or complete the Alumni Update Form available online. Go to www.fshn.hs.iastate.edu/alumni and click on "Alumni Update Form."

Thank you for your support.

The FSHN department values the financial contributions of our alumni. Donations may be made online at <http://www.foundation.iastate.edu/gift>. If you are planning a gift or have questions, contact:

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Funding provides for student scholarships, faculty development, lab renovations, and program development or can be designated to a specific use.

Upcoming Events

- Wednesday, October 3** Seminar, 4:10 p.m. 120 LeBaron, "Adiponectin Attenuates Hyperglycemic Induced Inflammation & Insulin Resistance in Adipocytes," presented by **Nick Gabler**, post-doctoral Research Associate, Iowa State University
- Friday, October 5** Special Seminar, 4 p.m. 127 Curtiss Hall, reception following, "Control of Clostridium Difficile Virulence by the Metabolite-Sensing Global Regulator CodY," presented by **Sean P. Dineen**, Research Associate, Tufts University School of Medicine, Boston
- Monday, October 8** Faculty meeting
- Wednesday, October 10** Seminar, 4:10 p.m. 120 LeBaron, "Aging, Immunity, & Exercise," presented by **Marian Kohut**, Associate Professor of Kinesiology, Iowa State University
- Monday, October 15** 2007 Norman Borlaug Lectureship Poster Competition, Memorial Union
6 to 8 p.m. Poster setup and judging
7 to 8 p.m. Posters on display during reception
8 p.m. **Dr. Monty Jones**, 2007 Norman Borlaug Lecturer, will lecture on "The Role of Agricultural Research in Attaining Food Security in Africa." Poster competition winners will be announced following the lecture.
- Tuesday, October 16** 2007 World Food Prize Laureate **Dr. Phillip Nelson** visits the FSHN Department
12:30 to 1:40 p.m. Lunch with FSHN students, 210 MacKay lab
1:45 to 2:15 p.m. Tour of Food Product Development classroom
2:15 to 2:35 p.m. Tour of CCUR Processing Facilities
2:40 to 3:15 p.m. Open forum in CCUR theater (1951 Food Sciences Building)
Borlaug Student Poster Competition winners recognized
3:15 to 4:00 p.m. Reception, CCUR lobby/courtyard
- Wednesday, October 17** Seminar (Miller Lecture Speaker), 4:10 p.m. 120 LeBaron, "Lipase-Catalyzed Production of Healthful and Functional Lipids," presented by **Casimir C. Akoh**, Distinguished Research Professor, University of Georgia

"How to Work with Industry Sponsors" Grant Writing Workshop, 3 to 5 p.m. 1246 Howe Hall, presented by the Office of the Vice President for Research and Economic Development
- Saturday, October 20** Dairy Industry Reunion Breakfast, 8 to 9 a.m. CCUR Hallway
- Wednesday, October 24** Seminar, 4:10 p.m. 120 LeBaron, "Improving the Bioavailability of Iron in Maize Foods," presented by **Amy Proulx**, Ph.D. student in Nutrition, Iowa State University
- Wednesday, October 31** Seminar, 4:10 p.m. 120 LeBaron, "From Grain to Ethanol - What We can Learn from Beer Production," presented by **Ya-Jane Wang**, Associate Professor, University of Arkansas

NEWS

NOTE 2007 World Food Prize Laureate visits department

Dr. Phillip Nelson, 2007 World Food Prize Laureate, will visit the FSHN department on October 16. Nelson will have lunch with FSHN students, tour the Food Product Development classroom and CCUR Processing Facilities, and take part in an open forum in CCUR theater (see details above). Nelson is currently a food science professor at Purdue University. He won the World Food Prize for his research and development of large-scale storage and transport of fresh fruits and vegetables using bulk aseptic food processing and packaging. The World Food Prize will be formally presented to Nelson on October 18 at the Iowa State Capitol in Des Moines during the Norman E. Borlaug International Symposium.



Submit upcoming events to
fshnnews@iastate.edu.