

FSHN News

The newsletter of the Department of Food Science and Human Nutrition

What's Inside

FSHN Department News ...2
FSHN in the News.....3
Dairy Evaluation Team4
FSHN Faculty/Staff.....5
Student Update6
Alumni Update.....6
Support FSHN.....8
Calendar.....9

www.fshn.hs.iastate.edu

INTRODUCING NEW FACULTY

SARAH FRANCIS

It was at the age of 17 after meeting a Peace Corps volunteer that Dr. Sarah Francis, the newest nutrition extension specialist and assistant professor in FSHN, was “first exposed to the idea of nutrition as a career.” After hearing about the need for nutritionists, she had it figured out.

“I instantly loved nutrition as a subject area because it’s not stagnant; it’s constantly changing. It also offers a variety of areas for specialization,” said Francis. Her specialization is older adults, who she sees as often overlooked for nutrition programming, and cardiovascular disease prevention, “because it is applicable throughout the lifecycle.”



It was what inspired Francis to join the Peace Corps. She spent two years in Turkmenistan, working as a community health educator in a village clinic, teaching general health practices. Her latest experiences came from Wyoming State University where she built a program that addressed what residents in a 2 county area wanted and needed and also one that she was excited about implementing.

Francis brings all these life experiences and passions to ISU, where she will conduct research and develop and implement nutrition extension programs. “I was impressed with the type of nutrition education and programming that is being developed and distributed [at ISU],” said Francis, who is also looking forward

to conducting research on a broader scale.

Ames has more to offer both professionally and personally than other places she has been, and Francis is most looking forward to the collaborative opportunities at ISU. “In my opinion, the most effective nutrition education programs are those that garner input from a variety of people,” she said.

STEPHANIE CLARK

“My favorite part of academia is interacting with students and seeing them succeed,” said Stephanie Clark, associate professor, of her excitement to be at ISU. “I appreciate the priority that FSHN gives assessment of student learning.”

But the choice to move from Washington State University was not an easy one for Clark. “I knew that I did not want to stay at one place for my entire career, but I could not leave WSU just for the sake of leaving, I had to make a positive career move. I believe ISU is that.”

Clark reignites an old research focus in FSHN, the area of probiotic dairy foods. Her goal is “to bridge the gaps among food quality and shelf life, food acceptability, and human health. And help dispel the myth that healthy foods cannot taste good.”



New Faculty continued on page 4

NEW LAB AVAILABLE FOR ANTIMICROBIAL AND PREBIOTIC RESEARCH

AMES, Iowa — A new lab at Iowa State University that enables quick identification of antimicrobial and prebiotic compounds is available to researchers working on preventing food spoilage, improving food quality, controlling foodborne pathogens, or enhancing growth of probiotic bacteria.

The Discovery Lab allows researchers to test various plant, microbial or animal sources to determine whether they have antimicrobial or prebiotic properties. It is being operated within the university's Center for Crops Utilization Research for on- and off-campus clients.

“The Discovery Lab is unique in that it uses cost-effective approaches to rapidly obtain growth measurements of micro-organisms using a minimum of equipment and space,” said Dr. Aubrey Mendonca, professor-in-charge of the Discovery Lab.

The Lab operates two Bioscreen C Growth Curve units to perform automated growth curve determinations of aerobic or anaerobic microbes under a variety of conditions. Organisms that can be evaluated include a wide variety of foodborne pathogens and bacteria as well as selected yeasts and molds.

“The units are capable of incubating and evaluating up to 200 different microbial cultures and their growth parameters in a single experiment,” said Mendonca. “Data can be generated in a few days compared to several months using conventional techniques.”

Researchers at Iowa State use the Bioscreen units to test anti-microbials against pathogens such as *Escherichia coli*, *Staphylococcus aureus*, *Listeria monocytogenes* and *Salmonella*, sp. He said food companies could benefit from this lab, especially in instances where suitable natural antimicrobials are needed to meet growing consumer expectations.

