On the Frontlines of Food Safety and Security
The College of Agriculture and Natural Resources is focused on numerous issues of concern not only to Maryland residents but to consumers across the country and around the globe. One of the most important of these issues is food safety and security. From its beginning, the college has worked with farmers, food processors, and consumers to ensure the safety and quality of the American food supply. Now, in a post-9/11 world, fears of agro-terrorism have added a new dimension to this work, some of which is highlighted in this issue of Momentum. Although a risk-free existence is unachievable, consumers can take comfort from the resources we are devoting to food safety and security.

On a lighter note, this issue also takes a fond look back at the “Eleven Best Days of Summer” via a collection of photos from the 2008 Maryland State Fair. In addition to the traditional 4-H activities and the ever-popular birthing center and milking parlor, the college introduced a special educational exhibit about dairy cattle and twenty panel banners describing our research and outreach programs in many diverse areas.

And of course the college wouldn’t be what it is without the support of dedicated faculty, staff, and alumni. So this issue also profiles two individuals who are making a difference: one, a recent graduate who has already established a scholarship fund, and the other, an 81-year-old Home and Garden Information Center staff member who provides people with information they can use to improve the environment.

So sit back, put your feet up, and see what we’ve been up to.
Are you a high school student looking for more?

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- Institute of Applied Agriculture
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MCE Welcomes Assistant Director for FCS

Dr. Patsy Ezell has joined the College of Agriculture and Natural Resources as assistant director of Family and Consumer Sciences (FCS) for the University of Maryland Cooperative Extension (MCE).

Ezell received an M.S. in nutrition science and a doctorate in human ecology with a major in human resource development, both at the University of Tennessee, where she pursued a career in Extension, first as a county agent and then as a foods and nutrition specialist. For the past 14 years, Ezell served as program leader at the district and regional levels of the University of Tennessee Extension. During that time she:

- established new program priorities through the strategic planning process,
- developed and guided program development and evaluation processes,
- created and implemented new evaluation strategies,
- provided ongoing program leadership and oversight to more than 70 county 4-H and FCS Extension agents in 31 counties,
- established new partnerships to implement innovative education programs,
- helped develop and design the first 4-H Environmental Education Center in Tennessee, and
- served on state and national committees and teams related to Extension program efforts.

Ezell has written numerous articles on nutrition-related topics, been an invited speaker at many Extension-related conferences, and received such awards as the Epsilon Sigma Phi Meritorious Service Award, Extension Award of Excellence, AAFCS Jewel Taylor National Fellowship, and NEAFCS Continued Excellence Award. She is certified as a Matrixx Personality Inventory trainer, ethical leadership trainer, and family and community leadership trainer.

“We are very pleased to have Dr. Ezell join our MCE team and provide leadership for our FCS program,” says Dr. Nick Place, associate dean and associate director for MCE. “She brings a wealth of experience and visionary ideas for leading our program into the future. One of her greatest strengths is her ability to facilitate collaborative partnerships. Her background and interdisciplinary perspectives will be a tremendous benefit for MCE as well as the myriad of clientele we reach across the state of Maryland.”

Microbiological Risk Assessment Pioneer Heads CFS³

Dr. Robert L. Buchanan has been appointed the first permanent director of the University of Maryland’s Center for Food Systems Security and Safety (CFS³). The CFS³ was created to provide the world-class research, education, and outreach necessary to realize desperately needed “systems approaches” to food and water protection.

“Our goal is for the center to become the leader in the development and dissemination of tools that industry and government need to systematically anticipate, prevent, and respond to food and water challenges in today’s ever more complex global marketplace,” says Dr. Cheng-i Wei, dean of the College of Agriculture and Natural Resources. “Dr. Buchanan’s broad national and international experience in both research and public health policy is ideally suited to helping the University of Maryland achieve this goal.”

Buchanan comes to CFS³ following 10 years as senior science advisor for the U.S. Food and Drug Administration’s (FDA) Center for Food Safety and Applied Nutrition. During his illustrious career, he has made substantial contributions to food safety and public health policy and programs. In addition to being a highly published researcher in food microbiology, food toxicology, and risk assessment, he has worked to make sure that the products of his work have been made available to industry and government. For example, as one of the pioneers in predictive microbiology, he realized that this powerful tool would only be useful if it could be used easily. This vision led to the establishment of the USDA Pathogen Modeling Program, which has been help-
Buchanan has also been highly involved in the global aspects of food protection, safety, and security. He has served as the U.S. head of delegation to the Codex Alimentarius Commission Committee on Food Hygiene for more than a decade, has worked closely with the Food and Agriculture Organization (FAO) of the United Nations and the World Health Organization (WHO) to develop their programs in food safety risk assessment, is a permanent member of the International Commission for Microbiological Specifications for Foods, and has served as a six-term member of the National Advisory Committee on Microbiological Criteria for Foods.

Ray Stricklin Named Acting Assistant Dean for Academics

Dr. W. Ray Stricklin has agreed to serve as the college’s acting assistant dean for Academic Programs, effective July 1, 2008, temporarily filling the position left vacant by the retirement of Dr. John Doerr. Stricklin will serve until January 31, 2009, or until the successful completion of a national search.

A faculty member in the Department of Animal and Avian Sciences (ANSC) since 1980, Stricklin has been involved in animal welfare-related teaching, research, and policy activities involving the university, government, industry institutions, and at international universities for more than 25 years. He has been honored with numerous awards for his teaching excellence, including the UM Center for Teaching Excellence Award in 1997, a Lilly Fellow for Teaching Excellence Award in 2002, and a Phillip Morrill Presidential Scholars Faculty Mentor Award in 2005. He also served as the ANSC undergraduate program coordinator from 2002 to 2006, and was involved in undergraduate student advising prior to that appointment.

“These strong credentials make Ray an excellent choice for this position, which is dedicated to working with AGNR students and supporting their academic needs and career goals,” says Dean Cheng-i Wei. “I appreciate his willingness to take on this important role and look forward to having him as part of the administrative team.”

Lars Olson Appointed AREC Chair

Dr. Lars Olson accepted appointment as chair of the Department of Agricultural and Resource Economics (AREC), effective August 1, 2008. Olson replaces Dr. Ted McConnell, who graciously assumed the role of acting chair when then chair, Dr. Bruce Gardner, became ill.

Olson came to the University of Maryland in 1993 as an associate professor in AREC and was promoted to professor in 1998. He has been a mainstay of the department since his arrival and has served on all major committees, including the critical search and graduate committees. Olson brings experience in departmental, college, and university governance and a commitment to excellence to his new position.

