The College of Agriculture and Natural Resources is clearly poised to continue our good work to become a nationally regarded leader in areas addressed by our departments and programs. As you read through this issue focused on our Department of Plant Science and Landscape Architecture, I hope that you learn about the excellent projects that our faculty, staff and students are engaged in to make a positive difference. There is also news about our outstanding faculty, students and alumni from other departments which demonstrate the breadth and depth of AGNR.

In December 2010, AGNR faculty and staff visited with our new campus President, Wallace Loh. We welcomed the opportunity to hear his vision for the future and also shared highlights about AGNR with him. This gave us a chance to reflect on the state of AGNR as we welcomed Dr. Loh and it gave me great pride. I’ve also shared these accomplishments with other groups across the state and would like to share some of those with you here:

• **AGNR is growing** – our undergraduate enrollment has increased 22% from 2006. Enrollment for Fall 2010 was 1144 students. Our funding from outside grants has also continued to grow with faculty being awarded over $34 million in extramural funding. Some of the projects funded by grants are featured in this issue and will continue to be featured in future issues.

• **AGNR is an international leader** establishing a Distance Education Center with Russia’s top agricultural university and welcoming 21 top students from China to campus using our 2+2 program. We recently expanded this successful program to three other Chinese universities. You will find stories about some of our students’ international experiences in this issue as well.

• **AGNR is active in protecting the health and prosperity of the Chesapeake Bay** through our Department of Environmental Science and Technology’s ever growing undergraduate enrollment. AGNR’s Sea Grant Program has led in the recovery efforts of the blue crab population and the growth in oyster farming. We also work with the 20 crab processors in the state to ensure that Maryland crabmeat is the highest quality possible.

• **AGNR & University of Maryland Extension helps over 1 million Marylanders** live better every year. In 2009, 84,000 young people and 3,500 volunteers took part in our Maryland 4-H youth development programs. In Baltimore City, UME educators helped establish over 40 community gardens which produced over 63,000 pounds of fresh produce. Over 45,000 Marylanders participated in Master Gardener classes, clinics and presentations. The Home and Garden Information Center has answered over 15,000 questions so far this year, via phone, email, websites, YouTube, Facebook and Twitter.

I hope that you enjoy this issue of Momentum and more importantly, that you keep in touch with us to share your good news and ideas for making AGNR even better.
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Dr. Steven Cohan has written the book on landscape management ... literally.

The coordinator of the Landscape Management program within the Department of Plant Science and Landscape Architecture at the University of Maryland’s College of Agriculture and Natural Resources, Dr. Cohan has worked to catapult this newly accredited program to national recognition.

Since becoming an option in the Plant Sciences Program in 2000 and achieving accreditation by the Professional LandCare Network (PLANET) Accreditation Review Panel, the program has grown more than 600 percent with 50 students currently enrolled. There are only nine four-year programs in the country accredited by PLANET.

“As we get more exposure we will continue to grow. Across the country it is still an unknown major. The general public thinks landscaping is the guy in a pickup with a lawn mower in the back. Getting an
When it came to finding a job after college, Justin Nicholas wasn’t worried. With a degree in landscape management it was more a matter of deciding which job offer to accept.

“I have had a lot of other friends with accounting and business majors who are having trouble finding a job. Ours is such a unique major that the landscape companies and bid corporations are eating it up,” Nicholas said.

A 2010 graduate from the University of Maryland Landscape Management Program, Nicholas stepped right into a job with a $1 billion company. A contract employee for ValleyCrest Landscape Corporation, he has found himself back on the University of Maryland campus. He was assigned to a reflecting pool and fountain project on campus at the Memorial Chapel.

“It feels good to come back to campus and give back to the place I spent four years,” he said.

Forbes recently ranked ValleyCrest as one of the top 500 of the largest private companies in America. The firm is a national full-service site design, engineering, landscaping and horticultural service contractor for landscape maintenance and construction and golf course maintenance. The company has about 10,000 employees.

Nicholas first met ValleyCrest company representatives as guest speakers in some of the landscape management courses. “People who are within the major are already tied to the big companies because those companies are coming to us while we are in school,” he said. “They want to hire us when we graduate because they already know us and know all about this major.”

The variety of courses and specifics of the coursework to the industry afford students experience that takes others more than a decade to learn in the field. “It is a tough course and I think that takes a lot of people by surprise,” Nicholas said. “But by having a lot of business management and landscape business practices courses it put us above others in the field.’

Combining the ability to read blueprints, select the appropriate construction materials, understand local code law and identify plant material with business and human resources skills makes graduates from the University of Maryland Landscape Management program top picks in the industry.

“I am prepared for every aspect of work in this field. You can come out of this major and be ready to be a manager, a regional manager and a vice president. You will learn things in this major you won’t ever learn in the field,” Nicholas said.
MAJOR MOVE TO SUCCESS

By Krista Brick

Solomon Foster started his college career as a molecular biology major but a switch to a landscape management degree is allowing him to mix a love of science and creativity.

“IT is everything a well-rounded person would need in that major,” he said.

Graduating top of his class in 2003, Foster said he is glad he made the switch. He excelled in college after finding passion for the major. “I was going to be the first to finish the Human Genome Project but I didn’t like sitting in labs all day,” he said of his decision. “I tried landscape management and really enjoyed that it was never the same. It taught me to think of solving problems in different ways.”

Foster is now the horticulturist in charge of the fountain gardens in the West Building of the National Gallery of Art in Washington, D.C. He also helps with the grounds of the gallery, the sculpture garden and special events there.

“I am able to use reasoning and problem solving but can also use my hands,” he said. “There are just so many different routes you can take with this degree: horticulture, arboriculture, soil sciences and nursery management.”

In fact, Foster started his career after college working as a project manager at a small design/build landscape firm in Crofton, working on high-end projects. After three years, he moved to Johnson, Mirmiran and Thompson, an engineering firm which contracted him to the Maryland State Highway Administration. There he served as a technical resource assistant, writing specifications for roadside landscape projects and erosion control efforts.

“This major gave me the opportunities to excel. I knew off the top I can do this. I had the people skills and I really enjoy that it is never the same,” Foster said.

Landscape Contracting.

“Before using the book we had to rely on trade magazines. This book is used throughout the country now and talks about accounting to business management as it pertains to this particular industry,” Dr. Cohan said.

Students working within the major can expect to take chemistry classes, accounting, microeconomics, marketing principles and business writing; not your typical plant science courses.

“Our students will have a strong science background but they also need the business management piece,” Dr. Cohan said.

The major stresses not only the ability to identify plants, design and have strong horticultural expertise, but also how the industry makes money. Students are taught how to understand job cost management, understand production so to maximize efficiency and be a leader. “A strictly horticulture major was always production oriented which meant you hit the ceiling quickly. Landscape management is for those students who want to be hands on, be entrepreneurial or corporate oriented who are looking for a high ceiling,” Dr. Cohan said.

To do that, Dr. Cohan relies not only on classroom work but also experts in the field he brings to the classroom for practical exposure. Students visit local businesses to see how the industry works and how the material they are learning is applied in daily operations. His relationship with the industry helps to link students with internships and careers post graduation. Students are required to complete at least one internship in the industry.
Dr. Cohan even has his students participate in a Rosetta Stone Spanish immersion course so they are able to communicate with much of the workforce that makes up landscape management. His students have a Spanish workbook specific to the landscape industry so they have a working knowledge of the language.

His teaching method is paying off. This year, his team of 17 students placed fifth among 70 teams in the PLANET Student Career Days, a sort of landscape Olympics competition. The competition tests students’ technical skills and education in 25 events ranging from business management to landscape installation.

More prospective students are being drawn to the program at University of Maryland from the northeast corridor where it is one of the only programs of its caliber. Some students transfer into the major after completing core classes at community colleges.

“We get some students who specifically are plant oriented and want to work in the industry, some who go into their own businesses and others who go with a large corporation. There are several large landscape companies in our backyard that are the top 25 in the country,” he said.

As environmental sustainability continues to gain momentum, Dr. Cohan has incorporated a special seminar series specific to the topic. He includes a 15-week lecture series on how sustainability in landscape pertains to the urban environment and also discusses Department of Natural Resources policies on storm water management, rain gardens, and sustainability.

**GRADUATE ENJOYS DISNEY DESIGN**

By Krista Brick

J.W. Hudson Puente knows what kind of flowering vine makes a panda happy, that monkeys like to rest in tall patches of grass and how to design a landscape for a multi-billion dollar resort in Disneyland.

He’s taken his landscape management degree from the University of Maryland and put it to practical use at the Smithsonian’s National Zoo and the horticultural department in Disney’s Magic Kingdom.

“With this degree you get to work and live in beautiful places. It is a major that takes scientific information and brings it to reality,” Puente said.

From Brookville, Puente originally was interested in plant sciences but opted to move to the landscape management program which offered the opportunity to work in a variety of settings. He started working for the National Zoo’s horticulture department helping to design and implement exhibits.

“I learned that pandas won’t mate without a certain scent provided by a flower that grows on a vine. Once we figured that out, we imported it from China,” he said.

The challenge was learning about the different animals’ habitats and working to replicate elements of those habitats within the animal enclosures. He could apply his expertise in horticulture, pathology, drainage and design to this practical situation. “Without providing the right environment the animals could go into depression,” he said.

