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Food Science Digest is published by the Department of Food Science Communications Committee

Notes from the Desk of John Floros

John Floros, Professor and Head

Spring has arrived, and once again, we reflect on the year's challenges, changes, and many accomplishments in the department.

The department will soon welcome several new faculty members. Dr. Joshua Lambert of Rutgers University will be starting in mid-June, and Dr. Ryan Elias of UC-Davis will begin in mid-August as our new food chemists/biochemists. Dr. John Hayes from Brown University will be joining us in the summer of 2009 as our new sensory scientist. Please join me in welcoming the new faculty to our department.



We are proud of our alumni, and happy to extend the department's congratulations to Catherine Adams the recipient of the 2008 University Alumni Fellow Award. David Geise was the recipient of the 2007 Penn State Alumni Fellow Award, and Vivian Chang received the College of Agricultural Sciences 2007 Outstanding Recent Alumni Award.

Regarding our faculty and staff achievements, Lynne Brown was promoted to the rank of professor and Devin Peterson to the rank of associate professor in July 2007. Dr. Kerry Kaylegian was recently elected secretary of the American Dairy Science Association's Dairy Foods Division. Dr. Robert Roberts is the recipient of the 2008 University of Vermont, College of Agricultural and Life Sciences, Distinguished Alumni Award. Dr. Stephanie Doores will receive the 2008 William V. Cruess Award sponsored by the Institute of Food Technologists. The award will be presented in June at the IFT Annual Meeting and Food Expo in New Orleans. Dr. Greg Ziegler was recently honored with the Gamma Sigma Delta Faculty Award for Research. Congratulations to Bonnie Ford on her promotion to quality assurance laboratory specialist in the Creamery, and to Joyce Cingel for her promotion to business manager. Rebecca Ziegler was hired as the new staff assistant within the creamery office.

Finally, we are also proud of our students. Congratulations to Annette Hartzell and Debie Blair for receiving IFT scholarships in 2007. Debie

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Blair, Hilary Peterson and Angela Richards were awarded 2007/2008 Keystone IFT Scholarships, and Debora Saibene was awarded the AACC International Foundation Graduate Scholarship. Congratulations to Denise Gardner who was the second recipient of the Food Industry Group's Student Leadership Award presented at the 2007 Food Science Tailgate.

Congratulations to our Food Science College Bowl Team – Brandon Armstrong, Cameron Prescott, Rohan Tikekar, Lindsay Wolfe, and Michael Kalaras – for their strong performance in the Northeast Region College Bowl Competition. While the team will not advance to New Orleans this year, they performed and represented us well.

We are please to announce that Agnes Lim was selected as an Ag Advocate by the College of Agricultural Sciences. Agnes joins Food Science students Hilary Peterson and Sheena Crutchfield in promoting the College as well as our department.

Our undergraduate and graduate enrollment continues to rise, and we have received a record number of applications in Food Science for fall 2008. New Food Science Recruitment videos were released on YouTube™ and they are available on the Department's Discover Food Science webpage at www.foodscience.psu.edu/Explore/explore.html.

As you can see, everyone is contributing toward making the Food Science Department at Penn State the best in the country!

Finally, I want to extend an invitation for all of you to join us at the 2008 Food Science Tailgate on September 6th to be held at the Food Science Building. ♦



Food Science Building Houses Unique Facilities

Robert Lumley-Sapanski, Facilities Coordinator

The Food Science Building at Penn State houses some quite unique and versatile facilities within its walls. The following are a few of them.

The Alec and Lexi Beliasov Research Instrumentation Lab was designed as a facility where sophisticated research equipment is located for use in our research programs.



The lab has one central room where samples can be prepared and quantified. Directly off this central area are six smaller rooms designed specifically for the instrumentation located within. These rooms are dedicated to thermal analysis, spectroscopy, rheology, X-ray diffraction, particle size analysis and microscopy. The facility is used by many faculty and graduate students, allowing them access to equipment not found in most research labs. Dr. Greg Ziegler provides oversight of the laboratory.

The H.J. Heinz Laboratory for Sensory Evaluation provides an up to date facility for use by our Department research programs as well as many clients from the food industry. The facility has three main areas within its confines.