Institute of Applied Agriculture Welcomes New Faculty Member

The Institute of Applied Agriculture (IAA) has hired Kenneth Ingram as coordinator of the Landscape Management and Ornamental Horticulture Program. Ingram earned his M.S. in agronomy from the University of Maryland and brings more than 20 years of industry experience into the classroom. Most recently, he supervised the grow-in at the Presidential Golf Club in Dulles, VA. Under Ingram’s leadership, the IAA Landscape Management Program is expected to grow and help fill the green industry’s need for qualified managers.
Ross had a role in the introduction of drip/trickle irrigation in the Northeast and adoption of double polyethylene covers and improved environmental control in greenhouses, as well as collaborating with his peers to bring other new practices to growers. He has produced a large number of Extension publications for grower/industry use, provided leadership on many professional and technical committees, and held many offices in professional societies.

**Extension Provides Reusable Bags at Farmers’ Markets**

Thanks to a collaboration with the Maryland Department of Agriculture, Maryland Cooperative Extension faculty in Baltimore County have been providing Maryland growers with reusable bags that they can sell at farmers’ markets and farm stands this season. The bags highlight “Maryland’s Best” agriculture and encourage consumers to buy local and eat fresh produce.

“‘We wanted to make it easier for growers and consumers to reduce litter, waste, and foreign oil dependence,’” says Extension nutrition educator Mary Concannon. “Replacing plastic and paper bags with reusable bags is a great way to carry fresh produce home from farmers’ markets and farm stands. And by combining requests from growers around the state, we were able to place a large order at a greatly reduced price, which would have been a challenge for individual growers or small producers.”

Concannon and her colleagues also created a fruit and vegetable storage tip sheet that local growers can use as a bag stuffer. It’s also available online at http://baltimorecounty.umd.edu/files/Storage_tips_08.pdf.

**Laura Hunsberger Wins SARE Award**

Laura Hunsberger has won the Search for Excellence in Sustainable Agriculture NACAA Recognition Award from the Northeast Sustainable Agriculture Research and Education (SARE) program. Hunsberger, a senior Extension agent for agriculture and natural resources in Worcester County, received the award for her project “Creation of a Local and Sustainably Managed Foodshed on Maryland’s Lower Eastern Shore.” The primary goal of this project is to increase the number of farmers on Maryland’s Eastern Shore that use organic, sustainable farming practices and to provide marketing outlets for these farmers to sell their products locally.

Through a liaison with the Lower Eastern Shore Sustainable Organic Network (LESSON) and her individual efforts, Hunsberger has created a network of farmers interested in both farming organically and/or finding new potential mar-
kets. The success of this group lies in the informal social connections developed between farmers, allowing for those with more experience to work with and teach their less-experienced counterparts. As part of the program, Hunsberger assisted three growers with securing Environmental Quality Improvement Programs (EQIP) funds from USDA’s Natural Resources Conservation Service for transitioning to organic production. She also has generated grant funding to continue expanding sustainable vegetable production on Maryland’s Lower Eastern Shore.

**HGIC Faculty Participate in Sustainability Exhibit**

Entomologist Mary Kay Malinoski and plant pathologist Dr. David Clement of the College of Agriculture and Natural Resources’ Home and Garden Information Center and Rick Johnson of Penn State University coordinated two educational displays at the U.S. Botanic Garden’s “One Planet—Ours!” sustainability exhibit, which ran from Memorial Day through Columbus Day. The displays were designed to highlight poor gardening practices and help consumers make changes that benefit them and the environment.

One display, “Landscape Bloopers,” illustrated common landscape mistakes, such as overuse of products, improper storage of pesticides, the myth that all insects are pests, improper pruning, mowing, and mulching. The “Growing Green Lawns” display highlighted best management practices—such as proper mowing strategies and sustainable fertilizing practices—that can solve common lawn problems. Display content was the result of a national collaborative effort to build consensus among land-grant universities, environmental groups, government, and private industry. Both displays featured integrated pest management (IPM) techniques.

**Book Details**

**History of State’s Smart Growth Initiative**

The politics and back-room maneuvering that led to the creation and implementation of Maryland’s “smart growth” initiative are detailed in a new book by John W. Frece, associate director of the University of Maryland’s National Center for Smart Growth Research and Education. Frece and the center’s team partner with the Coalition of Land-Use Educators established by the University of Maryland Cooperative Extension and chaired by Dr. Doug Lipton, associate professor and coordinator of Sea Grant Extension Programs.

_Sprawl and Politics: The Inside Story of Smart Growth in Maryland_ provides an insider’s look at the origins of the smart growth program from former Governor Paris Glendening’s early years in office through its enactment in 1997 and its expansion and implementation through the end of his term. It also traces what happened to the program when control of the State House passed from Glendening to Robert L. Ehrlich Jr. and, subsequently, to Martin O’Malley.

In addition to first-hand descriptions of back-room meetings with legislators, policy development sessions with the governor and his staff, and the public relations strategies aimed at developing public support for the initiative, Frece’s book concludes with a list of the political lessons learned from the Maryland experience that can serve as guideposts to other states dealing with similar issues.

For information about the availability of the book, please visit: http://www.sunypress.edu.
Extension Team Receives Regional & National Recognition

Lorraine Harley, Family and Consumer Sciences educator in Calvert County, and Liat Mackey, co-director of the University of Maryland Cooperative Extension office in St. Mary’s County, have been named the 2007 National Extension Association of Family and Consumer Sciences (NEAFCS) first-place winners in the Maryland State and Regional Internet Education Technology category and second-place national winners in the same category for writing and teaching the on-line curriculum titled “The ABCs of Nutrition and Health.”

Taught online through the College of Southern Maryland (CSM), this three-week course targets child care professionals, parents, and others interested in nutrition for children under the age of five years. It features two modules, course assignments, and an evaluation component. Module one includes teacher-narrated PowerPoint slides in the areas of infant and young child nutrition and childhood obesity. Module two includes special interest topics in the areas of picky eating, diabetes, nutrition and cognitive development, and food allergies.

Upon completion of the course, child care providers receive six continuing education units (CEUs).

According to pilot session follow-up evaluations, 44 percent of students learned new effects of nutrition on the cognitive development of children; 67 percent will apply the course content in caring for children; and 78 percent learned new ways to encourage healthy eating habits in children.

