Lili He joins UMass Food Science

Dr. Lili He got her PhD degree in Food Science from the University of Missouri-Columbia in Dec. 2009. She did her postdoc research at the University of Minnesota under the direction of Ted Labuza. Dr. He’s research interests mainly focus on the development and application of the most advanced and innovative analytical techniques in solving critical and emerging issues in food science and relative areas. Currently, her favorite tool is Surface-Enhanced Raman Spectroscopy (SERS), which is a combination of Raman spectroscopy and nano-techniques. The use of metallic nanostructure enhances the Raman scattering more than a million times. This powerful and versatile technique is able to detect and characterize various chemical and biological agents rapidly and sensitively. Integrating SERS with other techniques such as immuno-magnetic separation, HPLC, lateral flow device, microfluidic device and colorimetric nano-aggregation assay will improve speed, sensitivity, and accuracy.

Ray Mahoney Retires

Ray Mahoney is retiring after 35 illustrious years at UMass. Ray has been one of the core faculty of the Department’s Food Chemistry group. His research program has focused on enzymology and protein factors that increase the bioavailability of iron. He taught numerous courses including Food Chemistry, “The Science of Food” and most recently an extremely popular new course entitled “The Nature of Food”. We are extremely lucky that Ray has agreed to continue helping out the Department by teaching “The Science of Food” and “The Nature of Food” for a couple of years to help our new faculty transition into teaching.
The UMass Alumni Breakfast was very well attended at IFT for the 23rd consecutive year. Over 40 alumni, faculty and students attended and Department Summaries were given by Hang Xiao and Noel Anderson.

**Food Science Club Shines Brightly at IFT**

The Food Science Club was recognized as the top Food Science Chapter this year at IFT. The Chapter of the Year Award honors one university student organization for exceptional participation, strong leadership, community outreach and providing opportunities that utilize the talents of all their members.

In addition, the Food Science Club’s Product Development team in the “Developing Solutions for Developing Countries” competition was invited to Las Vegas as one of 3 finalist. The Developing Solutions for Developing Countries (DSDC) competition promotes the application of food science and technology and the development of new products and processes that are targeted at improving the quality of life for people in developing countries. This year’s competition focused on solutions for increased utilization of mangos in Africa. The team of Marc Duffey…. (see picture below) developed mango meal, an iron, iodine, and vitamin A fortified porridge that used underutilized mango. The team’s travel to Las Vegas was generously supported by Don Coffey at MGP Ingredients and Alumni Donations.
IFT Developing Solutions for Developing Countries Team Finalist. Team members include…. (left), Marc Duffey (second from left), …(second from right) and … (far right). Also in the photo are past club president Jay Gilbert (second from left) and current president Dennis Chu (fourth from left)

JoeNuts Team Places First in UMass Innovation Challenge

You may remember JoeNuts, the Food Science Club IFT Product Development Finalist from 2011 that was also served by the students at breakfast during the Alumni Weekend. For those of you that are not familiar, this was a liquid coffee filled doughnut developed by the students using a process called spherification where the coffee is gelled with alginate and calcium so it can be placed inside of the doughnut and then melt during cooking so the hot product has a liquid coffee center. The students are now working on the commercialization of the product through the UMass Innovation Challenge. The students received a $2500 first prize and plan on trademarking their idea with their winnings and pursuing further commercial opportunities.

Hang Xiao Receives International Life Science Institute Future Leader Award

Hang Xiao of the Department of Food Science was recently announced as the recipient of the International Life Science Institute Future Leader Award. The Future Leader Award is given annually to two early career nutritionists or food scientists in North America who show exceptional promise in becoming future leaders in foods and health. The award provides research funding to new investigators to expand an existing project or to conduct exploratory research that might not receive funding from other sources. Dr. Xiao was recognized for his research in the field of cancer prevention by diet-based strategies. He has worked on cancer preventive effects of multiple bioactive dietary components, such as polyphenols from green tea, tocopherol isoforms (Vitamin E), sulfur/selenium compounds from onions and garlic, and polymethoxylflavones from oranges. Dr. Xiao’s research with polymethoxylflavones is especially important as these dietary phytochemicals are metabolized by the liver and the gut microflora into powerful anticarcinogenic and anti-inflammatory agents. Dr. Xiao’s research is funded by NIH, EPA, American Institute of Cancer Research and USDA AFRI. Dr. Xiao’s research excellence was also recognized by the Agricultural and Food Chemistry Division of the American Chemical Society.

Lili He receives IUFoST Young Scientist Award

Lili He of the Department of Food Science recently received the Young Scientist Award in the 16th World Congress of Food Science and Technology of IUFoST held in Iguassu Falls, Brazil. IUFoST, short for The International Union of Food Science and Technology, is the global scientific organization for food science and technology supporting programs and projects to increase the safety and security of the world’s food supply. The Young Scientist Award is given biannually to seven early career food scientists (age under 35) world wide, who best exemplifies food science and technology excellence. Dr. He was nominated by
Institute of Food Technology (IFT) and was recognized for her research in the field of food safety and defense. She has developed several innovative techniques based on surface enhanced Raman spectroscopy (SERS) for rapid detection of food contaminants, such as pesticides, allergens, and bioterror agents in foods and on the surface of food processing equipment within 30 min. Dr. Lili He’s research is funded by the Department of Homeland Security through the National Center for Food Protection and Defense, and the National Institute of Food and Agriculture.