There is a meeting room where trainings are conducted and where classes and workshops involving the sensory sciences are held. The Food Testing area consists of twelve individual

booths each equipped with its own computer for the panelists to enter their evaluations. The lighting in this area can be controlled as different color light is sometimes necessary for certain sample evaluations. Immediately behind the booths is the food preparation area. This is a fully equipped kitchen with all necessary appliances. The prep area is under negative pressure so that any odors from food

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being prepared will not enter the testing booths. Offices for the lab director and assistant are located within this facility and there are computer stations for data examination as well. The lab is kept busy by our classes, research projects, outside clients, and shortcourses.

The Family and Consumer Education Area Focus Group and Observation Rooms. This area provides researchers with the opportunity to conduct focus group discussions that can be viewed privately from the observation gallery located behind the one way glass. The ability to record these proceedings was included in the design. This facility is available for our internal use as well as by others at the University or in industry.



The Hershey Company Outreach Center offers a flexible, fully equipped space for users to deliver programs to their target audience. It is primarily used for short course sessions, training programs, seminars, meetings and other group functions. The center seats around 50 depending on how the room is configured.



An observation window peers into the Wet Pilot Plant so equipment and processes can be observed from the center. The facility provides an outstanding view of the East Campus Mall and is

located immediately adjacent to our Keeney Commons, a spacious, bright area frequently used in conjunction with the center for program registration, receptions, beverage breaks, lunches, etc. ♦

The Food Science Department Pilot Plants

Kerry Kaylegian, Director of Industrial Outreach and Pilot Plant Manager

Our 3 pilot plants are designed for processing flexibility with an emphasis on product specialization. The pilot plants are used for teaching, research, and industry projects. They are ideal for short course laboratories and equipment demonstrations.

The floor plans are open and most of the equipment is on wheels. There are multiple utility stations (water, steam, gas, vacuum, electrical connections) throughout each plant that allow for different processing configurations. The Wet and Dry Pilot Plants are located on the 1st floor and have access doors and lifts to enable semi-trailers to deliver equipment and supplies directly into the plants.

The 4000 ft² Wet Pilot Plant is designed for processing fluid and wet products, with an emphasis on dairy products, fruits and vegetables. There is a walk-in



Wet Pilot Plant

cooler and freezer dedicated to the wet pilot plant, with additional storage space adjacent to the plant. Equipment in the wet pilot plant includes an HTST pasteurizer and homogenizer system, a high pressure processing unit, several batch and continuous ice cream freezers, cheese vat, yogurt and cultured products processing equipment, grape destemmer, vegetable blancher, steam kettles, and jet cooker. The new UHT unit, with direct and indirect steam injection and a clean fill hood, was commissioned in February. A new rotational and end-over-end pilot

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scale retort and can sealer is due to arrive by the end of summer.

The 2000 ft² Dry Pilot Plant is designed for processing dry products in a low humidity environment, with an emphasis on confectionery products and powders. There is a walk-in cooler and freezer dedicated to the dry pilot plant, with additional storage space adjacent to the plant.



Dry Pilot Plant

Confectionery equipment in the dry pilot plant includes a cocoa butter press, 3-roll refiners, conches, tempering kettles, enrobers, and a cooling cabinet. Powder processing equipment includes a small spray dryer, freeze dryer, jet mill, powder mixer, a low pressure mixer/extruder, and an extruder/torque rheometer.

The 2000 ft² Pathogen Pilot Plant is designed for processing in a contained environment, with empha-



Pathogen Pilot Plant

sis on challenge and validation studies in foods. The Pathogen Pilot Plant is a CDC Biosafety Level 2 rated facility. Entrance into the plant is through the media preparation area via a decontamination room with changing, shower, and laundry facilities. A large door leads directly into the pilot plant to allow for large equipment and supplies to be brought into the facility.

The Pathogen Pilot Plant has a throughput autoclave accessible from the media prep room and a hepa-filtered biological hood. Equipment dedicated to pathogen research includes a smoker, egg washer, apple washer, carcass washer, ice cream maker, hand held sprayer, chlorine dioxide generator and vacuum packager.