His enthusiasm for the field led him to a paid four-month internship with Disney’s Magic Kingdom. Puente starts his day at 5 a.m. before guests make their way through the resort’s 47 square miles. He has submitted a landscaping plan for the...
Polynesian Resort which attempts to replicate a Hawaiian environment.

“You have to understand the vision of the site on the theme park which is different than a residential or commercial project. You have to use plant identification to know what is planted there and the purpose of it,” he said. Puente has shaped topiaries, planted annuals to effect a character representation and helped install and maintain innovative landscaping features.

Recently, Puente was awarded the Disney Dreamer Award for developing a plant identification brochure for guests who want to receive information about the plants and growth habits of the vegetation in the parks. Guests can fill out a form and send it to Disney’s horticultural department if they have specific questions about plants they saw in any of Disney’s parks.

“Guests walk through our parks to observe our world-renowned landscapes and have no way of getting information about them after the horticulture crews get off at 1 p.m.,” Puente said. “So I came up with a brochure/form that guests can get anywhere in the park, fill them out and send them to Disney Horticulture at no cost to them. With the multiple choice questions and indicators on a map, Disney Horticulture will respond to them with all the information they would like to know about the plants.”

The University of Maryland’s Landscape Management Program provided the keys to being able to excel at these demanding internships. “Dr. (Steven) Cohan gets professionals to come into class and talk about the challenges in the field. He shows us the reality of applying the science as a functional major,” Puente said.

The addition of a Rosetta Stone Spanish workshop to the program was something Puente said was crucial in working in the professional environment. “I am being asked to interpret for the subcontractors. We learned phrases that are important in our business,” Puente said.

A graduate in May 2010, Puente has had several job offers in the management level of landscaping firms.

**Landcape Architecture Programs**

The Bachelor of Landscape Architecture (BLA) is a four-year, limited enrollment, professional degree program. It started in 1993 and has been accredited by the American Society of Landscape Architects (ASLA) since 1998. The BLA program attracts students who have a variety of environmental interests, from horticulture and gardens to regional planning and urban design. Students develop critical thinking skills through the design studio process that tests scientific and artistic ideas in the context of contemporary issues and site opportunities and constraints. This undergraduate program typically has 90-100 full-time students.

The Master of Landscape Architecture (MLA) program is characterized by its strong commitment to ecologically sound principles applied to land use, landscape preservation, and sustainable urban development. It was initiated in fall 2008 and has been approved as a candidate for accreditation by the ASLA. The MLA program will be reviewed for full accreditation following the commencement of its first graduating class in May 2011. The MLA has a 3-year First-Professional degree curriculum and a 2-year Post-Professional degree curriculum. As of fall 2010, the MLA has 24 full time degree candidates. Ten of these students have 9-month Graduate Assistantships.

During the 2009-2010 academic year, BLA and MLA students entered several local and national design competitions, winning $10,000 awards for each of two entries. In the Hillman Case Study Competition sponsored by the University of Maryland Colvin Institute of Real Estate Development, three landscape architecture students—Zoe Clark-west (MLA), Kameron Aroom (MLA) and Michael Benson (BLA)—collaborated with students in Engineering, Real Estate Development, and Urban Studies and Planning. Their second-place scheme for a ski resort in Pennsylvania, was lauded for its clarity, innovation, and financial feasibility. In January, Kameron Aroom joined forces with students from a variety of design and planning disciplines to compete in the Urban Land Institute/Gerald D. Hines student Urban Design Competition, The University of Maryland was four teams that made it to the Finalist Stage from a field of 117 team entries.
"I love my field, and I also love teaching," says Dr. Vikki Chanse, the newest faculty member in the Landscape Architecture Program in the Department of Plant Science and Landscape Architecture (PSLA). "The field keeps developing, and students are playing a pivotal role."

Dr. Chanse comes to the College of Agriculture and Natural Resources with a diverse academic background in biology, city and regional planning and landscape architecture. She also has a certificate in permaculture and specialized training in watershed restoration. Prior to her appointment here, she earned master and doctoral degrees from the University of California at Berkeley and served as assistant professor in the Department of Planning and Landscape Architecture at Clemson University in South Carolina.

"Maryland as a state has done so much in terms of green infrastructure, stormwater management and watershed planning. Its green infrastructure and watershed approaches put it on the cutting edge nationally," says Dr. Chanse. "I was very attracted to this region and this university because of that. It will also be very beneficial for research and teaching purposes to have close connections to the Chesapeake Bay region."

In addition to taking advantage of being in the heart of a rich geographic region, Dr. Chanse says several other factors contributed to her joining the PSLA faculty. "Because of my background in biology, I am looking forward to working in a department focusing on ecological dimensions in conjunction with landscape architecture," she explains, adding that the faculty members and students she met during the interview process were impressive and collegial. "I do a lot of cross-disciplinary work, and I’ll be able to interact and conduct research with experts in plant biology, forestry, civil engineering and other disciplines at Maryland."

While at Clemson, Dr. Chanse was on an interdisciplinary team for the city of Aiken’s (South Carolina) Sand River Headwaters Green

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**New Professor Brings New Perspectives to AGNR**

By Susan J. Burlingame

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**DR. SONJA DUEMPELMANN RECEIVES RENOWNED DUMBARTON OAKS FELLOWSHIP**

Dr. Sonja Duempelmann, assistant professor of landscape architecture in the Department of Plant Science and Landscape Architecture, has been awarded a prestigious fellowship at Dumbarton Oaks in Washington, D.C. Run by the Trustees for Harvard University, Dumbarton Oaks is internationally recognized for supporting research related to Byzantine and pre-Columbian art history, as well as garden and landscape history.

Dr. Duempelmann, a garden and landscape historian, plans to use the resources of the Dumbarton Oaks Research Library and Collection for work on her new book, titled Flights of Imagination: Aviation and Innovation.
Evolved over the last several decades—in terms of overall awareness, I see how concern about the environment and sustainability has populating the field. “As I look at the history of landscape architecture can bridge many disciplines such as history, urban and regional planning and environmental studies,” says Dr. Duempelmann. “I enjoy drawing students’ attention to how multifaceted our field is.”

Infrastructure Project, which incorporated sustainable development practices to capture and treat storm water in downtown watersheds and is one of the Sustainable Sites Initiative pilot projects. Dr. Chanse says students who worked with her on the project developed some of the conceptual designs for bioretention sites. These student concepts were presented to the city council.

Students played a key role in the research projects Dr. Chanse was involved in at Clemson, and she plans to continue the trend. “It is critical to give students experience not only in translating design into actual plans, but also to teach them how to engage residents and stakeholders,” she said.

Students also played a key role in a partnership, led by Dr. Chanse, that garnered the 2009 Environmental Justice Achievement Award from the U.S. Environmental Protection Agency. Clemson’s Restoration Institute combined with North Charleston’s Mitigation Agreement Commission, the Lowcountry Alliance for Model Communities (LAMC) and other partners to study and mitigate the possible negative effects of expanding the Port of Charleston. The partnership was selected for the EPA award based on “an outstanding effort to work with the city and the ports authority to foster environmental protection and economic revitalization associated with port expansion.”

For the project, Dr. Chanse and 17 students held a four-day workshop with residents and other stakeholders, which allowed both residents and students to develop community-based designs. Students gained both service learning and hands-on experience. “The value of the project for the students was that they were able to give back to the neighborhood incorporating neighborhood interests into conceptual designs rather than just performing another classroom exercise,” she explained. The student-generated report was used by LAMC to help develop the redevelopment plan.

Dr. Chanse is also a firm believer in recognizing the interdisciplinary nature of landscape architecture. “I realize that people in other sciences such as forestry or wildlife management or aquatics have different viewpoints to share,” Dr. Chanse says. “I like to bring these scientists in to critique the work of my students so the students will see the impact of their designs from varying perspectives.”

Dr. Chanse says she is anxious to both live and work in the region, as well as to launch new research projects at the University of Maryland—studies that involve the bright students who are now populating the field. “As I look at the history of landscape architecture, I see how concern about the environment and sustainability has evolved over the last several decades—in terms of overall awareness, as well as laws and regulations,” Dr. Chanse adds. “There really has been a shift in terms of the key role landscape architecture now plays in sustainable development, storm water runoff and designs to solve those and other problems.”

Dr. Chanse will be teaching community design studios, as well as a research methods course for graduate students. With her experience and interests in watershed planning, civic engagement, neighborhood participation and working with groups to develop sustainable designs and plans, she should bring exciting new opportunities, perspectives and expertise to the landscape architecture program. “I’m really excited to be at Maryland and to work with the students, faculty and staff here. It seems like on many levels, not just academically, but also at the non-profit and government levels, there’s so much going on in terms of sustainable development and I’m anxious to be part of that,” she said.

A prolific writer of articles, book chapters and other books related to garden and landscape history, as well as a former landscape architecture practitioner, Dr. Duempelmann says she is very interested in “how the sky meets the land.” She will write about the ways powered aviation in the 20th and early 21st centuries affected and shaped the landscape.