Decker honored by Agricultural and Food Chemistry Division of ACS

Eric A. Decker, professor and head of the Department of Food Science, last month received the Advancement of Application of Agricultural and Food Chemistry Award from the Agricultural and Food Chemistry Division of the American Chemical Society. The presentation of the award was part of a symposium on oxidative processes in foods that included top scientists from academia and industry at the ACS meeting held Aug. 17-23 in Philadelphia. The Award for the Advancement of Application of Agricultural and Food Chemistry is the top research award of the Agricultural and Food Chemistry Division. The award recognizes Decker’s research accomplishments in fundamental research in free radical chemistry and oxidative processes in foods and his development of new antioxidant technologies that have provided the food industry with tools to remove trans fatty acids, incorporate omega-3’s and use more polyunsaturated fatty acids in foods. He has been recognized with numerous research awards in the past and is listed as one of the top 10 most highly cited authors in agricultural sciences by Thomson Reuters Web of Knowledge.

Chenoweth Renovation Update

Thanks kick-start for Chenoweth renovations started by the amazing $1.8 million raised by UMass Food Science Alumni and Friends to build the Fergus Clydesdale Foods for Health and Wellness Center, the University continues to invest in further laboratory renovations. This fall the second phase of the Health and Wellness Center was completed including new labs and a conference. In addition, 3 other labs are being renovated for Julie Goddard and Sam Nugen. These are expected to be completed by mid-Spring.

The new lab and conference room in phase 2 of the Fergus Clydesdale Health and Wellness Center

Faculty News
Eric Decker gave plenary lectures at the Eurolipid Fed meeting in Cracow, Poland and the World OleoChemistry meeting in Sasebo, Japan on the “Role of Lipid Interfaces on Lipid Oxidation Chemistry” and “Development of Synergistic Antioxidant Systems for Complex Foods”.

Ferg Clydesdale’s policy student, Amy Meehan, has been given an extended yearlong internship by Coca Cola.

Julie Goddard and Eric Decker filed a provisional patent No. 61/570,417 titled “Ion Sequestering Active Packaging Materials”. Julie’s PhD student Maxine Roman was awarded the Peter Salmon fellowship and Fang Tian placed third in both the IFT Packaging Division and poster competition. Jeff Barish won the F.J. Francis Scholarship for his work on Non-Fouling Processing Materials. Julie gave an invited talk at the American Chemical Society National Meeting on “Non-migratory Antioxidant Active Packaging”.

Ron Labbe gave a talk on "Bacterial spores: the good and the bad" at the 5th International Congress in Food Science/Biotechnology in Developing Countries at Nuevo Vallarta, Mexico.

Julian McClements gave a talk on “Structural Design Principles for Improved Emulsion Performance” in Qingdao, China and the Hilditch Memorial talk at the Society of Chemical Industry in London.

Sam Nugen gave talks on nanotechnology and biosensors for food safety at the International Association of Food Protection Annual Meeting, Point of Care Diagnostics for Global Health (in Association with the Gates Foundation) and the Gordon Research Conference on Analytical Sensors. Sam was also a finalist for the American Chemical Society Young Scientist Symposium competition.

Yeonhwa Park’s group also presented 4 posters during the IFT meeting and she had an invited presentation during the ACS meeting in Philadelphia in a special session on conjugated linoleic acid.

Micha Peleg gave a series of lectures at the Summer Industrial Statistics Workshop at the Federal Mexican Institute of Mathematics on: 1. Nonlinear kinetics in food reactions and processes. 2. Translation of the fluctuation in QC data to the risk of a mishap. 3. Expanded Fermi solution to risk assessments. and 4. The Wolfram Demonstration Project, as a teaching aid and tool in industrial calculations and research.

Hang Xiao’s research group showcased their research findings at the 2012 Experimental Biology meeting in San Diego CA. A total of 9 abstracts and 3 oral presentations were given by Dr. Xiao and his graduate students among which Noppawat Charoensinphon won first place in the poster competition hosted by the American Society for Nutrition Diet & Cancer Research Interest Section.

Finally, we have been given a very unique opportunity to create a Professorship to hire a new faculty member. This opportunity will allow us to take the existing Fergus Clydesdale Professorship and increase its value so it’s a full Professorship. We can do this the Provost will match the income from the Professorship resulting in a 4-fold increase in our annual payout allowing us to hire a new faculty member. More information is include in an enclosed brochure. I hope you can join us in this exciting campaign.

I hope your holidays were wonderful. Stop by and see us if you are in the area. Thanks for all of you support and you are instrumental in helping UMass be the best Food Science Department in the world.

Eric Decker