In addition, the lab includes a Bioscreen unit mounted in an anaerobic chamber that allows scientists to study anaerobes including probiotics and ruminant bacteria.

“This is important from a food safety standpoint, because some anaerobic bacteria are responsible for outbreaks of food poisoning,” said Bill Colonna, assistant scientist in the Discovery Lab. “It also allows for improved detection methods for organisms like *Clostridium perfringens* — an anaerobe that is a common cause of foodborne disease”

Other equipment in the Discovery Lab includes analytical and preparative high-pressure liquid chromatographs, a UV-visible spectrophotometer, an organic spray dryer and laminar-flow hoods. The lab can provide both analytical and preparative services to clients on a fee basis for on- and off-campus users. For more information about the Discovery Lab, visit www.ccur.iastate.edu/facilities/discovery.html.

FSHN News

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

Department Chair:
Dr. Ruth MacDonald

Associate Chair:
Dr. Cheryll Reitmeier

Newsletter Editor:
Breanna Wetzler

Contact Us

Send news, photos, ideas, and suggestions to fshnnews@iastate.edu.

Department of Food Science and Human Nutrition
Iowa State University
2312 Food Sciences Building
Ames, IA 50011-1061

Phone: 515/294-3011

Fax: 515/294-8181

Web: www.fshn.hs.iastate.edu

Iowa State University does not discriminate on the basis of race, color, age, religion, national origin, sexual orientation, gender identity, sex, marital status, disability, or status as a U.S. veteran. Inquiries can be directed to the Director of Equal Opportunity and Diversity, 3210 Beardshear Hall, 515/294-7612.

- Pictures of Academic Advisor **Sarah Bender Miller's** session for a handful of high school sophomores accompanied an Inside Iowa State Article. The students were on campus in July taking part in a program that helps prepare students for college. This program is designed specifically for students who would likely be the first in their family to receive a college degree. Students were nominated for the Talent Search program, funded by the US Department of Education's TRIO initiative, by advisors, teachers and counselors.
- **Dr. Sam Beattie** commented to KCCI News Channel 8's First news at Five that a top ten list of risky food creates an unnecessary fear for consumers. The list, released by the Center for Science in the Public Interest fails to compare the number of services consumed with the number of food poisoning outbreaks. The comparison would show there is really no reason to eliminate these foods from your diet.
- The research team of Tae Hyun Kim and David Grewell, assistant professors of agricultural and biosystems engineering; **Sam Beattie**, an assistant professor of food science and human nutrition and ISU Extension food safety specialist; John Verkade, University Professor of chemistry; **Debjani Mitra**, Ph.D. candidate in biorenewable resources technology and food science and human nutrition; **Carol Ziel**, research associate in food science and human nutrition; Venkat Reddy Chintareddy, postdoctoral research associate in chemistry; Priyanka Chand, Ph.D. candidate in agricultural and biosystems engineering; and Melissa Montalbo-Lomboy, postdoctoral research associate in agricultural and biosystems engineering, all led by **Hans van Leeuwen**, professor of civil construction and environmental engineering and FSHN Courtesy faculty were awarded a 2009 R & D 100 Award for their work to use a microscopic fungus to produce biodiesel from plant processing wastes. This award, frequently called the "Oscars of Invention," salutes the 100 most technologically significant products introduced into the marketplace over the past year.
- The Grow Iowa Values Fund awarded \$106,690 to **Byron Brehm-Stecher**, an assistant professor of food science and human nutrition. He'll work with Advanced Analytical Technologies Inc. at the Iowa State Research Park and Gary Procop, chair of clinical pathology at the Cleveland Clinic Foundation, to develop tests that use an instrument developed at Iowa State to rapidly identify bacterial pathogens such as salmonella on farms, in food processing facilities or in a clinic.
- Assistant Professor **Sam Beattie**, PhD, answered questions for www.cnnhealth.com with some tips for making sure the food we eat is safe, especially as students return to residence halls. Among the tips is to invest in a cooking thermometer and to put things back in the fridge as the cold slows the growth of illness-growing microorganisms.
- The second-place finish of the Product Development Team and College Bowl teams in June 2009 captured the attention of The Ames Tribune, WHO-AM radio in Des Moines.
- **Dr. Wendy White** shared developments in her carotenoid study with NPR. White's study helps reinforce the idea that a little fat is healthy. She was interviewed on Radio New Zealand National about the use of salad dressings to enhance the bioavailability of beta-carotene and other carotenoids in salads. White also interviewed with the New Zealand National Radio.