Iqbal Hamza Talks about Iron on “Modern Marvels” TV Show

Dr. Iqbal Hamza, an assistant professor in the Department of Animal and Avian Sciences, was featured on the History Channel’s television show, “Modern Marvels,” in an episode about iron that aired August 14, 2008. This appearance followed publication of an article by Dr. Hamza, “Bloodless Worm Sheds Light on Human Blood, Iron Deficiency,” in *Nature* online.

In his research, detailed in the summer 2008 issue of *Momentum*, Hamza details how using a lowly bloodless worm, he and his research team have discovered an important clue to how iron carried in human blood is absorbed and transported into the body. The finding could lead to developing new ways to reduce iron deficiency, the world’s number one nutritional disorder.

The research was funded by grants from the National Institutes of Health, the March of Dimes Birth Defects Foundation, Council for Scientific and Industrial Research and Kanwal Rekhi Fellowships, and the Howard Hughes Medical Institute Undergraduate Science Education Program.
Dr. Marla McIntosh, a professor in the Department of Plant Sciences and Landscape Architecture, organized a panel discussion, reception, and book signing centered on challenges involving motherhood and scientific careers. The event was held at the University of Maryland on September 24 and was sponsored by the Office of the Provost; the Colleges of Agriculture and Natural Resources; Chemical and Life Sciences; and Computer, Mathematical and Physical Sciences; along with the Clark School of Engineering and the School of Public Health.

McIntosh is one of the 34 scientists who contributed to *Motherhood, the Elephant in the Laboratory: Women Scientists Speak Out*, published by ILR Press, an imprint of Cornell University Press. These women cover a range of ages and fields of interest, from women who began their careers in the 1970s and brought their newborns to work to graduate students today. Their candid essays reveal a range of career choices: working part-time and full-time, opting out and then back in, becoming entrepreneurs, sharing jobs, and more.

McIntosh and nine other contributors, including editor Emily Monosson, a toxicologist, discussed the book and their experiences and signed copies of the book, which has received praise from academics.

“The stories...are captivating and the picture of science as a field was truly sobering,” says Joan Williams, distinguished professor of law, University of California Hastings College of Law. “I found myself thinking about the authors’ fascinating stories long after I finished reading this book.”
On the Frontlines of Food Safety and Security

by Pam Townsend
Food safety has always been a human health concern. Mad cow disease, avian influenza, and outbreaks of such pathogens as *Salmonella* and *E. coli* have led to illness and death among people, financial devastation to agricultural industries, and major crises in consumer confidence worldwide. And an underlying sense of insecurity in today’s post-9/11 world about agro-terrorism and intentional threats to the food supply has added a new dimension to this concern.

But while a risk-free existence is unachievable, consumers can take comfort in the attention that the University of Maryland College of Agriculture and Natural Resources (AGNR) is focusing on food safety and security. From research labs and farm fields to county fairs and home kitchens, the college is devoting time and energy to these subjects like never before.

**Honing Hygiene Skills**

At its most basic level, food safety involves good personal hygiene. Surprisingly, however, many people don’t know and/or practice the simple steps required to handle, prepare, and serve safe food. Fortunately, University of Maryland Cooperative Extension educators have developed a variety of programs designed to provide this type of information. Take Neighborhood Grime Watch, for example.

Developed by three Extension Family and Consumer Sciences educators, this interactive tool teaches proper hand washing. Participants put a drop of pretend germ lotion on their hands, enter a black fabric tent, and view the glowing “germs” under an ultraviolet light. They then proceed to the hand washing station where Extension educators, dietetic interns, and volunteers teach proper hand washing techniques. After washing their hands, participants enter the tent again to see if their hands are still glowing. “This visual representation does a good job of letting people know if they need to improve their hand washing technique,” says retired Extension educator Madeleine Greene, who helped develop Grime Watch.

The Grime Watch tent has drawn crowds of children and adults at state and county fairs, Maryland Day, AGNR open house events, and even the Annual BBQ Bash held on the National Mall in Washington, DC. The program was presented at the 2002 International Food Safety Conference in Orlando, FL, and part of Grime Watch was used in a food safety promotion during a U.S. Senate hearing at the request of Dr. Elsa Murano, then undersecretary for food safety at the U.S. Department of Agriculture (USDA).

Since 2001, approximately 34,000 people have been reached, and that number is sure to grow.

“Basically, our target audience is everybody,” says Sandy Corridon, Extension family and consumer sciences educator. “We’ve reached health care workers, fair visitors, teachers, school children, food service workers, day care providers, and families across Maryland and beyond.”

Now, after years of educating the public with this award-winning program, Corridon and retired...
teammates Greene and Dianne Miller have turned Grime Watch over to the Maryland State Association of Fairs and Shows, which will incorporate the program at events throughout Maryland and Delaware.

Grime Watch addresses issues of individual hygiene. But when multiple people and steps are involved in food preparation, food safety risks increase accordingly.

For example, home delivered meals are provided to more than a million vulnerable homebound individuals every year through community organizations funded by the Administration on Aging. These meals are handled many times by different people—from the time they are prepared and packaged to the time they are delivered to the customer and consumed. During this process, they are exposed to a host of unique food safety challenges.

“There are currently no national food safety education programs that address the unique challenges faced by the organizations preparing and distributing home delivered meals and that target training of individuals within the continuum of food preparation to food consumption,” says Dr. Nadine Sahyoun, associate professor in the Department of Nutrition and Food Science.

To address this critical need, Sahyoun has received a grant to develop and pilot test an integrated multifunctional food safety training program addressing food preparation, packaging, delivery, and proper storage of food within the home. She plans to make this program available to the network of organizations and agencies whose efforts include feeding the elderly; she’ll use web conferencing distance learning technologies to maximize her reach and effectiveness.

Sahyoun’s long-term goal is to increase the ability of older adults to live independently at home by reducing risk factors that lead to illness and early death. “The results of this project could potentially touch the lives of more than a million people and decrease the risk of foodborne illness through home-delivered-meals programs,” she says. “This in turn would reduce hospitalization, institutionalization, and medical care expenses.”

Of Rules & Regulations

Long before food gets to restaurants, grocery stores, schools, hospitals, or other ultimate sources of food distribution, it is in the hands of farmers, fishermen, and commercial food processors, audiences that also benefit from the work of the College of Agriculture and Natural Resources.

For example, Dr. Christopher Walsh, professor in the Department of Plant Science and Landscape Architecture, has been involved in research and outreach related to good agricultural practices,
or GAPs. Good agricultural practices are a critical preventive component of food safety as fresh fruits and vegetables are moved from farm to table.