Dr. Duempelmann describes her book as having two strands. “First, I will examine how the building of airports and related facilities has impacted cities, urban design and planning and urban form,” Dr. Dumeplemann explains. “The other strand is about the aerial view and how it has changed our perception of the land and, in turn, how we design the land as a result of this new view from above. The aerial view has had an impact on landscape architecture.”

Dr. Duempelmann will spend an entire academic year at Dumbarton Oaks, where she will be assigned an office within the institute’s extensive library. She hopes to finish the manuscript for her book by the end of 2011.

“When I return to teaching, I plan to bring part of my research into my graduate seminars and to show students how the field of landscape architecture can bridge many disciplines such as history, urban and regional planning and environmental studies,” says Dr. Duempelmann. “I enjoy drawing students’ attention to how multifaceted our field is.”
University awarded $3.2 million grant

An Integrative Study of Nitrogen Cycling and Storage in Poplar

By Becky Brashear

If Dr. Gary Coleman has his way in the next three years, he and his research team hope to have the answers they’re looking for in their research of plant materials to be used in biofuel production, as well as have established a collaborative genomics training program and lab based at a university just 15 miles from College Park.

Through a $3.2 million grant from the Plant Genome Program of the National Science Foundation, Dr. Coleman, Associate Professor in the Department of Plant Science and Landscape Architecture, College of Agriculture and Natural Resources, University of Maryland, College Park,
his College Park colleagues, Drs. Jianhua Zhu and Ganesh Sriram, along with collaborator, Dr. George Ude from Bowie State University, are working on a plant genome research project involving poplar trees.

"This isn’t a Maryland-based project," said Dr. Coleman, pointing out that poplar trees are not common in Maryland. "Poplars simply aren’t extensive here, but they are in Georgia, Mississippi, the Midwest, along the Great Lakes, in the Pacific Northwest and throughout Europe and Asia. This research is based on a national and international level."

"This grant program is a link to biofuels," he explained. "Poplars are the target species being used, along with other plant species, for production of biomass material. What’s important is that biomass-based biofuels are sustainable, with low resource input for production. Poplar is a fast-growing, temperate deciduous tree that has the potential to be an economically viable, non-food source for biofuels and biomaterials.

"The project information will be used to develop strategies of how trees use nitrogen and cycle it as a biomass crop," he added. This will be accomplished through three targeted areas that “identify poplar transcriptome differences related to the metabolic and signal pathways and networks associated with nitrogen storage and cycling; determine the metabolic fluxes associated with nitrogen storage and cycling; and characterize the phosphorylation status of the poplar proteome associated with nitrogen storage and cycling. From these objectives, candidate genes for the metabolic, regulatory, and signaling pathways and networks will be identified and used in functional studies that rely on reverse genetic approaches.

"This is a fundamental, basic science project ... to understand how nitrogen is acquired by poplars and used," he said of the research grant, the first plant genome grant awarded to AGNR by the National Science Foundation.

"Nitrogen storage and cycling is a fundamental process impor-
tant to the adaptation, growth and productivity of trees and occurs over a wide range of time frames,” Dr. Coleman added. “Advancing our knowledge of tree nitrogen storage and cycling is necessary to understand how trees grow and how their biomass is partitioned, as well as how they compete and function in an ecosystem.

“This project will provide an unprecedented view of how nitrogen storage and cycling is coordinated in trees and is expected to advance and accelerate the potential development of trees with improved nitrogen use that will enhance productivity and sustainability, while addressing future energy needs,” Dr. Coleman said.

“The results from this project will allow for comparisons between herbaceous and woody plants and contribute to advancing an overall understanding of carbon and nitrogen metabolism in plants, as well as defining differences between annual and perennial plants and their adaptive significance,” he continued. “But the broader impact through the integration of research and education will be accomplished by training graduate students and post doctorates, as well as by establishing a genomics training lab at Bowie State University (BSU), a Historically Black College and University (HBCU). This will enable establishing a lab component to train and educate students and school teachers.”

This past July, Dr. Coleman and his team completed their first collaborative round of student training sessions. “I believe this to be the first collaborative program with Bowie State University (BSU) and the University of Maryland (UM). The objective is to support educational goals in science and technology … and that’s what this grant provides. The summer training allowed for college students and high school teachers to gain lab experience using state-of-the-art biotechnology and genomics research laboratory equipment. During the summer of 2011, selected students from this past summer’s training will participate in internships in laboratories on the UM campus.

“The National Science Foundation is keen on targeting audiences that are not traditionally involved in science … which has made BSU and the UM perfect partners, especially since the two institutions are only 15 miles apart, making access easy for everyone involved,” Dr. Coleman added.

The training sessions consisted of two three-week sessions. Twenty students participated in the first training which was held in July. The first 45 minutes to one hour focused on lab skills demonstrations and instructions, followed by actual lab work done by the students for the remainder of the day.

It is anticipated that by the end of the four-year program, 100 students will have been trained in biotechnology research techniques. Dr. Coleman said, “The first summer training was very successful, with great feedback from the students. Many of the students get to learn about such studies, but until now, they have not had the hands-on experience … that’s been our greatest feedback.”

“Participation in this program dramatically enhances the competitiveness of the students and high school teachers in the biotechnology job market and postgraduate education programs,” Dr. Coleman said. “We only do summer training and internships so as not to interfere with the students’ academic programs when classes are in session.”

The first year of the study will identify the genes of poplars associated with nitrogen responses. It allows for looking at all the genes in a tree at one time, which amounts to 40,000 to 50,000 genes! “The technology in biomass is overwhelming at times. Technology has advanced to the point that, in a few weeks’ time and for a modest cost, the entire genome of a plant species can be characterized,” Dr. Coleman said.

Dr. Coleman said. “Because of the success with the 2010 summer program, we are now working on a proposal with the Department of Defense to partner in a Science, Technology, Engineering and Math (STEM) study. This program has helped build a link with Bowie State, and we look forward to being able to build upon that.”
There was a time when crop irrigation managers literally walked the fields to inspect plants to determine their hydration needs. But Dr. John Lea-Cox and his team of 18 faculty and over 30 others involved in one of the biggest research programs at the University of Maryland, College Park, are looking to change those dynamics.
Just a year into his Specialty Crops Research Initiative Grant to investigate precision irrigation and nutrient management for nursery, greenhouse and green roof systems, Dr. Lea-Cox and his team are already showing a 50 percent reduction in irrigation water for growers participating in this $5.16 million project. “Plants don’t always need water when we think they do,” said Dr. Lea-Cox with the Department of Plant Science and Landscape Architecture at the University of Maryland. “The study and research is being done using wireless sensor networks,” he explained. “The focus of the study is on soil and other sensors ... to give the farmers/growers direct information each day on specific indicator plants. “We don’t have to place sensors on the whole farm, but just in certain areas. The researchers use the knowledge of the farmers on where to locate the sensors because they (the farmers) know their problem and concern areas better than anyone,” Dr. Lea-Cox continued.

The University was awarded the grant through the U.S. Department of Agriculture’s National Institute of Food and Agriculture, making it the largest such grant ever awarded to the University of Maryland through this program. “What’s really important is that this grant, combined with an additional $5.2 million in matching funds from industry members, state institutions and other grant sources, will bring together a multidisciplinary group of engineers, plant scientists, economists and Extension specialists from five universities and two commercial companies to develop the next generation of precision tools, marrying plant science with economics, engineering and technology,” he explained. “These tools will allow growers to precisely monitor plant water use to allow better control of irrigation water and nutrient applications, and increase the profitability and efficiency of commercial plant producers.”

“The overarching objective of this proposal is to make better use of increasingly scarce water resources,” said Dr. Lea-Cox. “Water is vital to the sustainability of nursery and greenhouse production systems, and water management has consistently been ranked as one of the top three issues by industry associations nationwide.”

Even with all the knowledge and applications that can be modified and utilized in other areas from this research, Dr. Lea-Cox said the biggest coup could be in nutrient management. “In Maryland we’ve been working with nutrient management for...
10 years or more … with ornamental operations, it’s all about water management, since they all use irrigation” he said. “And if we can get a handle on water management, we can get much more precise with our nutrient management decisions.” Research from this five-year grant, he said, “will bring about better management practices in both these areas.

“The sensor network capabilities however, go far beyond just measuring soil moisture. Additional sensors can measure total salts, temperature, relative humidity, rainfall, light and other environmental variables, which provide microclimatic information to the grower,” said Dr. Lea-Cox. “This data is important to make informed decisions about plant growth and nutrient applications, which has particular importance in implementing sustainable management practices, especially here in the Chesapeake Bay watershed.

“It’s very exciting and students are part of the research and education process. We’re getting them out to work with the farmers directly on such things as setting up networks and using the data to develop specific models for predictive purposes. Utilizing the graduate students for research is one thing, but teaching undergraduate students and getting them up to speed on the technology is another,” Dr. Lea-Cox said. “The students get excited, and they know how to use the technology in smart ways to gather information. We’ve used this very sensor technology in growing salad crops with a greenhouse management class this past spring. The result is that it teaches students to make better management decisions which will improve resource use efficiency, and save time and labor costs.”

The project is developing wireless sensor hardware and software with the help of Decagon Devices while integrating more advanced control features designed by Dr. George Kantor at Carnegie Mellon University.