FSHN in the News continued on Page 7

New Faculty continued from page 1

As part of the resurgence of dairy in FSHN, Clark has brought back the dairy products evaluation team, a competition ISU hasn't participated in since the 1970s. She regularly has 15 students training twice a week in anticipation of competition in Chicago at the end of October. Clark is also serving the role of Associate Director for the Midwest Dairy Foods Research Center, a project with the University of Minnesota and South Dakota State University.

Milk and cheese has been a passion for Clark since she was young, growing up on a farm that raised goats and made goat cheese. With all the experiences in 4-H

and farm knowledge, she studied animal science as an undergraduate. But after taking her first food science course, she was hooked on something she had never heard of. "Not only could I work with animals, but also with milk and cheese!," said Clark.

Clark has brought all her passion to ISU and is looking forward to collaborating with food science and human nutrition faculty, as well as the fantastic FSHN students. Welcome Dr. Clark!

Did you know?

The concept of mozzarella sticks has its origins in the 14th century. A recipe for fried cheese sticks, referred to as pipefarces (which means stuffed straws) dated 1393 was found in a French work, entitled "Le Me'nagier de Paris." These sticks were "Munster sticks" as opposed to Mozzarella sticks.

DAIRY PRODUCTS EVALUATION TEAM

After 34 years, ISU again has a Dairy Products Evaluation team, under the guidance of new associate professor in FSHN, Dr. Stephanie Clark. Undergraduate and graduate students are honing their skills in dairy sensory evaluation, looking for subtle differences in the flavor, appearance, and texture of dairy products. Team members find quality defects in cheddar cheese, cottage cheese, milk, butter, vanilla ice cream and strawberry yogurt, all the while using the correct word to describe the defect and assign a value.



Faculty/Staff Update

Achievements, Awards, and Appointments

Congratulations to **Drs. Hans van Leeuwen, Sam Beattie, David Grewell**, PhD candidate **Debjani Mitra**, assistant scientist Carol Ziel and the rest of the team on their 2009 R & D 100 Award for their myco-diesel project. This award recognizes the 100 most technologically significant projects introduced the past year.

Dr. Don McNamara will serve as a Collaborating Professor with the Department of Food Science and Human Nutrition, Iowa State University.

Congratulations to **Lester Wilson**, Regents Award for Faculty Excellence.

Congratulations to **Hans van Leeuwen**, ISU Award for Outstanding Achievement in Research.

Dr. Murli Dharmadhikari was awarded the position of Courtesy Professor with the Department of Food Science and Human Nutrition.

Dr. Clark Ford was named Associate Chair of the Molecular, Cellular and Developmental Biology graduate program.

Congratulations to **Dr. Lester Wilson** who was chosen by the Iowa Farmers Union Board to receive the Friend of the Farmer educator award.

Meetings, Participants, Presentations, and Visits

Sam Beattie and **Lester Wilson** discussed Good Agricultural Practices and on-farm food safety issues designed for food growers selling to retailers and institutions for the Northern Iowa Food and Farm Partnership workshop.

Dr. Larry Johnson, director of the Center for Crops Utilization Research, was part of a team of ISU professors who provided the latest research on feedstock sustainability and utilization to a group of policymakers and regulators from Washington, DC at the Biofuels: Science and Sustainability Tour in August. Guests from Washington, DC were brought together with fuels experts from Iowa to present science-based information and a hands-on look at technology and processing practices used in the biofuels industry today.