Walsh has conducted GAPs training for both industry and Extension educators. Some 40 people, including representatives from major wholesale fruit and vegetable producers, attended a one-day training hosted by Dave Martin, Extension agriculture educator in Baltimore County, earlier this year. This session prepared attendees for the USDA-AMS GAPs certification audit, which is conducted in cooperation with the Maryland Department of Agriculture. Maryland Extension faculty received training at a program developed by Walsh and Ginny Rosenkranz, Extension educator in Wicomico County, over the summer so that they would better understand the certification requirements faced by growers and can help expand implementation of GAPs throughout the state.

Walsh also conducts a global GAPs training program for the Joint Institute of Food Safety and Applied Nutrition (JIFSAN), a decade-long partnership between the University of Maryland and the Food and Drug Administration’s (FDA) Centers for Food Safety and Applied Nutrition (CFSAN) and Veterinary Medicine (CVM).

As important as GAPs are in preventing food contamination, there’s room for improvement, as was made apparent by the widespread Salmonella Saint Paul outbreak first thought to be linked to tomatoes and then to Serrano peppers earlier this year. “Basically, there are still some scientific gaps in GAPs,” says Walsh. “We know that farmers need to take water samples, but what exactly do we sample for and what counts of specific microorganisms do we consider acceptable or unacceptable?” He and several of his colleagues are conducting research with the goal of answering those questions.

With an AES/MCE “linked” grant received by Walsh and others, graduate students Donna Pahl and Demetra Skaltsas have been growing tomatoes at the college’s Wye Research and Education Center and the Salisbury Facility of the Lower Eastern Shore Research and Education Center. Standard pesticide treatments are applied by farm crews at these sites using water from different sources, both ground and surface, and then Pahl and Skaltsas monitor the tomato fruits from these plots for total coliform counts and Salmonella.

A recent grant from JIFSAN will allow Walsh to expand on this work with CFSAN scientist Eric Brown, AGNR horticultural technician Mike Newell, and doctoral candidate Andrea Ottesen. Their research focuses on ecology of bacteria living on the surface of tomato fruit and involves using modern molecular techniques of DNA extraction and identification to study the naturally occurring bacterial populations present on tomatoes. “Our goal,” Walsh explains, “is to understand changes that occur during the growing season so that we can then develop management practices that will minimize the potential for bacterial contamination.”
GAPs is just one of the many acronyms familiar to those in the food industry. Another is HACCP, which stands for Hazard Analysis and Critical Control Points. HACCP regulations are mandated by USDA or FDA, depending on the food product involved, and are designed to reduce exposure to microbial, chemical, and physical hazards in food products. Several Extension faculty are involved in training industry workers in the specifics of HACCP.

For example, Dr. Y. Martin Lo, associate professor and Extension specialist in the Department of Nutrition and Food Science, has been serving as the Maryland HACCP coordinator for USDA’s Food Safety and Inspection Service (FSIS) for more than five years and continues to provide HACCP training for regional food processing industries including the poultry industry on Maryland’s Eastern Shore. Lo also offers the training through the USDA Graduate School to international delegates from such countries as China, Korea, and Kosovo.

Like poultry, seafood is big business in Maryland, contributing some $400 million to the state’s economy each year. So Tom Rippen, an Extension seafood technology specialist at the University of Maryland Eastern Shore, has made it his goal to ensure the industry’s safety, viability, and profitability, in part through leading an education program that enabled the industry to efficiently adapt to FDA seafood HACCP regulations.

Rippen assisted the National Seafood HACCP Alliance with the development and implementation of courses that train regulators, educators, and seafood industry employees in HACCP and sanitation control procedures. He also led national teams that developed training programs in good aquaculture practices and control of scombrototoxin, a histamine poisoning caused by certain fish. Rippen has shared his expertise abroad as well as in the United States, helping commercial firms in 14 countries to establish seafood-processing criteria that ensure product safety and uniform quality.

From Human Behavior to Microbial Resistance

In addition to raising animals and growing fruits and vegetables, some farmers choose to enhance their income potential by producing food items in their home kitchens for sale to the public. But a surprisingly large number do not, and Meryl Lubran, a doctoral candidate in the Department of Nutrition and Food Science, wants to know why.

With guidance from Dr. Mark Kantor, associate professor of nutrition and food science, Lubran is investigating how attitudes about food safety may affect decisions farmers make about whether or not to pursue this type of enterprise. In particular, she is investigating why many Maryland farmers opt not to get a license issued through the Mary-
land Department of Health and Mental Hygiene that allows them to increase their income by selling prepared food products directly to consumers through farmers’ markets and other retail outlets.

As part of her research, Lubran is using behavioral models to study the effectiveness of a food safety licensing course that Extension educators and health department personnel presented to about 200 Maryland farmers in 2005. She is also exploring possible bureaucratic hurdles involved in the licensing process and other factors that may influence farmers’ decisions not to obtain the license.

While Lubran examines food-safety related behavior, other AGNR faculty are focusing on the microbiology of food safety.

For example, Dr. Mickey Parish, professor and chair of the Department of Nutrition and Food Science, is interested in food policy development and implementation with emphasis on risk assessment and risk analysis. He has expertise related to microbiological issues of food safety and spoilage, especially in low pH beverages and juices.

Parish most recently collaborated on research to enhance the safe and secure transportation of liquid foods in over-the-road tankers. He also has been conducting studies on Alicyclobacillus survival and inactivation in juices and purees, and survival of Salmonella in juices. Because of his preeminent reputation on the safety of fruit juices, Parish was named to the Juice HACCP Alliance in 2001 by FDA and was involved in development of the national juice HACCP curriculum.

Dr. Jianghong Meng, a colleague of Parish’s, has a special interest in the antimicrobial resistance of major foodborne pathogens. His investigation on how tomatoes become contaminated with Salmonella was highlighted in the spring 2008 issue of Momentum.

Partnerships and Collaborations

Meng is also the interim director of the Joint Institute for Food Safety and Applied Nutrition (JIFSAN), mentioned above. The programs of this multidisciplinary research and education collaboration focus heavily on food safety risk analysis.

“An effective food safety system should be science-based, with a strong emphasis on risk analysis and prevention,” says Meng. “However, few professionals who are not involved on a daily basis know or understand risk analysis. The worldwide commitment to the use of risk analysis in food safety creates a great need to educate food
safety and other public health professionals about this growing field.”

JIFSAN’s response to this need was to create a Food Safety Risk Analysis Professional Development Training Program that includes face-to-face and online courses focusing on various risk-analysis issues and topics. And as if these efforts weren’t enough, JIFSAN hosts a Summer Integrated Program (SIP) in Washington, DC, that provides participants from around the globe with a world-class learning experience about food safety risk analysis. These programs complement a newly created online graduate certificate in food safety risk analysis offered by the Department of Nutrition and Food Science. Four 10-week online FSRA courses are offered for graduate credit over a one-year period and lead to a University of Maryland graduate certificate.