“One of the key goals of this project is to use scientific methods to interpret, analyze and integrate the information gathered from a large number of sensors, and to present summarized information in a graphical format that will allow farmers to quickly and intuitively make decisions regarding their irrigation and fertilizer management,” he said. “Equally important, the project intends to develop a number of plant-specific software modules for predictive management of water use, based upon plant and environmental models developed by the scientific teams.” The graphical software interface and models are being developed by the various researchers with Antir Software, a Maryland small business.

On the commercial production side, Dr. Lea-Cox said growers are measuring soil and substrate water in real time. “We’re working to provide growers/farmers with minute by minute information to make better decisions. Precision irrigation and plant growth management will benefit greenhouse and nursery producers” he said. “The outcome of the project will be a commercially available product for irrigation management that is specifically designed for diverse and intensive production environments, but that also has broad applications for all high-value specialty crops, including ornamental, fruit and
Several Maryland commercial nurseries and greenhouses are a part of the study, including Raemelton Farm, Waverley Nursery and Bauers Greenhouses. Also partnering are Willoway Nurseries in Ohio, McCorkle Nurseries and Evergreen Nursery in Georgia and Hales and Hines Nursery in Tennessee.

“The main sensor networks are situated on these commercial operations, most of them being over 100 acres of production area. The researchers show the farmers how to use the technology and the researchers learn how the farmers are using the technology and adapting it to their operations,” Dr. Lea-Cox said. “The data is relayed to a computer at each farm and the growers can check the information at any time of the day, to make instantaneous management decisions. I can also access each farm’s network on my laptop to check in to each network and troubleshoot or observe what decisions and actions the grower is making.”

“The researchers are using the knowledge and innovation of the grower partners in the project on where to use and locate the sensors because they know their problem and concern areas the best,” Dr. Lea-Cox continued. “I’m learning more from the growers than they sometimes learn from me as a researcher. As researchers, we often times ignore the knowledge and experience of growers and we need to learn from them and utilize their knowledge and resources.”

“This grant is a real boost for the specialty crop industry in this country,” he continued. “A lot of other big grants go to the apple industry or other specialty crops producers, but for the ornamental industry, this is addressing one of their key concerns, especially in a drought year.”

But it doesn’t stop with just this research. “A macroeconomic team based at UMES (University of Maryland Eastern Shore) is involved, looking at social economic values and a microeconomic team in the Department of Agricultural Resource Economics in College Park is analyzing the direct economic benefits to farmers,” he continued. “We also have an excellent Extension and outreach team that is developing new learning modules for an online knowledge center for the Green industry, which can be accessed at http://waternut.org/moodle. This site already has over 25 in-depth modules on substrate, water, nutrient and pathogen management.

While Dr. Lea-Cox is the lead on this project, he acknowledges his team of Dr. George Kantor at the Robotics Institute, Carnegie Mellon University, Dr. William Bauerle at Colorado State University, Dr. Marc van Iersel at the University of Georgia, Dr. Taryn Bauerle at Cornell University, Dr. Dennis King at the University of Maryland, Center for Environmental Science, Dr. Doug Parker in College Park, Dr. Colin Campbell of Degenon Devices Inc. in Pullman, WA, and Richard Bauer of Antir Software in Jarrettsville, MD.

“I work with the best team in the country on this project,” he said. “If it were just up to me, I would never have gotten this grant. But all who are connected with this study are professionals who are truly dedicated to the sustainability of our farms and communities in the United States.”
The University of Maryland’s Biotechnology Institute (UMBI) has officially been realigned with other institutions within the University System of Maryland (USM), to create the Institute for Bioscience and Biotechnology Research (IBBR).

Approved by the USM Board of Regents in June 2009, it is anticipated that the restructuring will open doors for more multi-disciplinary and collaborative research across the system and increase access to outside funding for research. A higher level of technology transfer, commercialization and business start-ups, as well as advancing statewide economic development is also expected.

The IBBR is a partnership with the University of Maryland, College Park (UMCP), the University of Maryland, Baltimore Campus (UMB) and the National Institute of Standards and Technology (NIST). Using the resources and strengths of the former Center for Advanced Research in Biotechnology (CARB) at the Universities at Shady Grove (USG, one of the USM’s two system-wide regional centers) and the former Center for Biosystems Research (CBR) at UMCP, the IBBR is expected to excel to a whole new level.

As a result of the realignment, the Department of Plant Science and Landscape Architecture (PSLA) has two new faculty on board, Dr. Shunyuan Xiao and Dr. James N. Culver.

Not new to the system, Dr. Xiao was with UMBI for seven years and has worked out of his current lab in Shady Grove since 2006, where his office will remain. Dr. Xiao indicated that when UMBI was disbanded, he, along with other faculty, had to select a home department at the University of Maryland.

“I chose PSLA because my background training is in plant science. I got my degree in plant genetics so my roots are in plant sciences,” Dr. Xiao said. “Secondly, by becoming faculty in the Department of Plant Science and Landscape Architecture, I can find many faculty working on practical problems like plant disease and plant pathogens, and this will give me more opportunity to have compatibility, exposure and collaboration.

“Thirdly, I’ll have a better opportunity to teach in plant science and I may make a bigger impact on research,” he said, adding that he will have a lot of interaction with the College Park faculty. “There’s not much difference now than what I was doing before in terms of research,” Dr. Xiao continued, “but I’ll have more opportunities to involve graduate students in developing collaborative projects.”

Dr. Xiao’s current research is focused on understanding the molecular warfare at the host-pathogen interface and engineering novel plant resistance at this critical battleground. His long-term research goal is to “understand and exploit plant innate immunity using the Arabidopsis-powdery mildew interaction as the model pathosystem. Dr. Xiao is a graduate of Huazhong Agricultural College in China in horticultural sciences and plant genetics. Throughout his career, Dr. Xiao has held several top level positions in Florida, Maryland and the UK. His top honors include a recent patent for enhancing drought tolerance and bacterial resistance of crop species by functional interference and his writings have appeared in numerous
Dr. James Culver describes his new appointment as PSLA faculty as being similar to his previous position. "I've been on campus in College Park since 1992, and always affiliated in one way or another with plant science. It's nice to be a part of PSLA," he said. "There are a lot of opportunities to collaborate with faculty." Like Dr. Xiao, Dr. Culver said this realignment will allow for "greater interactions, as well as opening new doors. It's nice to work in different areas and with other team members."

Dr. Culver explained that his research is "multidisciplinary with efforts directed at understanding virus biology and its role in disease, as well as studies aimed at engineering viruses and other biological components for application in nano-based systems and devices. My approach to these seemingly different fields is to build diverse expertise within my own laboratory and to cultivate a range of outside collaborations in distinct fields," he said. "I see this diversity as a strength, producing a synergy that greatly expands the scope and significance of my science. My long-term goals are to further integrate our biological and engineering studies to build a cross-disciplinary research environment centered on fundamental discoveries and their application to practical problems."

Dr. Culver’s laboratory studies primarily focus on tobacco mosaic virus (TMV) and related tobamoviruses as model pathogens. He said several factors make this group of viruses ideal for studying both pathogen biology and nano-bioengineering because of the existence of full-length infectious cDNA clones; high resolution crystallographic data on the structures of several tobamovirus coat proteins and virions; established host genetics for resistance and disease responses; and a wealth of information regarding the biology and replication strategies of these viruses. "These factors have allowed me to systematically investigate structure-function relationships between virus and host (virus biology) and virus and inorganics (nano-biology),” he continued.

“Previous work from my group has contributed to our understanding of virus-derived cross-protection in which the presence of one virus interferes with or prevents infection by a second virus and the elicitation of an active plant defense reaction, termed the hypersensitive response (HR) by the TMV coat protein,” Dr. Culver said. He cited recent accomplishments in the areas of virus-induced plant disease with focuses on virus modulated auxin responses affecting disease development, re-programming the auxin response pathway to enhance virus infection and future virus disease studies.

His ongoing studies address the role of structure and function in both the biology of the virus, as well as virus integration into nanoscale devices. In nano-biotechnology, he is focusing on self-assembly and patterning of virus nanotemplates, continuous coatings of nanotemplates, virus assembled high aspect ratio electrodes and future studies in nano-biotechnology.

Dr. Culver’s education and professional tributes are impressive. He is a graduate of the University of California and Oklahoma State University. Dr. Culver has received prestigious honors for his research, and his work has been recognized through many highly accredited publications.
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ACADEMICS

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  - Nutrition and Food Science
  - Veterinary Medicine
  - Institute of Applied Agriculture
- Generous Scholarship support for undergraduate and graduate students
- International Study Abroad opportunities that can lead to the Certificate in International Agriculture and Natural Resources
- Students engaged across campus in Honors, Gemstone and the living learning community of College Park Scholars
- Faculty mentored research opportunities

RESEARCH

AGNR Faculty Perform Research, Conduct Outreach programs and provide classroom instruction... that gives consideration to Economic and Environmental Sustainability as well as Ecosystem and Human Health.