Dr. Christina Campbell traveled to London, England to participate in the European International Society for the Study of Hypertension in Pregnancy Congress. While at the meeting, she presented a poster titled "Moderately intense prenatal exercise is not associated with increased incidence of

preeclampsia." Campbell also just had an article published: Picotte M, Campbell CG, Thorland WG. Day-to-day variations in plasma interleukin-6 concentrations in older adults. *Cytokine* 2009;47(3):162-5.

Dr. Larry Johnson was one of three panelists and served as moderator of a presentation titled "Sustainable Energy Innovation at Iowa State" on October 6, 2009, as part of the Live Green! Sustainability Series. Johnson provided updates on the work to be done at the new BioCentury Research Farm.

Several faculty and staff participated in the annual Story County United Way Day of Caring. Everyone pitched in and did landscaping work at ChildServe in Ames on September 11. Workers added sand to the playground, landscaped the front with river rock, cleaned toys and gave attention to some great children.

Dr. Ruth MacDonald was one of the speakers at the American Food Venture Forum. According to the Des Moines Register, "the forum gives early-stage entrepreneurs and later-stage companies seeking equity and debt funding a chance to connect with venture capitalists and angel investors through formal presentations and networking events."

New Grants

Lawrence Johnson (PI, Food Science and Human Nutrition), **Patricia Murphy** (Food Science and Human Nutrition), **Charles Glatz** (Chemical and Biological Engineering), **Stephanie Jung** (Food Science and Human Nutrition), **Tong Wang** (Food Science and Human Nutrition), \$546,320 from The Department of Agriculture, CSREES - Protein Utilization, IA: Advanced Soybean Refiner series - Year 2.

Hongwei Xin (PI, Agricultural and Biosystems Engineering), **Tong Wang** (Food Science and Human Nutrition), **Cheryll Reitmeier** (Food Science and Human Nutrition), \$439,107 from The Department of Agriculture, CSREES - Midwest Poultry Consortium Research Program.

Charles Glatz (PI, Chemical and Biological Engineering), **Lawrence Johnson** (Food Science and Human Nutrition), **Kan Wang** (Agronomy), \$300,196 from The Department of Agriculture, CSREES - Biotechnology Test Production - Advanced Corn Biorefineries.

New Grants continued on page 7

Student Update

Iowa State dietetic intern shares nutrition knowledge across globe

The Iowa State nationwide internship program allowed for Arkansas resident Lauren Hall to participate in a trip to Uganda, Africa. Hall taught nutrition classes to mothers of patients at a local neurological disorder hospital. She experienced firsthand the kind of medical nutrition therapy that takes place in a developing country.

The trip to Uganda took place in May as part of Hall's clinical experiences in her Iowa State dietetic internship. Hall currently lives in Fort Smith, AR where for the last six months she has been completing her rotations for the ISU dietetic internship. The ISU internship is unique to many other internship programs in that it allows students all across the US to complete their intern hours in the town they are currently residing. For many people wishing to gain their Registered Dietitian certification it is not always a possibility for them to pack up and move for 6-9 months to complete their required practice hours.

Hall traveled with a group from Fort Smith to Cure International hospital in Mbale, Uganda. Cure International is an organization of ten specialty hospitals located throughout the world. The hospital in Uganda focuses on neurological disorders. Hall spent her time in the hospital

assessing the nutritional needs of the patients and educating their families on proper nutrition and growth. Hall has a particular interest in world hunger and nutrition and therefore incorporated it into her education experience with Iowa State. Many internship programs can box you into a very specific program, but ISU allows for students to explore the areas in which they have the greatest interest in while completing their education.

Hall gained knowledge and experience in a developing country about nutrition support, supplements provided by The World Health organization, and severe malnutrition. She assisted in educating the hospital staff by providing nutrition classes to employees and families of patients. She also volunteered one on one appointments with interested mothers to help enhance their nutrition knowledge and meet specific needs. Hall believes anyone can find a way to help developing countries if they just take the talents and knowledge they already have and find a place it can be used to benefit others.