For more information, please contact:

Kerry E. Kaylegian, Ph.D.,
Pilot Plant Manager and Director of Industrial Outreach
Phone: 814-867-1379
Email: kek14@psu.edu

www.foodscience.psu.edu/department/pilot.html ◆

Equipment Donations

We are pleased to accept the donations of the following equipment:

Armfield Scraped-Surface Heat Exchanger from the Hershey Company. Specifications of the equipment are forthcoming, and the transfer is in progress.

A new AGC Engineering Plate Heat Exchanger from AGC Engineering. The unit has 30 stainless steel plates and has a minimum product flow of ½ to 1 gal per min.

Interested in making a donation?

Does your company have small-scale equipment in good condition that you would like to donate? Our wish list includes pumps, motors, steam kettles, and packaging equipment for various products.

Geise Receives 2007 Alumni Fellow Award

David Geise of Milton, Pa., is president and CEO of Furman Foods Inc. of Northumberland, Pa., an 86-year-old company that is the largest family-owned tomato processor in the eastern United States. He has been with the company since 1968 and has been president since 1977.



Geise is a leader in the food industry serving on committees and boards at the state and national levels. He is the past chairman on the board of directors for the Pennsylvania Food Processors Association, has held positions with the National Food Processors Association since 1982, and is currently a board member of the newly formed Grocery Manufacturers/Food Products Association (GMA/FPA). Geise served as past president and director of the Central Susquehanna Valley Chambers of Commerce and currently serves on the Chamber's Ambassador Committee. Dave is a board member of the Food Industry Group (FIG), serves as chair and board member of the Hand Up Foundation, and serves on the McCann School Board of Business and Technology Advisory Committee.

Geise is a life member of the Penn State Alumni Association and an active volunteer for the College of Agricultural Sciences serving on the Penn State Food Science Facilities Committee and has lectured in Penn State's Ag Business Executive Program. Geise received the PA Agribusiness Achievement Award in 1996 from the Pennsylvania Department of Agriculture. In 2001, Geise received the Penn State College of Agricultural Sciences Outstanding Alumnus Award. In 2003, he received an Award from the Armsby Honor Society of the Penn State University, College of Agricultural Sciences, and he re-

ceived the 2004 Community Leadership Award from the Susquehanna Council, Inc., Boy Scouts of America.

Geise received a bachelor's degree in horticulture from Penn State in 1968.

The Alumni Fellow Award is the most prestigious award given by the Penn State Alumni Association. It is presented to professional leaders who have been nominated by an academic college and selected by the Board of Trustees. Recipients are invited by the university president to return to Penn State to share their experience with students, faculty and administrators.◆

Chang Honored as 2007 Outstanding Recent Alumni Award



Vivian P. Chang is International Regional Quality Assurance (QA) Manager for Tyson Foods, Inc. of Springdale, AR. Vivian received her bachelor's degree in food science from the Universidad del Valle Guatemala in 1997, and her master's degree in food science from Penn State in 2001. She has been with Tyson Foods, Inc. since March of 2002.

Chang manages quality and microbiology departments at Tyson de México and Tyson Da-Long China, and at poultry co-packer operations in Panama, Canada, Guatemala, Argentina, and Brazil. Chang worked with the domestic plants to increase production yield on chicken paws, resulting in approximately \$1M per week for the company. She is responsible for the quality assurance aspect of all Tyson domesti-

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Gardner Receives 2007 Food Industry Group Student Leadership Award



Denise Gardner, a 2007 graduate in Food Science with a minor in Horticulture, and former graduate of Conrad Weiser Area High School, was the second recipient of the Food Industry Group Student Leadership Award.

As an undergraduate at Penn State, she was an active member of the Food Science Club, The Institute of Food Technologist Student Association, American Society of Enology and Viticulture, American Wine Society, and the Wine Grape Network. Gardner was as an Ag Advocate and served on several committees including the New Advocate Student Training and Interview Committees, the Fall Retreat Committee and Recruitment Committee. She also served as the undergraduate student representative to the Food Science Undergraduate Program Committee in 2007.

Gardner served as an intern in 2003 for Lallemand, Inc. in Taoulouse, France, conducting research and assisting with U.S. marketing advertisements. She served on a joint project between Penn State University and the University of California-Davis studying the Grape Phylloxera demographics in Oakville, CA. She participated in Research Experience for Undergraduates (REU), studying grape Phylloxera gene expression analysis in the Chemical Ecology Lab in the Department of Entomology. Denise served as a lab assistant in numerous departments including the Food Science Department's Microbiology lab.