JIFSAN also spearheads cooperative research and outreach programs designed to ensure the continued safety and wholesomeness of the food supply. “Our hope is that these programs will reflect current needs in food safety and applied nutrition and will lead to the development of new standards, including analytical methods, that support sound food safety policy,” says Meng. One method of
sharing the necessary information is the institute’s FoodRisk.org website, which includes an extensive repository of food safety resources used by professionals around the globe.

Building on the success of JIFSAN, the College of Agriculture and Natural Resources is reaching out to a broader segment of food and agricultural industries through the establishment of the Center for Food Safety and Security Systems (CFS³) to provide world-class multi-disciplinary, integrated research, education, and outreach programs on issues related to the protection of food and water from unintentional contamination, intentional contamination, and economic adulteration.

“Our goal is for the center to become the leader in the development and dissemination of tools that industry, governments, the public health community, and consumers need to systematically anticipate, prevent, and respond to food and water challenges in today’s complex global marketplace,” says AGNR dean, Dr. Cheng-i Wei.

The first step in achieving these goals was hiring an internationally known and respected food safety veteran, Dr. Robert L. Buchanan, to head the center. Buchanan comes to CFS³ following 10 years as senior science advisor for FDA’s Center for Food Safety and Applied Nutrition. During his illustrious career, he has made substantial contributions to food safety research and public health policy and programs, including being on the forefront of developing microbiological risk analyses tools and concepts to support public health decision-making, which has led to the field’s rapid advancement both within the United States and internationally.

Buchanan hopes to use his experience and connections—and the center’s unique location—to establish strong relationships with industry, surrounding research institutions, federal agencies, professional societies, and relevant trade organizations. Such relationships are essential, he believes, given the complex challenges facing our food supply. “It’s dependent upon a multi-faceted system of interactions among government agencies, international and domestic food manufacturers, farmers, retailers, wholesalers, transportation companies, and consumers,” he explains. “After harvesting, there are many steps necessary to turn raw materials into safe, nutritious, and wholesome food products. Any unintentional or intentional contamination of foods with biological, chemical, or radiological agents has the potential for major public health and economic implications for the country.

“I’m extremely excited about the challenges and opportunities that face me as both the director of CFS³ and as a member of the faculty of the Department of Nutrition and Food Sciences,” Buchanan adds. “The University of Maryland is a powerhouse in taking the fruits of research and converting them into useful tools and products that benefit mankind. I have been constantly impressed with the depth of intellectual resources and scientific facilities that we can bring to bear on the development of food protection systems. I’m confident that the university, in partnership with government, industry, and other academic partners, can successfully develop systems that span and integrate the various agriculture and food industry sectors to provide more focused means for addressing the critical needs of Maryland, the United States, and the global marketplace.”
“By establishing a turf scholarship, I can help someone who shares my passion for turf.”
Frank Duda is a young man with a dream—not only for himself, but for others. When Frank was an incoming freshman, he struggled with the dual challenges many freshmen face: meeting tuition and book costs along with the everyday expenses of living while focusing on his studies. So after graduation last December, Frank did a surprising thing for a new graduate. While still paying off his own loans, he established an annual scholarship in the University of Maryland College of Agriculture and Natural Resources (AGNR).

The Frank J. Duda Turfgrass Scholarship helps sophomores, juniors, or seniors majoring in turf and golf course management with tuition and textbook expenses. Applicants must be enrolled as full- or part-time students and have at least a 3.0 grade point average. Frank explains, "I wanted to establish a scholarship for turf students. I feel it's important for the future generation of superintendents from the university to have a connection with someone already in the field. The turf business relies a lot on the university, from hiring interns to diagnosing new problems, and I wanted to stay connected to the turf program at Maryland. Also I feel it's important to give back to my alma mater. By establishing a turf scholarship, I can help someone who shares my passion for turf."

Frank is well aware of the financial costs of getting a college degree and the value of scholarships in meeting those costs. During his first two years, his tuition was paid for through PLUS loans his parents took out, as well as the maximum Stafford loans available to him. A Maryland State Golf Association (MSGA) Emmet Gary Scholarship covered much of his tuition costs his junior and senior years, with additional support coming from the Dr. Thomas A. Fretz Agriculture and Natural Resources Scholarship for Outstanding Leadership his senior year. "The Dr. Fretz scholarship meant a lot," Frank says, "because one of the criteria was you had to be a leader, and for others to see me as a leader was an awesome experience."

In addition to loans and scholarships, Frank paid for his living expenses using money earned from golf course jobs prior to college and with summer internships. Looking back, he says, "I would never classify it as a struggle financially, but I certainly didn't have a lot of cash in my pocket."

Still, he believes it was a small price to pay for the education he received. "My AGNR experience was great," he says. "It provided me with the knowledge I needed to become successful in my field of turf and golf course management. Many of the courses provided me with hands-on experience through labs, exercises, and field trips. And because AGNR is a rather small college within the university, I had a lot of interaction with other students and my professors."

For Frank, this interaction also included two years as an AGNR peer mentor and three years as an AGNR student ambassador. He enjoyed being able to share his AGNR experience with incoming freshman and prospective students. In turn, he credits AGNR staff with helping him through his college experience. Beth Weiss, assistant to the dean for admissions and recruitment, "was kind of like my mom while I was at school," he says.

And somewhere along the line, Frank found time to write an article on controlling turf diseases through changing the soil pH, which was published in the Life Sciences and Natural Resources Journal.

Today, Frank is an assistant superintendent at Miacomet Golf Course in Nantucket, Massachusetts. "The position is awesome," he says enthusiastically. "We just completed a nine-hole renovation and were able to reopen the holes seven weeks ahead of schedule. I really enjoy working with my bosses. They continue to teach me about the business and how to be successful. I enjoy the turf industry and look forward to being a part of it for many years to come."

As for future ambitions, Frank says, "My future plans are to become a successful superintendent wherever I am given an opportunity. And eventually I would like to endow my scholarship, but that will take some time."
“Jim is proud of the fact that he’s giving information to people that improves the environment.”

—Jon Traunfeld, HGIC Director
Some people retire and never want to set foot in an office again. When Jim Leith left the workforce after 36 years, he sampled retirement only to decide two years of “freedom” was enough. So after 25 years as a statistician for the Social Security Administration, preceded by 11 years in quality control for Reynolds Metal’s aluminum foil division, Leith took a part-time job as a program assistant for the College of Agriculture and Natural Resources’ Home and Garden Information Center (HGIC). Seventeen years later, at age 81, he has no plans to retire.