- Urban-Rural Interface
- Horticulture/Landscape Architecture
- Development and Adaptation of Alternate Crops to our area
- Climate Change and Ecosystem Health
- IPM
- Nutrition, Food safety, and Health
- Biotechnology
  - Food production and processing
  - Nutritious & Value Added Products
- Animal Health
- Dairy & Poultry Research
- Aquaculture
- Waste Management/Bioremediation
- Crop and animal Biotechnology, Genomics
- Biofuels, Alternate Energy
- Environmental and Ecosystem Health
- Water Quantity and Quality
- Watershed/Ecosystem Health
- Soil, Plant, Air, Water Interface
- Economic and Environmental Sustainability Assessment of Production Systems
- Economics & Policy
- Infectious Diseases, cell Biology

EXTENSION

The University of Maryland Extension (UME) is locally, nationally and internationally recognized for providing accessible, unbiased expert knowledge that people can use to improve their quality of life and community and the environment in which they live. To this end, UME has begun the process of focusing resources on 4 major impact areas:

- Local Food & Agriculture Systems – Key outcome: Agriculture and food production will be sustainable and profitable and produce a safe, abundant, affordable, and accessible food supply.
- Environment and Natural Resources – Key Outcome: Individuals and communities will become stewards to manage the environment for the mutual benefit of people, ecosystems, wildlife, natural resources, and economic interests.
- Healthy Living – Key Outcome: Youth, individuals and families will make informed decisions about their health, finances, food, housing, and overall well-being.
- Resilient Communities – Key Outcome: Improve human capacity to achieve desired community outcomes and be prepared to respond to uncertainties of economics, health, climate, and security.
As Director of Development for the College of Agriculture and Natural Resources, it is my pleasure to work with all of our departments to promote and grow their programs. Whenever I work with the Department of Plant Science and Landscape Architecture, I am struck by the number of faculty who have decided to apply the principles of plant science to their department – “Plant a seed. Nurture it, watch it grow. Harvest the rewards.” Here are a few of the endowed scholarships established by past and current faculty members of this department:

**Francis R. Gouin Undergraduate Horticulture Research Fund** ~ As an undergraduate student, Dr. Gouin received a $250 award from the National Science Foundation to conduct an experiment and then present his results at the ASHS Eastern Regional Meeting. This experience propelled Dr. Gouin into a career in research. After a 30-year faculty career, including five and a half years as the Chair of the Plant Science Department, Dr. Gouin is now in the process of endowing a fund that will help current and future students have a similar experience. The spendable income from his fund will pay for an undergraduate research project and also pay to send that student to a regional or national plant science or horticulture meeting to present the data.

**Christopher S. Walsh International Travel Award in Horticulture** ~ Dr. Walsh is a current faculty member who has served as the Department’s Undergraduate Coordinator for more than 15 years. His international experiences in the area of production and handling of fruit crops have inspired him to endow a scholarship in this area. His scholarship goes to students studying abroad for a semester-long program, presenting a paper at an international conference or participating in a department approved international internship.

**Francis C. Stark Jr. Fund for Learning Resources** ~ This endowed fund was established by Dr. Stark and his wife Dorothy. Dr. Stark, a 1948 graduate and professor emeritus of the University, thought it was important to expose horticulture students to professional and networking opportunities in the field, so this fund was established to send students to the national ASHS (American Society for Horticulture Science) meeting.

**A. Morris Decker Memorial Scholarship** ~ The late Dr. A. Morris Decker was professor emeritus of agronomy and acknowledged as one of the world’s foremost forage specialists. Dr. Decker taught at the University of Maryland for more than 40 years after receiving his doctorate from the University. Dr. Morris’s family is in the process of establishing an endowed scholarship for students who wish to further their study and/or research of forage crops or cover crops.

These endowed funds will grow and nurture generation after generation of future students. If you would like to support any of our funds – or start one of your own – please contact me at (301) 405-7733 or bmagness@umd.edu.

Thank you for your support of our College,

**Brian W. Magness**
Director of Development
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To learn more about opportunities to support your College, please contact Brian or take a look at: http://agnr.umd.edu/development/.
AGNR captures ACE award

National-award-winning photographer Edwin Remsberg specializes in documenting agriculture, Maryland’s heritage and in the changing nature of traditional work in a modern economy. Recently, the AGNR photographer received the most prestigious honor from the ACE Extension Awards in St. Louis. Along with capturing the Outstanding Professional Skill Award, he won several category honors as well.

In March, he released his newest book, *Dishing Up Maryland*, a cookbook collaboration with author Lucie Snodgrass that features local Maryland products, the farmers and watermen that grow and harvest them, and the chefs who prepare the recipes.

Remsberg has worked with the U.S. Department of Agriculture and the University of Maryland to document USDA programs and agriculture in America. He began his career at 15, documenting agricultural events at county and state fairs as a member of 4-H. That experience laid the groundwork for themes and relationships that remain central to him as a mature photographer. Under the mentorship of Norman Pruitt, then staff photographer for Maryland Cooperative Extension, Remsberg developed his visual and technical skills. He was a journalism major at the University of Maryland.

Remsberg’s photographs can be viewed on his website at www.remsberg.com. *Dishing Up Maryland* is available wherever quality books are sold or by calling 1-800-441-5700.

Mtech partnerships announced

The Maryland Industrial Partnerships Program (MIPS), an initiative of the Maryland Technology Enterprise Institute (Mtech) at the University of Maryland, has awarded $3.3 million to 16 teams of Maryland companies and faculty developing commercially promising technology products. All funding goes to the faculty members conducting the research and development on company products.

Projects for this round of funding include floating wetlands to clean the Chesapeake Bay, bolts that change color as they are tightened, faster Internet-via-satellite upstream, wireless sensors for monitoring home energy use, bioremediation for restaurant oil and a backup mass-emergency electrical system. Treatments, vaccines or tests for anthrax, malaria, influenza, staph infections and infertility are also included.

Worth $3.3 million, the projects combine $1.9 million from participating companies and $1.4 million from MIPS. Funding supports research in the laboratories of participating university faculty, who work closely with participating companies to advance their products.

AGNR faculty involved in the projects are: *Ellicott City-based BlueWing Environmental Solutions & Technologies LLC* and *Joshua McGrath, assistant professor, environmental science & technology, University of Maryland, College Park* ($139,000); developing BioHaven Floating Islands™, which closely model natural floating island systems commonly found in clean waterways, to remove harmful nutrients such as nitrogen and phosphorus from impaired waters such as the Chesapeake Bay.

*Olney-based EcoEmergence Corporation* and *Jianhong Meng, director, Institute for Food Safety and Nutrition, University of Maryland, College Park* ($440,745): developing the first industry standard test to evaluate the efficacy of bioremediation products (including EcoEmergence’s bacteria mixture) for fats, oils and grease, which clog sewer systems and have a negative impact on the environment.

Merial award goes to Kumar

Congratulations Sachin Kumar on receiving the 2010 Merial Veterinary Research Award for Graduate Veterinarians. The Merial award is open to graduate veterinarians who will soon complete or have recently completed a PhD program in the biomedical sciences, or who are in the final years of residency training in the field of veterinary pathology, medicine, surgery, radiology/imaging or laboratory animal medicine. The recipient of the Merial Veterinary Research Award recipient will present their research findings and gain an insight into pharmaceutical research through interactions with Merial Scientists. Award recipients will also receive a $1000 honorarium.

Kumar is no stranger to excellence and recognition. The AGNR Alumni Chapter named him the Outstanding AGNR Graduate Student at the Spring 2010 Alumni Awards Celebration. He received the 2004 Best Veterinarian Award from Indian Council of Agricultural Research (ICAR) prior to joining Dr. Siba Samal’s lab at the Virginia-Maryland Regional College of Veterinary Medicine in 2006. He has been studying APMV-3, the causal agent of disease in poultry with no current vaccines. He was the first to determine complete genome sequence of the APMV-3 prototype strain. He is carrying a 4.0 grade point average, is a research assistant with USDA’s Sustainable Agriculture and Research (SARE) program and is committed to solving problems of underdeveloped countries through education – integrating agricultural economics, business and culture.

Extension receives Director’s Award

The 2010 Northeast Director’s Award of Excellence was presented to the University of Maryland Extension’s Grows It Eat It (GIEI) Program. Staff was commended for the outstanding educational outreach accomplishments which the program has made in addressing local issues through exceptional programming.

McGrath captures research awards

Dr. Joshua McGrath has been selected as the recipient of the 2010 Research Award for the Northeast Branch of the American Society of Agronomy, Crop Science Society of America and the Soil Science Society of America. He was presented with the honor at the joint Societies’ annual regional meeting in Ithaca, NY.

The honor continues AGNR’s and ENST’s dominance of recognition at the annual Northeastern Branch meetings. AGNR/ENST took home prizes in four of the seven award categories in 2009! Belated and continued congratulations to Bahram Momen, research; Brian Needelman, teaching; Gary Seibel, support staff; and Richard Weismiller, career service.

Dr. McGrath’s research and Extension programs focus on comprehensive adaptive agricultural nutrient management, agricultural drainage, sensor-based variable rate fertilizer application, manure management in no-till cropping systems, manure storage to reduce nutrient losses and environmental persistence of manure borne anti-microbial
compounds. He has acquired nearly $3 million in external funding from federal and state agencies, industry associations and private foundations and provides consultation and expert testimony for MDE on promulgation of CAFO regulations, provides direct guidance to USDA-NRCS on conservation programs and participates in the NRCS State Technical Committee and Nutrient Sub-Committee. While publishing extensively and advising graduate students he also serves as the faculty adviser to the AGNR Student Council.