Contact Information
Lauren Hall
Iowa State University
Laurenhall714@gmail.com



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

Alumni Update

Nikki (Marshman) Zimmerman, 2009 Alumni Days participant and 1949 graduate of human nutrition, had her picture with Cy in the Summer 2009 Visions magazine.

Dietetics alumnus **Elizabeth Anderson** ('52) shared her love of the arts in the Summer 2009 issue of Visions magazine. In the article, "Philanthropy and the arts," Anderson recalled her days as a student in Christian Petersen's sculpture course.

Congratulations to **Kathleen Niedert**, MBA, RD, on winning a Medallion Award from the American Dietetic Association. Niedert is a consultant in Hudson IA and will receive her award in November.

Dr. Jeremy Davis joined the faculty of the College of Agricultural Sciences at Southern Illinois University Carbon-dale. Davis will teach undergraduate and graduate courses in human nutrition and dietetics while doing research on obesity. Davis completed his doctorate in December 2008.

FSHN in the News continued from page 3

- **Lorraine Lanningham-Foster**, PhD, is on an “expert’s list” for the St. Louis Post-Dispatch and was interviewed by the assistant news editor at WHO AM in Des Moines. Lanningham-Foster was also the subject of a story for ISU News Service. She shared details of her study on the measurable health benefits of activity-promoting video games.
- **Dr. Larry Johnson** shared information about the one of a kind BioCentury Research Farm with the Iowa State Daily. State-of-the-art facilities will allow faculty from all over campus to further research on a larger scale. The space will lead research on how to use biomass instead of petroleum to create products. A grand opening and ribbon cutting ceremony was held at the BioCentury Research Farm was held September 22, 2009.
- **Dr. Basil Nikolau**, courtesy faculty in FSHN, reflected on the progress of the Center for Biorenewable Chemicals one year after its creation through a 5-year grant from the National Science Foundation. Nikolau said that the greatest way the center, whose goal is to transform the ways industrial chemicals are produced, can change industry is through the students who receive training at the center and go out into industry.
- **Dr. Sam Beattie** was interviewed by a WHO-TV reporter about new research involving reusable plastic bags and how they need to be washed and sanitized for continued food storage use.
- FSHN professor and NWRC associate director **Dr. D. Lee Alekel’s** research on how supplements containing soy protein extracts might not help older women prevent bone loss was featured on the US Dept. of Health and Human Services’ “HealthBeat” show. Alekel was also contacted by the medical web site Medscape to provide some comments on a story on soy isoflavones and the fact they may not help postmenopausal women prevent bone loss.

New Grants continued from page 5

Lorraine Lanningham-Foster (PI, Food Science and Human Nutrition), \$34,357 from The Mayo Clinic - Targeting the Worksite for Obese Nurses and Their Children: A Feasibility Study.

Jay-lin Jane (PI, Food Science and Human Nutrition), \$22,439 from The Department of Agriculture, ARS - Development of GEM Line Starch to Improve Nutritional Value and Biofuel Production.

Diane Birt (PI, Food Science and Human Nutrition),
Suzanne Hendrich (Food Science and Human Nutrition),
Manju Reddy (Food Science and Human Nutrition),
Kenneth Prusa (Food Science and Human Nutrition),
Tong Wang (Food Science and Human Nutrition), \$62,872 from Texas A&M University - The Science of Foods for Health: A Multi-Institutional, Multi-Disciplinary Effort for Undergraduate Education.

Ruth Litchfield (PI, Food Science and Human Nutrition),
Judith Levings (Extension 4-H Youth Development),
\$50,000 from the National 4-H Council - Youth Voice: Youth Choice Iowa.

Terri Boylston (PI, Food Science and Human Nutrition),
\$5,000 from the University of Minnesota - Non- Thermal Processing of Milk Products.