Jon Traunfeld, his boss and HGIC’s director, refers to Leith as Mr. Steady and cites him for his dedication and dependability. During Leith’s 9 to 12 hours a week, Traunfeld says, “he helps with evaluations, surveys, and statistics; processes plant samples; fills requests for publications; and takes care of all the center’s mail.”

“Jim is proud of the fact,” Traunfeld says, “that he’s giving information to people that improves the environment.”

A 1953 University of Maryland graduate in chemical engineering, Leith is a devoted member of the alumni association. Although he still holds basketball season tickets, one of his sons now attends the games, except for one afternoon game each year he keeps for himself. He bowls twice weekly in two separate leagues, serving as statistician for both.

Leith, who with his late wife raised seven children, has 12 grandchildren. He served in the Navy during World War II, stationed on an aircraft carrier escort ship. “I went to Maryland on the GI Bill,” he says. “Without it, I couldn’t have afforded college.”

The only thing close to a regret that Leith expresses is “I wish I’d known about Cooperative Extension when I was a young homeowner.”
Against the background of the carnival-like midway of the 2008 Maryland State Fair, the College of Agriculture and Natural Resources (AGNR) helped educate and entertain thousands of Maryland residents through activities, displays, and demonstrations.

And this year, in addition to the popular milking parlor and birthing center, the college introduced a special educational exhibit in the Cow Palace during the “Eleven Best Days of Summer.” Dairy cattle from the college’s Central Maryland Research Education Center were on display, with information about the animals’ ages, what they eat, and how they are cared for at different stages of their life.

Another new addition: twenty panel banners describing the college’s many diverse programs and activities in the focus areas of water quality, sustainable agriculture, food safety and security, natural resources, and human and animal nutrition and health. College faculty and staff were available to talk with visitors about both the animals on display and the information presented on the banners.
And of course, Maryland 4-H’ers took center stage throughout the fair, demonstrating knowledge and skills involving everything from fashion and computers to care and handling of animals, both common and exotic.
Farewell to Old Friends

H. Edward “Flick” Reiley of the Woodsboro, MD, area died March 16 at his home after a brief illness. He was 79 years old.

Reiley graduated from the University of Maryland in 1951 and earned his master’s degree in 1967. He served in the U.S. Air Force during the Korean War.

Reiley was employed for 30 years with the Frederick County Board of Education and retired as the director of vocational education. He played an instrumental role in the development and construction of the Frederick County Career and Technology Center. He started the Evening High School program held at Thomas Johnson (now located in Walkersville as Flexible Evening High School and Adult Education), serving as the principal for the program’s first three years.

Following retirement from his career in education, Reiley owned and operated Reiley Ridge Nursery from 1981 to 2005.

Reiley was a former member of the Glade Valley Lions Club and the Glade Valley Grange. He was past president of the American Rhododendron Society and a life member of the Future Farmers of America. He enjoyed gardening and as a horticulturist he wrote two books, *Success with Rhododendrons and Azaleas* and *All about Azaleas, Camellias & Rhododendrons*. He also co-authored *Introductory Horticulture*, which is used worldwide as a textbook.

Reiley is survived by his wife of 52 years, Mary Dunkelberg Reiley; two daughters, Susan Westplate of Granger, IN, and Lora Mercer of Woodsboro; two sons, Steven E. Reiley of Highlands Ranch, CO, and Jeffrey C. Reiley of Woodsboro; a sister, Betty Rippeon of Walkersville; a brother, Rev. Ray S. Reiley of Shorterville, AL; sister-in-law, Margaret Reiley of Fredericksburg, VA; 13 grandchildren; and three great-grandchildren. He was preceded in death by two brothers, John H. Reiley and Carl F. Reiley.

G. Richard Curran, a retired Maryland Cooperative Extension agriculture agent in Baltimore County, died July 24 at Carroll Hospital Center. He was 78.

A native of York, PA, Curran graduated from Penn State University in 1953 and later earned his Master of Science degree in extension education from the University of Maryland.

During his 26 years with Maryland Cooperative Extension he achieved special distinction for organizing and promoting urban-rural events in one of Maryland’s most populous and urban counties. Farm Visitation Day, Maryland Agriculture Week at major shopping malls, and the Baltimore Farmers’ Market were initiated by Curran. He also was instrumental in organizing the annual Baltimore County Field Crop Day, county field crop demonstration plots, tailgate farmers’ markets, nutrient management and integrated pest management programs, and a county grain marketing club.

A highlight of Curran’s career was being elected to the presidency of the National Agricultural Agents Association in 1988, becoming one of three Marylanders to serve in this role. He received the association’s Achievement Award in 1976 and Distinguished Service Award in 1984.

Curran also served as president of the Maryland Association of County Agricultural Agents and as an adviser for the Weed Control Board, the Farmers Produce Association, the Central Maryland Beekeepers Association, and the county committee of the USDA’s Agricultural Stabilization and Conservation Service. He was a member of the Agricultural Advisory Committee for the Second Congressional District appointed in 1985 by Congresswoman Helen Delich Bentley, R-Md.

At the time of his retirement in 1996, Curran was on personal leave in Poland as a follow-up to his previous participation in the Polish-American Extension Project.
designed to assist Polish farmers through their country’s transition period in adapting to a free market economy.

He served as an elder in the First United Presbyterian Church and was active in the YMCA and the now-disbanded Civitan Club.

Curran is survived by his wife, Danka Dera Curran; his first wife, Nancy K. Curran of Hanover, PA; sons Robert W. of Westminster, Patrick A. of Hanover; daughters Stephanie K. Scott of Westminster, and Christina L. Krouse of Hanover; a stepson, Szymon Dera of Westminster; and five grandchildren.

Memorial contributions may be made to the G. Richard Curran Scholarship Fund c/o Baltimore County Farm Bureau, 1840 York Road, Suite J, Timonium, MD 21093.

Dr. Arthur Howard Thompson, professor emeritus in the University of Maryland Department of Horticulture, died peacefully of complications from cancer on August 15 at his home in Catonsville. He achieved the ‘ripe’ age of 90.

Thompson was born in Duluth, MN, and was raised on the Northeast Experiment and Demonstration Station, a research facility of the University of Minnesota. He received a Bachelor of Science degree from that institution in 1941. For medical reasons, Thompson was ineligible to serve in the military during the war years and instead concentrated on obtaining an advanced degree. Bypassing the master’s degree level, he received his doctorate degree from the University of Maryland in 1945 and married Isabella A. Blackhall that same year.