VARNER IS ACTING ASSOCIATE DIRECTOR OF IPAN

Dr. Mark Varner has been appointed Acting Associate Director of International Programs in Agriculture & Natural Resources (IPAN), effective July 1, 2010. This is a two-year appointment.

Dr. Varner will, among other things, work closely with IPAN Director Ray Miller to broaden activities into additional parts of the world such as Africa and South America and work with faculty in developing program proposals. During the previous 16 months, he has served as Assistant Director of IPAN in a half-time mentee capacity, while continuing his teaching and Extension responsibilities with the Department of Animal & Avian Sciences (ANSC) and conducting research in dairy cattle reproductive management and lameness of dairy cattle.

Dr. Varner came to AGNR in 1981 as an assistant professor and Extension dairy scientist. He was promoted to associate professor in 1988 and to full professor in 1997. From 1999-2002, Dr. Varner served as director of the graduate program and coordinator of the undergraduate program in ANSC. He is the College’s coordinator for eXtension and online learning and is actively involved in the eXtension national effort through DAIREXNET. He has also been actively involved in many of our international programs, especially those with Russian institutions.

PSLA RECEIVES NSF GRANT AWARD

The Department of Plant Science and Landscape Architecture recently received a National Science Foundation grant award for $650,000. The project titled “Systematics of fungi associated to wild rubber (Hevea spp.) trees in the Amazon basin: Searching for specialized biocontrol agents against economically important plant pathogens” is funded through the Systematic Biology and Biodiversity Inventories Program of the National Science Foundation.

This is a three-year project which involves a collaborative research team headed by Dr. Priscila Chaverri, PI, Department of Plant Science and Landscape Architecture, University of Maryland; Dr. Kenneth Wurdack, Co-PI, Smithsonian Institution, National Museum of Natural History; and Dr. Valerie Pujade-Renaud, Co-PI, and Dr. Jean Guyot, Co-PI, from the French organization, CIRAD, a research center working to address agricultural and development issues in developing countries.

Tablante is new CAST leader

Nathaniel L. Tablante, DVM, has been chosen Council for Agricultural Science and Technology (CAST) president-elect for 2010-2011. He assumed leadership responsibilities in October at the conclusion of CAST’s fall board meeting in Sacramento, California. In 2011-2012, he will become the 39th president of CAST, a singular honor and responsibility dating back to 1972, when Charles A. Black, along with other committed scientists, spearheaded the movement to “bring science-based information to policymaking and the public.”

Dr. Tablante is an Associate Professor & Extension Poultry Veterinarian, VA-MD Regional College of Veterinary Medicine, University of Maryland College Park. His areas of expertise are in poultry medicine, epidemiology and poultry health management. He is currently the Director of the Veterinary Medical Sciences Graduate Program at the University of Maryland College Park. He also actively collaborates with his colleagues on poultry disease research and teaches or co-teaches animal sciences and veterinary courses at the University of Maryland. His Extension activities focus on developing educational programs on poultry biosecurity and disease prevention.

Dr. Tablante has been a member of the CAST Board since 2006 and is currently serving a second three-year term. He represents the American Association of Avian Pathologists. His activities on the board have included participation in the membership & marketing committee and the animal science work group, for which he currently serves as chairperson.

Hyman hosts successful Teach Ag Day

In the fall of 2008, AGNR teamed with the College of Education to create a program for students wanting to become ag educators. The program allows students to pursue a four-year double major in Agricultural Science and Secondary Education-Science or, for graduates of the University of Maryland with a Bachelor’s Degree in Agricultural Sciences and Technology, to complete the certification requirements through the Masters in Curriculum and Instruction.

To help students learn more about ag education at Maryland, the Institute of Applied Agriculture in partnership with Maryland Agricultural Education Foundation (MAEF) received a Teach Ag Day Grant to host a VIP campus visit for high school students interested in pursuing careers in agricultural education. Prospective agriculture education majors Nikki Swan of Easton, Amanda Schuster of Phoenix, Tiffany Stull of Myersville and Suzannah Macleod of Manchester were joined by a high school principal, parents and teachers for this all day event.

IAA Acting Director Glori Hyman began
the day with an interactive presentation about teaching agriculture as well as facts about the IAA and student life. IAA Instructor Roy Walls shared his perspective on a 30-plus-year career in agriculture education. Participants enjoyed a walking tour of the campus farm, dorm room, the recreational center and the student union led by a current student who also gave insights about campus life.

Dr. Cheng-i Wei, Dean of the College of Agriculture and Natural Resources, and Dr. Leon Slaughter, Associate Dean for Academic Programs, joined the group for lunch and discussion. The day ended with a meet-and-greet with Dr. Scott Glen, advisor for agriculture education majors.

**WELCOME NEW FACULTY AND STAFF**

While the University of Maryland, College Park is welcoming its new president, Dr. Wallace D. Loh, the College of Agriculture and Natural Resources is rolling out the red carpet and also welcoming three new additions. Dr. Loh comes to UMCP after previously serving as executive vice president and provost of The University of Iowa. He has more than 30 years of experience in higher education. As executive vice president and provost of The University of Iowa since 2008, Dr. Loh had oversight responsibilities for budgets, personnel and planning in the university’s 11 colleges and other academic units. The university enrolls 30,000 students and employs 4,895 faculty members. Its FY 2011 budget totals $2.8 billion, including $440 million in sponsored research.

Before joining The University of Iowa, Dr. Loh served as dean and professor of public service and psychology at Seattle University (1999-2008), director of policy and chief policy adviser for the State of Washington’s Office of the Governor (1997-99), vice chancellor for academic affairs and dean of faculties at the University of Colorado-Boulder (1995-97), and dean and professor of law at the University of Washington Law School (1990-95).

Dr. Loh was born in Shanghai, China. He immigrated with his family to Lima, Peru, graduated from high school there, and immigrated alone to Iowa in 1961, supporting himself through higher education. He holds a J.D. from Yale Law School, a Ph.D. in psychology from the University of Michigan-Ann Arbor, an M.A. in psychology from Cornell University, and a B.A. in psychology from Grinnell College.

Among his distinctions and awards are his election as president of the Association of American Law Schools, the 1993 National Asian-Pacific American Bar Association’s “Trailblazer Award,” and honorary degrees from Grinnell College and Iowa Wesleyan College. The students of the University of Washington Law School voted him “Outstanding Professor of the Year.”

We welcome Dr. Andrew Lazur as AGNR Assistant Director for University of Maryland Extension programs in agriculture and natural resources. Not new to AGNR or UME, he assumed his duties as assistant director on October 4, 2010.

Dr. Lazur earned his degrees at the University of South Carolina and Auburn University in the areas of Biology and Aquaculture. From 2001 to present, he has been an Extension Specialist and Associate Professor with the University of Maryland Center for Environmental Sciences at Horn Point. Prior to his work at UMCES, he was an Extension Specialist at the University of Florida and a Research Coordinator at Louisiana State University.

As an Extension Specialist, Lazur’s expertise has focused on aquatic species conservation, focusing on Atlantic sturgeon, diamondback terrapin and aquatic plants; storm water nutrient management, invasive species education, aquaculture production, economics and marketing. He has won 26 funded grants since 2002 and he has published 59 publications since 2000.

During the past year, Dr. Lazur has served as a co-leader for the UME Natural Resources Impact Team with Jonathon Kays. This team has made a great deal of progress in grants-
manship, identification of impact indicators, development of signature programs, advancing action teams and engagement of stakeholders.

Dr. Lazur can be reached at 301-405-7992 or lazur@umd.edu. His office is located at 1212 Symons Hall in College Park.

Crystal Caldwell joined the Department of Animal Sciences as manager of the campus farm in June. She earned her Bachelor of Science degree from the University of Maine and her Master of Science from the University of Idaho. She brings nine years of experience in animal agriculture to College Park’s campus farm.

Crystal has worked on several campus farms and was the livestock manager at the University of Maine’s campus farm. She has already had the opportunity to supervise the painting of the campus farm, brightening up the corner of Regents and Farm Drive and she will supervise student employees and assist with ANSC instruction.

Crystal can be reached at 301-405-1298, crystalc@umd.edu or stop by the campus farm. The Academic Programs staff is at full complement with the arrival of Kellie Stephens this fall as the administrative assistant to Associate Dean Dr. Leon Slaughter. Kellie will schedule appointments, make travel arrangements, provide support to various committees, process 60-credit core audits and help organize events like the Fall Bash and Ag Day/Maryland Day.

A California native, Kellie graduated from California State University, Chico with a BA in Organizational Communications. She grew up on a farm and was a member of 4-H, making her a great fit for a job at AGNR. She can be found in room 0108 on the first floor of Symons Hall in the Academic Programs suite or reached at 301-405-2078, or e-mail, kstephe1@umd.edu.

HIPP WINS CHS SCHOLARSHIP

Christopher Hipp of Ellicott City recently received a $1,000 scholarship from the CHS Foundation, the major giving entity of CHS Inc., an energy, grains and foods company.