Denise is currently pursuing a M.S. degree at Virginia Tech University.

This annual award recognizes a Penn State Food Science student who has demonstrated exemplary leadership, scholarship, community involvement, and volunteerism. ♦

cally produced international products. Vivian worked with Tyson de Mexico to accomplish audit approvals for Yum! Brands, Wendy's, Burger King, McDonald's, Wal-Mart, Denny's and Subway, and lead the Export Packers Canada team to successfully complete the Yum! Brands and Sysco audits. She also investigates and coordinates communication with National Accounts on consumer complaints. She works with international QA representatives from KFC, McDonald's, Burger King and Wendy's on quality problems, and coordinates foreign government visits and inspections to Tyson facilities.

Prior to her promotion to the corporate International group, Chang was a QA Supervisor at the New Holland, PA facility. During her tenure there, she lead the New Holland team to successfully fulfill the Russian audit requirements, and supervised and generated the necessary documents which enabled export to Russia.

Vivian was born in Guatemala City, Guatemala. She speaks three languages, Spanish, Cantonese and English.

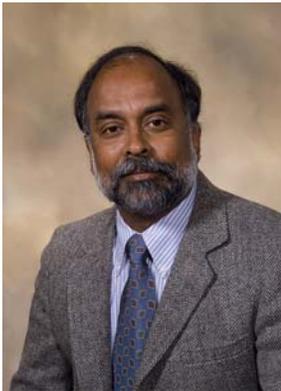
The College of Agricultural Sciences Outstanding Recent Alumni award was established in 2000 to recognize outstanding alumni who have graduated within the last ten years and provide opportunities for faculty, staff, and students to interact with them. Honorees have distinguished themselves through significant career advancement and diverse service to their communities. ♦

Featured Faculty

Kerry Kaylegian, Director of Industrial Outreach and Pilot Plant Manager

Welcome to the new Featured Faculty column. Our intent is to increase your awareness of the breadth and expertise of the Food Science Department. There is neither rhyme nor reason as to the order of our Featured Faculty, and it is only by chance that our first faculty's name begins with the letter "A".

Dr. Ramaswamy Anantheswaran



With that introduction, it is my pleasure to introduce you to Dr. Ramaswamy (Swamy) Anantheswaran, Professor of Food Science. Swamy received his B.S. in Engineering at the Indian Institute of Technology, and maintains a scientific connection with his homeland through Adjunct Faculty appointment at IIT and UICT, Bombay. While

working on his M.S. at the University of Georgia, Swamy took a couple of Food Science courses and developed a strong interest in the field of food engineering. His desire for an increased understanding of Food Science led him to Cornell University for his Ph.D. degree. Swamy joined our faculty at Penn State in 1988.

Swamy's research in the area of food engineering is diverse. He enjoys using engineering as a tool to solve food industry problems, recognizing that engineering is only one aspect of the solution. This is well-illustrated through his collaborative research with other faculty members in food microbiology, packaging, confectionery, fruit and vegetable processing, and the list goes on.

Swamy's research portfolio contains a mixture of basic and applied projects. His current projects include fat and moisture migration in confectionery products, and understanding the mechanism of heat resistance in chocolate (in collaboration with Dr. Hanselmann from Hershey Foods), understanding the mechanism of injury to *Listeria monocytogenes* in milk when processed using high pressure (in col-

laboration with Dr. Knabel), elucidating the interactions between different polymers and antimicrobial agents in packaging (in collaboration with Dr. Floros), and impact of UV processing on safety and quality of apple cider (in collaboration with Dr. LaBorde).

When asked what excites him the most about his research, he answered with a great smile and a glint in his eye "the students". Getting a student to that "Aha!" moment either through a research project or in a classroom environment is the reward!

Several years ago, Swamy took a sabbatical within the food industry to learn what skills are needed of our students to succeed within the industry. This helped him to also develop long-term industry relationships that have benefitted his research program as well as the Department of Food Science. Swamy believes that strategic industry–university–partnerships can benefit both the parties.

Swamy's vision for the future of food engineering is a better understanding of the impact of processing on food and biological materials leading to improved design and manufacturing of functional food products and development of innovative manufacturing technologies & environmental friendly packaging materials.