Thompson’s first professional appointment was assistant pomologist with the U.S. Department of Agriculture (USDA) in Wenatchee, WA. In 1950 he obtained a horticulturist position with the University of West Virginia at the Kearneysville Experimental Station. Two years later he accepted the position of professor of pomology at the University of Maryland, where he served for 31 years until his retirement in 1983. In this position, he engaged in a mixture of research, teaching, and extension work.

Thompson was a Fellow in the American Society for Horticulture Science (ASHS) and a member of Sigma Xi, a national scientific honorary society, and Phi Kappa Phi, a national scholastic honorary society. He received many awards during his career, including the M. A. Blake Award for Distinguished Graduate Teaching from the ASHS and the Excellence in Teaching Award from the University of Maryland College of Agriculture. He also received a distinguished service award from the International Dwarf Fruit Tree Association (IDFTA) and a Service Recognition Award from the Maryland State Horticultural Society.

The retirement years did not stop Thompson’s desire for learning nor his long association with his colleagues, contemporaries, and those in the fruit industry, both locally and nationally. He continued to keep intellectually current on advances within the fruit industry and enjoyed attending graduate seminars at the University of Maryland. Long-established relationships with fruit growers were maintained and even expanded to a degree, as many of the students he taught were now a part of the industry.

For many years Thompson would return every growing season to the orchards surrounding his beloved Wenatchee, WA, surrounded by the Cascade Mountains, where both his career and his family life began. As much as possible, he would arrive in time for the blossoming of the trees, returning to Maryland upon the harvest of the fruit.

Thompson is survived by Isabella Blackhall Thompson, his spouse of 63 years, and their four children, Margaret, Janet, James and Robert; his sister, Genevieve Kemen; nine grandchildren and one great-grandchild.
Internationally known dairy cattle judge and dairy youth supporter Dr. J. Lee Majeskie of Centreville died suddenly on August 22 at the University of Maryland Hospital. He was 67 years old.

Majeskie retired from his position as professor emeritus and Extension specialist in the Department of Animal and Avian Sciences at the University of Maryland in 2005. He received his B. S. and M.S. degrees at the University of Wisconsin and his Ph.D. in dairy cattle breeding and genetics at Kansas State University.

In 1970 Majeskie became the director of program development for the U.S. Brown Swiss Cattle Association. During his five-year tenure, he developed the Production and Type Performance Registry Program; initiated a National Brown Swiss Young Sire Program; and directed the growth of the Identity Enrollment Program for unregistered Brown Swiss.

In 1975 Majeskie accepted a position at the University of Maryland, where he served as an Extension dairy specialist, providing educational programs to youth and adults in the dairy industry. During his 30 years at the university, he taught more than 1,500 students. He was also the faculty adviser for the Animal Husbandry Club for a number of years. The club hosts livestock shows that formed the foundation of a college-wide “county-fair like event” each April called Ag Day, allowing dozens of undergraduates to gain meaningful large-animal handling experience annually. Ag Day has evolved into a campus-wide event called Maryland Day, which has attracted more than 75,000 people to campus recently.

Majeskie’s research program included applied research in dairy cattle management, using data generated from the Dairy Herd Improvement (DHI) program. He provided the leadership and development of educational programs for dairy producers and users of dairy records generated in the DHI program and presented 43 presentations in 21 countries on topics related to genetic improvement of dairy cattle.

Majeskie conducted judging clinics in six states and served as official judge for more than 125 district, state, regional, and national shows in 31 states. He also served as coach of the highly successful Maryland 4-H Dairy Cattle Judging Program for 25 years. During that time, his state teams placed in the top three nationally 18 times and won the national contest five times.

Living in a small state with increasing urbanization, Majeskie is also known for initiating a dairy leasing program that allowed non-farm 4-H youth to lease a dairy animal and participate in dairy projects, including showing. This leasing program celebrated its 20th anniversary in 2008.

Majeskie received numerous awards over the years, including the prestigious American Dairy Science Association’s Award of Honor. He also was inducted into the Maryland Dairy Shrine earlier this year.

Upon his retirement, two scholarships were established in Majeskie’s honor: one in the College of Agriculture and Natural Resources for students in animal sciences with a focus on dairy and one in the Maryland 4-H Foundation in support of youth with 4-H dairy project backgrounds. This was the first time in their history that the college and the foundation established scholarships in honor of a faculty member.

Majeskie was a member of the National Dairy Shrine Board of Directors, DHI-Provo, Dairy Shrine Scholarship Selection Committee, Maryland Holstein Association and Scholarship Committee, Wills Show Committee, Maryland Brown Swiss Association Board of Directors, National Brown Swiss Board of Directors, Maryland Dairy Shrine, Maryland Pure Bred Dairy Cattle Association, Coordinating Committee for the National 4-H Dairy Cattle Judging Contest, and American Dairy Science Association.
He was also a member of the Symphony Village Community Association, an enthusiastic Terrapin Club member, Maryland 4-H Dairy Bowl contest official, Maryland Dairy Princess Committee member, and a member of Asbury United Methodist Church in Millington.

Majeskie is survived by his loving and devoted wife, Judy Alexander Majeskie of Centreville; his son, Matthew Majeskie of Madison, WI; stepson Troy Alexander and his wife, Nicole, and granddaughter, Cassidy, all of Millington; and sister and brother-in-law Joyce and Randy Martinson of Elkhorn, WI.

Memorial donations may be made to Maryland 4-H Foundation, memo to Lee Majeskie Scholarship and mailed to Maryland 4-H Center, 8020 Greenmead Drive, College Park, MD 20740; or to the UMCP Foundation, memo to Lee Majeskie Scholarship and mailed to the University of Maryland, College of Agriculture and Natural Resources, 1221 Symons Hall, College Park, MD 20742, Attention: Brian Magness.

Conrad B. Link, professor emeritus of horticulture in the College of Agriculture and Natural Resources died September 12 at his home in Gaithersburg. He was 96.

Dr. Link was born in western New York and earned his B.S., M.S., and Ph.D. degrees in horticulture at The Ohio State University. He served in the U.S. Army during World War II. Prior to joining the University of Maryland faculty in 1948, he had worked at the Brooklyn Botanic Garden in Brooklyn, NY; Penn State University and The Ohio State University.