Hipp is studying golf course management at the Institute of Applied Agriculture, University of Maryland in College Park, and is one of 25 students receiving scholarships through the CHS Foundation Two-Year College Scholarship program.

IAA APPROVED FOR PGMS STUDENT CHAPTER

The National Professional Grounds Management Society (PGMS) Board unanimously approved the DC Branch proposal to establish a student chapter at the Institute of Applied Agriculture (IAA) at the University of Maryland. The IAA student chapter will be the first in the nation and will set the model for other schools to follow. IAA senior Corey Walker will serve as the founding president of the PGMS Student Chapter.

IAA faculty member Ken Ingram worked with PGMS DC Branch President Michael Gildea and Vice President Adam Newhart to encourage student involvement. Student members will attend the DC Branch’s educational, monthly meetings and visit some of the area’s most beautiful grounds such as Mt. Vernon, the National Zoo and the US Botanical Conservatory.

The student chapter will be open to all University of Maryland students who are interested in professional grounds maintenance. The PGMS is a national trade association headquartered in Baltimore dedicated to the education and advancement of institutional grounds managers. Next year marks the centennial year for the PGMS, which began as the National Gardeners Association in 1911.

STUDENTS INTERN AT MD DEPARTMENT OF AGRICULTURE

Five University of Maryland students interned at the Maryland Department of Agriculture this past summer. Four of the five are students within the College of Agriculture and Natural Resources.

Danielle Branch is a junior Environmental Science and Policy major. She is a member of the College Park Scholars Environment, Technology & Economy Program and the AGNR Mentees, a group for minority students within AGNR. Danielle has also participated in the Alternative Breaks program, through which she has visited a variety of sites in and around the Chesapeake to explore the resources it has to offer and worked with the Chesapeake Bay Foundation to help narrow down the many problems that it faces in order to better solve them. At MDA, she worked on the Backyard Actions for a Cleaner Chesapeake Bay program.

Emelie Corcoran is a senior who plans to graduate this winter with a Bachelor’s degree in Agricultural and Resource Economics with a concentration in sustainable agriculture. Through her coursework, she has studied subjects such as economics, nutrition, environmental political theory and sustainable development. Her biggest interest is sustainable, local agriculture with relation to nutrition and energy. At MDA, she helped market and promote the Farm to School program and other department initiatives.

Deela Dicello is a senior Animal Sciences major at the University of Maryland. For the past several years, she has taught children and adults about the local history and artifacts of Derwood, by serving as an archeology camp counselor, archeology volunteer and outdoor education counselor. She is part of the University Honors College and works as a research assistant for the Infant and Children’s Linguis-
AG-Mazing Students

tics Lab. At MDA, she used her expertise in animal sciences by working in Animal Health.

Elizabeth Hoffman is a senior at the University of Maryland majoring in Environmental Science and Technology with a focus on Ecological Technology and Design. She is also part of the University Honors College. Through her studies, she has worked on topics in the fields of agriculture, sustainability and biology ranging from the management of soils to energy auditing to a historical survey of the Chesapeake Bay. At MDA, she worked on the new Conservation Tracker program for BayStat agricultural accountability. Elizabeth participates in a wide range of extracurricular activities as a member of the UMD Women’s Crew and Alpha Omega Epsilon Professional Engineering Sorority.

Michelle McGrain is a senior at the University of Maryland working on a Bachelor’s degree in Government and Politics and a Master’s degree in Public Policy. At MDA she worked on developing social media tools for the Young Farmers Advisory Board, press materials for the Buy Local Challenge and Cookout and other various public relations and outreach campaigns relating to agricultural sustainability. She also developed a group policy paper in the field of agriculture and sustainability. At UMD, Michelle is in the Honors Humanities program and is the Chief of Staff of the Student Government Association. She also participates in activities sponsored by Am Ha’Aretz, a Jewish group committed to promoting green initiatives.

AGNR students around the world

During the summer of 2010, AGNR students had the opportunity to travel to various destinations around the world in pursuit of their academic goals and dreams.

Animal Sciences student, Amanda Heilman, was featured in the Progressive Dairyman magazine as she completed a semester abroad as an intern at Shoestring Dairy based on the Australian island of Tasmania. Amanda is pursuing a double major with a focus in dairy and agricultural science and technology looking toward a Masters of Education at the completion of her bachelor’s work. During her internship, she was in charge of everything involving calves from night checks, to making sure they get colostrum, to proper identification, to moving them to pasture and to properly maintaining the bedding and facilities.

The opportunity to explore Tasmania was the result of a referral from ANSC professor Dr. Richard Erdman who completed a sabatical there and thought Amanda would be a good fit for the internship opportunity.

Following graduation, Heilman would like to work for an agricultural company or for the USDA doing dairy research. She is interested in genomics and reproductive physiology. If jobs are scarce, she plans to attend graduate school for dairy reproduction or get an agricultural education masters to become an Extension agent in Maryland. Her future plans also include owning a grazing dairy operation and offer a 4-H leasing program.

In another corner of the world, John Robertson, a foreign language major at Maryland, and candidate for the Certificate in International Agriculture and Natural Resources from AGNR, spent part of the summer at the Northwest A&F University in China. As he finishes his final 50 credits in foreign languages, John is concurrently earning the certificate as detailed at http://agnr.umd.edu/undergrad/foreign_study/certificate.cfm. Goals of the certificate include relating their disciplinary knowledge and technical skills to global agriculture and natural resources issues, familiarity with a foreign language, study abroad and learning international aspects of the environment, agricultural production, nutrition, development and business.

Robertson chose to study at the Northwest A&F University after visiting with Dean Cheng-i Wei, Dr. Leon Slaughter in Academic Programs and Dr. Mark Varner, Associate Director of AGNR’s International Programs in Agriculture and Natural Resources. A quick visit to its website, http://en.nwsuaf.edu.cn/, notes that it is “located in Yangling Demonstration Zone of Agricultural Hi-tech Industries, a famous agricultural town, 80 km west of Xi’an, capital of Shaanxi Province. Shaanxi is one of the most important original places of Chinese civilization and enjoys the fame of its National History Museum. Northwest A&F University is a comprehensive university with well-developed programs in agriculture, forestry and water resources. It has more than 20,000 undergraduates and about 5,000 postgraduates.”

AGNR has several established Memorandum of Understandings (MOUs) and is one of 60 universities and research institutes all over the world with similar relationships for collaborative work and student exchanges. Northwest A&F University is one of the universities in China qualified to accept international students. Robertson was the only American in the program during his stay.

John participated in a one of the language immersion programs where all his classes were taught in Chinese. One of the unexpected benefits/rewards of his time in China was the opportunity to teach English in TOFEL classes on weekends to graduate students in food science, agronomy or veterinary medicine. Robertson was able to visit some of the research facilities at NWAFU where he noted that work focused on apples, kiwi and goats. The equipment and resources were top notch for researchers.

Another AGNR student, R.J. Edwards, participated in an externship at the Chengdu Research Base of Giant Panda Breeding. According to Edwards, “a major highlight of the veterinary student externship at the Chengdu Research Base of Giant Panda Breeding was living in Chengdu and being truly immersed in Chinese culture. Living in an apartment in Chengdu provided an excellent opportunity to interact with neighbors, and vendors in the area to gain a sense of what life in China is really like.”

Spending three weeks at the Chengdu Research Base of Giant Panda Breeding was a valuable exchange program in terms of both cultural and veterinary experiences. While a language barrier did exist, many of the veterinarians and researchers spoke excellent English. The main focus was to instruct staff on using the ultrasound machine to help in diagnosing disease and pregnancy. Working with three veterinarians, Edwards taught techniques for ultrasounding the abdomen of several female pandas. A full abdominal ultrasound on an anesthetized giant panda rescued from the wild was also demonstrated. At the end of his stay, Edwards made two presentations – one on anesthetic intubation, monitoring and recovery and the other on the ultrasound images captured over the prior three weeks.

In addition to the ultrasound training, several interesting veterinary opportunities arose. An older red panda died and Edwards conducted the necropsy. Working with the genetics team to collect samples for genetic research and pathology, he diagnosed the red panda with primary pulmonary neoplasia. Scientist Dr. Kennedy from the University of Glasgow gave a presentation on the research he will be conducting on panda milk. Edwards visit an organic farm outside of Chengdu and learned how Chinese organic farming operates. A tour was also arranged to visit the Animals for Asia Moon Bear Rescue Center, where bears are...
rescued from bear bile farms. The combination of living outside of his cultural comfort zone, learning about veterinary medicine in China, conducting daily ultrasounds and medical treatments for giant pandas, and creating some amazing friendships all made this externship a life-changing experience for Edwards.