In his spare time, Swamy enjoys gardening, woodworking and playing the Indian classical drums. ♦

Dr. Stephen J. Knabel



Dr. Stephen J. Knabel, Professor of Food Science, received his B.S. and M.S. in Food Science at Iowa State University. He was attracted to the interdisciplinary nature of Food Science. Steve spent 10 years as the Corporate Microbiologist at FDL Foods, a large meat processor in Dubuque. He returned to Iowa State for his M.S. and Ph.D. degrees in Food Science and Microbiology. During his Ph.D. research on *Listeria monocytogenes*, Steve discovered the

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joys of academic freedom. Knowing that he was destined for academia, he accepted a faculty position in the Penn State Food Science Department before he completed his Ph.D. in 1989.

Steve's research focuses on the detection, tracking and control of foodborne pathogens (*Listeria monocytogenes*, *E. coli* O157:H7, *Salmonella*, and *Campylobacter*). Steve likes to solve problems and insists that all of his projects have both a basic and an applied component. One problem that came Steve's way was how to reduce *Salmonella* Enteritidis contamination in eggs, at a time when Pennsylvania had a large number of outbreaks. Steve's lab discovered that washing the eggs at high pH solved the problem. Investigation into the mechanisms showed that high pH destroyed gram-negative pathogens by disrupting their cytoplasmic membranes. Steve looked for other "problems" that might be solved with this approach and conducted research on the destruction of *Salmonella* and *E. coli* O157:H7 in Lebanon bologna, a fermented sausage unique to Pennsylvania. These research results are helping to ensure the safety of fermented meats throughout the U.S. In the words of Louis Pasteur, Steve enjoys "Science and the Application of Science."

Steve finds interactions with dairy and meat industry and other scientists vital to his research. It is through relationship building that problems are identified and solved.

While on sabbatical at Macquarie University and the University of New South Wales in Sydney, Australia, Steve conducted research on the recovery of injured cells of *Listeria monocytogenes* following high pressure processing (HPP). When he returned, Steve initiated the acquisition of a 2-Liter HPP unit for the Food Science Pilot Plant. Steve's lab is now investigating the effects of growth phase, growth temperature on the survival of *Listeria monocytogenes* following HPP. This research is yielding some unexpected, but very exciting results – the kind that illustrates the concept that you never know where a new discovery will be found.

Steve's lab is also currently involved in the molecular tracking of *E. coli* O157:H7 and penicillin-resistant *Staphylococcus aureus*, and characterizing outbreak and sporadic case isolates of *Listeria monocytogenes*. Steve enjoys watching his graduate students develop and prefers to bring on independent students that know more than he does! ♦

Faculty Awards

Roberts Receives University of Vermont 2008 Distinguished Alumni Award



Dr. Robert Roberts, is the recipient of the 2008 University of Vermont, College of Agricultural and Life Sciences, Distinguished Alumni Award.

The Distinguished Alumni Award seeks to honor UVM alumni who achieve excellence and success in their specific field, follow land grant ethics and contribute to their community, state and nation; and who demonstrate support of and service to the University and the College. Clearly Bob has met and exceeded these criteria, particularly with regards to excellence in his field and commitment to the land grant ethic. His sustained efforts have brought recognition to both the University of Vermont and Penn State. ♦

Zielger Awarded 2008 Gamma Sigma Delta Faculty Award for Research



Dr. Gregory Ziegler is the recipient of the 2008 Gamma Sigma Delta Faculty Award for Research. As the honor society of agriculture, Gamma Sigma Delta has the goal of advancing agriculture in all its phases, and Greg's research certainly exhibits the characteristics of a high degree of scholarship. Greg's research explores foods as composite materials and examines the

physical properties and processing of polymeric and particulate foods, with an emphasis on chocolate and confectionery products. ♦

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Doores Honored as IFT's 2008 William V. Cruess Award Winner



Dr. Stephanie Doores has been selected as IFT's 2008 William V. Cruess Award Winner.