Diane Birt (PI, Food Science and Human nutrition),
\$420,462 from the Department of Agriculture, CSREES – Human Nutrition, IA.

Did you know?

Olive oil is technically a fruit juice rather than an oil. The olives are pressed to release their juices just like an orange or a lemon be pressed.

Department of Food Science and Human Nutrition Gift Form

Campaign Iowa State: With Pride and Purpose has the potential to significantly transform the ability of Iowa State University and the Department of Food Science and Human Nutrition to make a global impact in the fields of food science, nutrition, and dietetics. The campaign will allow the University and the Department to perform groundbreaking research and provide innovative undergraduate and graduate education. Your contributions to this effort are critical to its success, and we hope you will consider making a significant gift at this time.

You can support the campaign through gifts of cash, securities, real estate, multi-year pledges and/or through a meaningful legacy gift in your will. If you are ready to make a gift today, complete this form and mail to the ISU Foundation at the address below. You can also give online at www.foundation.iastate.edu/give using a credit card.

OUTRIGHT CONTRIBUTION:

I we/wish to give a gift in the amount of:

Gift Designation

I/we wish to designate the gift to the following fund:

Payment Options

A check is enclosed (please make payable to ISU Foundation)

Please charge to my credit card Visa Mastercard Discover

Card No. _____ Expiration Date _____

Signature _____ Date _____

Employer Matching

My/our gift will be matched by my/our employer listed here: _____

CONTACT INFORMATION:

Donor Name(s) _____

Class Year _____ Program _____

Address _____

City _____ State _____ ZIP _____

Phone Number _____ E-mail Address _____

MAIL COMPLETED FORM TO:

ISU Foundation, 2505 University Boulevard, P.O. Box 2230, Ames, Iowa 50010-2230.

Our ISU Foundation representatives would be happy to visit with you confidentially if you would like to contribute a named gift or special donation.

Kelly Hanfelt

Director of Development
College of Human Sciences
515/294-1849
khanfelt@iastate.edu

Craig Schmidt

Director of Development
College of Agriculture and Life Sciences
515/294-9328
craigs@iastate.edu



Upcoming Events

Dairy Products Evaluation Team Competition	October 30-31, 2009
Iowa Dietetic Association Meeting	November 4-5, 2009
Thanksgiving (Offices Closed)	November 26-17, 2009
College of Human Sciences Convocation	December 18, 2009
College of Agriculture and Life Sciences Convocation	December 19, 2009
University Commencement Ceremony	December 19, 2009

Alumni Update continued from page 6

Congratulations to **Sandra Majoni** (PhD, '09) who gave birth to a baby boy, Malachi, 6.3 lbs, 19.5 in on Friday, September 11, 2009. All the best to Sandra and her family.

Food science and dietetics alum **Diane McComber** was interviewed by the Iowa State Daily on her part in the landmark Nikita Khrushchev visit to Iowa in 1959. She recalled a special meeting in then President Hilton's office and being asked to give the visitor a cookbook when he visited one of her classes. The article marked the 50th anniversary of the landmark visit by Khrushchev to Iowa to learn more about how to develop agriculture in the USSR.

Julie Henderson Craven (Dietetics, 1977) is currently Vice President of Communications at Hormel Foods Corporation in Austin, Minnesota. She was recently named the chair of the Grocery Manufacturers of America communications committee.

Claudia Hohnbaum, MA, RD, LD ('72) is assistant director of Healthy Kids Challenge, whose mission is to help leaders take action to support kids and families in making healthy eating and physical activity choices. Last fall she was involved in the first annual Healthy Kids Dance school (and youth program) fundraisers. The school raising the most funds, "won" a day of dance with Sabrina Bryan, a Disney Cheetah Girl, Dancing with the Stars contestant and BYou celebrity. Bryan taught the winning school, Wichita County Junior High 6th, 7th and 8th graders, a dance routine and talked with them about healthy lifestyles.