Dr. Link was nationally known in the field of ornamental horticulture and as a teacher and adviser. Active in breeding work with azaleas, hydrangeas, poinsettias, carnations, roses and other floricultural crops, Dr. Link was a co-recipient with Dr. James B. Shanks, also from the University of Maryland, of the American Society for Horticultural Science’s Leonard H. Vaughn national research award for floriculture in 1954. The Maryland Nurserymen’s Association established the Link-Shanks Scholarship Award in their honor to recognize undergraduate students.

Dr. Link retired in 1982 after nearly 34 years on the faculty at the University of Maryland. He taught more than 2,000 undergraduates and was the major adviser for 41 master of science students and 15 doctoral students. He authored many professional and popular publications. Flowering Trees and Shrubs was published in both English and Italian in 1969. The library at the American Society for Horticultural Science headquarters in Alexandria, VA, is named in his honor. He received the society’s L.M. Ware Award for Distinguished Teaching of Undergraduate Students in 1983. He was made a fellow of the society in 1971.

Dr. Link was a charter member of the University United Methodist Church in College Park and taught Sunday School. As a member of the university’s Speakers Bureau, he made presentations on “Plants of the Bible.”

He is survived by his wife of 59 years, Kathleen Barber Link, daughters, Helen and Leora, and a son, the Rev. Conrad O. Link. There are nine grandchildren and six great grandchildren. Services were held at the Guild Chapel at Asbury Methodist Village in Gaithersburg.

Memorial contributions may be made to the Wesley Foundation, University United Methodist Church, 3621 Campus Drive, College Park, MD 20740.
AGNR Alumni & Friends Email Listserv Being Established...Let Us Hear from You

As we settle back into fall routines, we would like to share your news with other alumni and friends of the College of Agriculture and Natural Resources.

Please take a moment to share your latest news either by using the form on the next page or by emailing me directly. We are proud of your professional accomplishments and involvement in your communities. We are also pleased to share your personal milestones with your fellow alumni.

We hope to hear from you and share our AGNR terrapin pride with others.

GO TERPS!!

Gail Poffenberger Yeiser
Assistant to the Dean for Alumni and External Relations
AGNR Alumni - Let Us Hear from You!

Name:   First______________________ Middle___________________ Last _______________________

Maiden or Name at time of Graduation: _____________________________________________________

Degree(s) and date of graduation(s) _______________________________________________________

Majors/Specialties______________________________________________________________

Current professional specialty: ____________________________________________________________

Current Volunteer Roles_______________________________________________________________

Home Address: ________________________________________________________________________

City____________________________   State ________________________  zip____________________
(Is this a new address within the past 6 months?)

Home Email: __________________________________________________________________________

Employer: ____________________________________________________________________________

Job Title______________________________________________________________

Business Address_______________________________________________________________________

City____________________________   State ________________________  zip____________________

Business Email: __________________________________________________________________________
(May we include this on the AGNR and Friends List Serve? ___yes   ___no)

Phones: ________________home ________________business____________ mobile_______________

News or information that you would like to share with other alumni or Dean Wei:

_____________________________________________________________________________________

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Please complete this page, detach and return to:

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FAX:  301-314-9146     Email:  gyeiser@umd.edu
Ph.D. Student a Two-Time Winner

Patrick Williams, a Ph.D. student in the Department of Nutrition and Food Science, has received the 2008 first place prize from the Refrigerated and Frozen Foods Division of the Institute of Food Technologists (IFT) for the second year in a row. Williams, who entered Maryland’s Ph.D. program following graduation from Virginia Tech with a BS in Chemical Engineering, is working on developing a hydrocolloid—or gum—mixture that is stable over multiple freeze-thaw cycles.

Gums, generally derived from plants or produced by fermentation, are widely used in the food industry to increase the quality of foods by stabilizing, thickening, and emulsifying such products as ice cream, salad dressings, and surimi. Under the guidance of Dr. Y. Martin Lo, Williams is exploring combinations of these gums to create the desired “mouth feel” of frozen foods. He is focusing on curdlan gum, which although not as well known as other gums in the United States, can provide a unique texture to foods. Because holding water is an important aspect of frozen foods once they are thawed and because curdlan is not very stable in aqueous solutions, Williams has attempted to increase its stability by creating a hydrogel complex of curdlan with other, more widely used gums, such as xanthan, guar, carrageenan, or locust bean gums.

“We found that the xanthan/curdlan complex showed the most resilience throughout all the experiments,” he says. “Our next steps are to possibly study the complex with other food ingredients like salt or protein and to test its usefulness in several frozen food applications.” —PT

Lions and Tigers and Interns, Oh My!

Cindie Hengen, a junior in the Department of Animal and Avian Sciences, had a wild time over the summer…but not at the beach. As one of just six college students selected for internships at the Smithsonian National Zoological Park, Hengen spent her days observing the impact of enrichment strategies on African lions and Sumatran tigers. “Environmental stimuli are essential for the welfare of captive felids because it promotes natural behaviors, which in turn improve physical and physiological health,” Hengen explains.

Under the guidance of Dr. Erika Bauer of the National Zoo, Hengen and the other interns investigated the effects of two enrichment strategies—environmental enrichment involving foods and objects, and yard shifting, which involved moving the cats from one outside yard to another—one behavior in order to assess the wellbeing of the nine animals.

According to the results of the seven-week-long study, enrichment had a significant overall effect on activity levels. On days without enrichment, average activity level was 30 percent of total behavior, increasing to 40 percent on days with enrichment. Activity was defined by the research team as “visible behavior,” such as eating, drinking, vocalizing, traveling, chewing, investigating, solitary play, swimming, pacing, grooming, scent marking, and social interaction. Environmental enrichment had a particularly strong effect on younger individuals, increasing their activity level by 50 percent.

Hengen coauthored a paper about the research, which is currently being edited by Bauer before submission for possible publication in the Journal of Zoo Biology. —PT
“Ag Discovery” brought 15 high school students from Georgia, Kansas, New Jersey, North Carolina, and Maryland to Campus for two weeks during July. The students had the opportunity to visit and meet Campus faculty and graduate students and to learn about current research activities.

The students also got behind-the-scenes tours of APHIS functions at the Smithsonian, BWI and other nearby facilities. This effort in previous years has proven successful in recruiting students into AGNR majors.

The Academic Programs Office wishes to thank all persons who contributed effort and time toward making the 2008 event a big success!

“Ag Discovery” is a collaborative project between the AGNR Academic Programs Office and USDA-APHIS that has been ongoing for 3 years.
For more information on Academic Programs, contact:

Elizabeth Weiss
Assistant to the Dean for Admissions and Recruitment
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