The Cruess Award is sponsored by the Institute of Food Technologists (IFT) and seeks to reward excellence in teaching food science and technology. Stephanie's efforts in the classroom, the laboratory, and in under-

graduate student mentoring, advising, educating and recruiting certainly meet the definition of excellence. Although this award is an honor regardless of the sponsor, it is especially so when presented by IFT, our professional home and the scientific society for Food Science and Technology. The award will be presented in June at the upcoming 2008 IFT Annual Meeting and Food Expo in New Orleans. ♦

ment, third party audit assessments, and process control / quality system development.

He holds a BS in Microbiology (1985) and MBA (1996) from Penn State, and a Masters in Food Science from Virginia Tech (1988).

Martin is responsible for coordination and support of departmental food safety programs. He works closely with Extension faculty members in the Food Science Department and other departments to develop and present food safety information to food processors (ie., dairy, meat, poultry, fruit and vegetable); food service (restaurant) and retail (grocery) operations; and consumers. He develops food safety information, displays, print documents, and curricula to county-based extension educators, including recertification programs for the PA Food Employee Certification Act. Other responsibilities include, providing assistance to Extension faculty members in department-sponsored workshops and short courses, evaluation of food safety programs, and assisting with the of food safety training programs on the PSU Food Safety Website at foodsafety.cas.psu.edu. ♦

Featured Staff

Martin Bucknavage



Martin Bucknavage, food safety specialist, is responsible for developing, marketing, and providing food safety training programs for consumers, retail, foodservice, and food manufacturers.

Martin has extensive food industry experience. In his last position as Director of Technical Services at LaMonica Fine

Foods, Martin directed the Quality, Research and Development, and Regulatory functions. Prior to that, Martin had worked in technical management positions for National Fruit Product Company, H.J. Heinz, and ABC Research Corporation. In addition to having expertise in food safety and HACCP, Martin is experienced in co-pack and supplier manage-

Creamery News

Thomas Palchak, Creamery Manager



Congratulations to Bonnie Ford on her recent staff promotion to quality assurance laboratory specialist.

As many of you know, Bonnie works in the creamery laboratory performing various laboratory tests and reports on all products that are manufactured in the creamery production facilities.

Bonnie plays a key role in providing all of the production and laboratory data for PDA and FDA inspectors, including information about the HACCP Plan, Recall Plan, and Allergen Plan. In addition, she provides support functions for the production facilities including preparing cultures and reagents, providing product formulas, instrument calibration, de-

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veloping written Standard Operating Procedures and Sanitation Standard Operating Procedures, and much more.

We are very grateful to have Bonnie overseeing the stringent quality assurance and quality control functions within the creamery production facilities.

In the creamery office, Joyce Cingel has been promoted to the position of business manager. Joyce has been with the Department now for 10 years. During this time, we have seen tremendous growth in terms of the level of responsibility, problem-solving and decision making in this position which is a true credit to Joyce's outstanding managerial skills and expertise.



Joyce will oversee the preparation and revision of annual budgets and special budgets and will take on greater responsibility in the preparation of statistical and quantitative reports. Some other added responsibilities will be the administration of daily business operations, and greater involvement in hiring, supervision, training, and evaluation of assigned staff.



In addition, we have recently hired Rebecca Ziegler as the new staff assistant within the creamery office. As many of you know, Rebecca has been working part-time in the creamery office for the past year while a staff member was on maternity leave. We are delighted to promote and welcome Rebecca as a permanent,

full-time addition to our Department.

Please join me in congratulating them on their promotions and continued success! ♦

Tailgate News

The Annual Food Science Tailgate was held on October 13, 2007. Alumni, friends, faculty, staff, students and their families came together to enjoy each other's company and to support the Food Science Department at the annual Tailgate held at the New Food Science Building. Over 400 guests attended the event co-sponsored by the Food Science Department, The Penn State Food Industry Group and the Food Science Club. The day's activities included the Food Industry Group Board meeting and presentation of the Food Industry Group Student Leadership Award followed by a tailgate lunch. Following the event, participants headed to Beaver Stadium to cheer on the Nittany Lions in their Homecoming victory over the Wisconsin Badgers 38-7.

Mark your calendars! The 2008 Food Science Tailgate is scheduled for **September 6th**, Penn State versus Oregon State. Game time will be announced when released.

Information on the days activities will be mailed out in early June to alumni and friends of the department. ♦

2008-09 Food Science Club Officers

- President - Lyndsay Bashore
- Vice President - Samantha Palin
- Secretary - Brittany Johnson
- Treasurer - Cameron Prescott
- Undergraduate Liaison - Elise Glass
- Graduate Liaison - Rohan Tikekar
- Ag Student Council Reps - Hilary Peterson and Zach Evanitsky

Calendar of Events

Dairy Basics for the Small-Scale Processor

April 23 or May 1, 2008 - Pasteurized Processors
April 21 or May 2, 2008 - Raw Processors
Contact: Dr. Kerry E. Kaylegian (814) 867-1379
Audience: Farmstead and small-scale dairy producers and processors.

HACCP Workshop for Juice Processors

May 8-9, 2008.
Contact: Dr. Luke LaBorde (814) 863-2298
Audience: Juice Processors, Cider Makers, Educators, Regulators, and Industry Representatives responsible for developing and implementing a Juice HACCP plan.

Food Defense Workshop

May 7, 2008 - University Park, PA
May 8, 2008 - Hazelton, PA
May 9, 2008 - Mercer, PA
Contact: Dr. Catherine Cutter (814) 865-8862 or Martin Bucknavage (814) 867-1839
Audience: Plant Managers, Quality Managers, Production Managers, Supply Chain Managers, Human Resource Managers, and Security Managers involved in managing food operations.

HACCP Programs for Small Meat and Poultry Processors

May 13-15, 2008 - University Park, PA
July 22-24, 2008 - Harrisburg, PA
September 23-25, 2008 - West Chester, PA
Contact: Dr. Catherine Cutter (814) 865-8862 or Martin Bucknavage (814) 867-1839
Audience: Plant Management, HACCP Coordinators, Quality Assurance Personnel, Sanitation Management, Line Supervisors, and Line Operators.

Pennsylvania Association of Milk, Food, and Environmental Sanitarians Conference (PAMFES)

May 14-15, 2008
Sponsored by PAMFES.
Penn State contact: Dr. Robert Roberts (814) 863-2959
Audience: Dairy, Beverage and Food Processors, Laboratories and State Inspectors.

Food Microbiology Short Course Detection and Control of Foodborne Pathogens

May 20-22, 2008
Contact: Dr Hassan Gourama (610) 396-6121 or Dr. Catherine Cutter (814) 865-8862
Audience: Food Scientist and Technologists, Microbiologists, Lab Directors, Managers, Processors and Regulatory Officials.

Advanced HACCP Workshops

June 4 & 5, 2008 - Mercer, PA
June 11 & 12, 2008 - West Chester, PA
June 25 & 26, 2008 - Harrisburg, PA
Contact: Dr. Catherine Cutter (814) 865-8862 or Martin Bucknavage (814) 867-1839
Audience: Plant Management, HACCP Coordinators, Quality Assurance/Control Personnel, Sanitation Management, and Line Supervisors.

Venison 101

September 13, 2008
Contact: Dr. Catherine Cutter (814) 865-8862
Audience: Extension Educators, Hunters.

Penn State Cultured Products

September 23-26, 2008
Contact: Dr. Robert Roberts (814) 863-2959
Audience: Processors of yogurt, cream cheese, cheese, buttermilk, and sour cream.

www.foodscience.psu.edu/News/news.html

This publication is available in alternative media on request.

The Pennsylvania State University is committed to the policy that all persons shall have equal access to programs, facilities, admission, and employment without regard to personal characteristics not related to ability, performance, or qualifications as determined by University policy or by state or federal authorities. It is the policy of the University to maintain an academic and work environment free of discrimination, including harassment. The Pennsylvania State University prohibits discrimination and harassment against any person because of age, ancestry, color, disability or handicap, national origin, race, religious creed, sex, sexual orientation, or veteran status. Discrimination or harassment against faculty, staff, or students will not be tolerated at The Pennsylvania State University. Direct all inquiries regarding the nondiscrimination policy to the:

Affirmative Action Director,
The Pennsylvania State University
328 Boucke Building
University Park, PA 16802-5901
Tel 814-865-4700/V,
814-863-1150/TTY.

For further information on contact:

Department of Food Science
The Pennsylvania State University
202 Food Science Building
University Park, PA 16802
Phone: (814) 865-5444
Fax (814) 863-6132
<http://www.foodscience.psu.edu>