And finally, Nick Kaplan, Helen Lee and Mallan Willis representing AGNR’s disciplines of Food Science, Environmental Science and Technology and Animal Sciences/Pre-Vet, respectively, were selected to attend Exploring Agriculture in Taiwan (EAT). The summer program was hosted by National Chung Hsing University and financially supported by the Ministry of Foreign Affairs, ROC and NCHU. The “student centered” program started with a Symposium of Comparative Studies of Higher Education in Agriculture of U.S. and Taiwan in a Changing World with sessions focusing on course content in agricultural education, practice and apprenticeship in agricultural education and agricultural education through study abroad. The students participated in round-table discussions and made presentations about curriculum and projects related to sustainability at the University of Maryland. Kaplan noted that the “diversity of the participants led to very lively but respectful discussions.” He was in round table discussion groups with forestry majors, veterinary students, organic producers and the manager of 50,000 sheep herd. An overriding observation was that many of the participants do not know where their food comes from and how it is produced. Student conclusions from the discussion sessions were: that the future is moving towards sustainable agriculture – CSA, local farming, permaculture, farmers’ markets; the gap between natural resources and agriculture needs to be closed toward the goal of sustainability and agriculture; understanding where food comes from is critical for the future and that “there is no culture without agriculture”; the importance of cultural awareness and fostering relationships between university faculty and industry leaders worldwide is critical; and finally, with the average age of farmers around the world being 58, the students and others need to “step up” and make the link to practical application of classroom theory through hands-on learning.

Other AGNR students spent part of 2010 studying abroad. They include Sarah An in Australia, Katelynne Connelly, Paul Drummond and Katherine Voche, all in Italy, Greg Gaver in Singapore and Brooke Warrington in Belize.

**AgDiscovery Days**

The University of Maryland hosted AgDiscovery on its College Park campus in July, 2010. AgDiscovery is a three-week program sponsored by the USDA Animal and Plant Health Inspection Service (APHIS) and University of Maryland. The event allows high school students to learn about the history and development of agriculture in different regions of the world.
Mylo Downey devoted his life to encouraging rural youth to pursue their educational opportunities. As a leader of the Maryland and then federal 4-H programs, he influenced thousands of young people to choose careers in the agricultural field and to accept leadership roles. He achieved the position of national director of 4-H and later developed 4-H-style programs in countries around the world for the U.S. State Department, served as consultant for the Peace Corps and co-founded the International Farm Youth Exchange. Leaving his mark on his alma mater, Downey established the University of Maryland Agricultural Scholarship Fund.

During the awards presentation, it was said that “At the turn of the 20th century Maryland’s lush farmlands were an important source of fresh produce for many cities on the east coast. Downey managed the university’s baseball team as he studied the latest agricultural programs and techniques being developed by Maryland researchers. Downey distinguished himself as an agricultural specialist with Maryland’s Cooperative Extension Service. It was there he discovered his real passion, mentoring young people through 4-H Clubs. Downey headed the Maryland state 4-H Club program for 15 years. He became nationally recognized as a teacher and lecturer on youth development and leadership training. Downey’s successful youth leadership programs led him to the national offices of the 4-H program under the USDA’s Federal Extension Service -- where he continued to promote both rural and urban youth programs. His dynamic leadership was recognized again in 1962 when he was selected to lead the national 4-H program. He was a founding member and Trustee of the National 4-H Center in Chevy Chase, Maryland. Downey actively promoted 4-H youth programs even after his retirement in 1972. “He made his home in College Park and for 40 years maintained an office in Symons Hall, where he worked closely with faculty and staff and mentored countless students,
including his own children. After retiring from 4-H, he returned to the University as Vice President of Development in the College of Agriculture, where he worked until his death in 1976. He was a member of the “M” Club and was instrumental in reviving the university’s alumni association – but students from farming families were always closest to his heart. For them, he organized the University of Maryland Agricultural Scholarship Fund and the Mylo S. Downey Scholarship in the field of agriculture. Today, almost 40 years after his death, Mylo Downey’s contributions to agriculture, education and youth leadership are still legendary. One of the colorful terrapin sculptures on campus is dedicated in his honor.

Lester Brown, described as “one of the world’s most influential thinkers” by the Washington Post, founded the Worldwatch Institute in 1974 and the Earth Policy Institute in 2001. During a career that started with tomato farming in New Jersey, he authored or co-authored some 50 books, including Plan B 4.0: Mobilizing to Save Civilization. Widely published, his books have appeared in more than 40 languages. Brown is a MacArthur Fellow with 24 honorary degrees. He received many awards, including the 1987 United Nations Environment Prize, Japan’s Blue Planet Prize and the 2009 Lindbergh Award.

His presentation included video clips from interviews on media outlets PBS, NBC and CNN. “Les Brown is an expert on agriculture and environmental policies. He’s a respected participant in global discussions about environmental economics.

“Brown’s interest in agriculture began when he was a child, growing up on the family farm in New Jersey. Through high school and college he and his younger brother ran a successful business, growing tomatoes. By the time he had earned a master’s degree in agricultural economics from the University of Maryland and another in public administration from Harvard, Brown had already served in the USDA as an international agricultural analyst and would soon become an adviser to the Secretary of Agriculture.

“In 1974 Brown founded the Worldwatch Institute, the first research institute devoted to the analysis of global environmental issues. As his interest in agricultural and environmental issues continued to grow, so did his reputation for incisive analysis of global trends and predictions of the dangers that lay ahead. He is perhaps best known for his pioneering work, Plan B: Rescuing a Planet Under Stress and a Civilization in Trouble, in which he proposes a plan to stabilize population and climate before they spiral out of control. Since Plan B was first published, Brown has written three more volumes, each laying out specific plans for conserving earth’s resources in order to preserve humanity.”

Lester Brown
M.S. 1959, LL.D. (Hon.) 1976
Agriculture & Natural Resources

Maryland Extension and AGNR personnel were on hand to educate this important audience about our statewide sustainability programs and our excellent working relationships with Maryland’s top producers. The 250+ attendees also received a copy of the new cookbook “Dishing Up Maryland,” signed by author Lucie Snodgrass and photographer Edwin Remsberg.

Previous AGNR Inductees include:
Geary Francis “Swede” Eppley *
B.S. 1920, M.S. 1926
Inducted April 22, 1995

William Woolford Skinner *
B.S. 1895, D.Sc. (Hon.) 1917
Inducted April 22, 1995

Robert F. Chandler, Jr.
Ph.D. 1934, D.Sc. (Hon.) 1975
Inducted June 10, 2000

Albin O. Kuhn
B.S. 1938, M.S. 1939, Ph.D. 1948
Inducted June 10, 2000

*Turfgass Field Day
The University of Maryland Biennial Turfgrass Research Field Day was held on July 21, 2010, at the UM Paint Branch Turfgrass Research Facility in College Park, in conjunction with the Mid-Atlantic Association of Golf Course Superintendents (MAAGCS) Annual Picnic.

The afternoon walking tours included numerous research projects conducted by Dr.’s Mark Carroll, Peter Dernoeden, Paula Shrews-
AGNR OPEN HOUSE

“The College in Your Backyard” came to life at the 2010 AGNR Open House held in early October. AGNR faculty, staff, students, alumni and partners from across the state converged at AGNR’s Central Maryland Research and Education Center’s Clarksville Facility near Ellicott City, bringing their expertise and enthusiasm to community neighbors.

Visitors participated in a “passport” program getting stamps at key locations throughout the facility so that they experienced the breadth and depth of programs conducted and offered by AGNR across the state. AGNR dairy cattle were on exhibit and the popular “cow with the hole in her side” provided educational opportunities for visitors to learn about digestion and animal physiology. Graduate students from Agricultural and Resource Economics collected data for research related to consumer preferences in neighborhood choices. Wagon tours allowed visitors to see the entire facility and visitors were also transported to the equine research area. Local farmers’ markets supplemented food available for sale by Animal and Avian Sciences graduate students and Collegiate 4-H members. Insects, reptiles, butterflies plant clinics, rain simulators and new technologies for making popcorn rounded out the vast array of demonstrations and displays available to the public.

Mark your calendar for October 1st for the 2011 version of the Open House!

4-H SCIENCE DAY

AGNR Faculty, Collegiate 4-H, Military youth and 4-H members from across the state came to Symons Hall on October 6th for the 2010 National Youth Science Day (NYSD) Experiment “4-H2O” to learn about carbon dioxide and discover how we, as a nation, can reduce our environmental impact. NYSD was one of many events to celebrate National 4-H Week and millions of young people across the nation became scientists simultaneously during the third annual event.

AGNR Dean Cheng-i Wei was joined by Dr. Donna Wiseman, Dean of the College of Education, and Dr. Mary Hummel, Assistant Vice President for Student Affairs in the A.James Clark School of Engineering, in visiting with youth and participating in the experiment. 4-H Youth Development Educators Tom Hutson, Elaine Bailey and Tanisha English coordinated AGNR’s activity. Collegiate 4-H members were also on hand to assist campus visitors.

TERRTime at the MARYLAND State Fair

The “11 Best Days of Summer” – aka The Maryland State Fair – provided a venue for the College of Agriculture and Natural Resources (AGNR) to educate fairgoers on programs and activities, to give hands-on experiences and to showcase outstanding Maryland 4-H’ers as they displayed their project work. This marked the third year that AGNR dairy cattle were on display for the entire fair under the leadership of Brian Speilman, dairy program manager with the Maryland Agricultural Experiment Station. The public participated in naming the young AGNR calf and with an eartag of “8,” “Cow-Ripkin” was the winning suggestion with 1,450 votes. Nearly 6,000 fairgoers gave their suggestions and votes throughout the fair.

AGNR students worked through the summer with the dairy cattle regularly housed at the Central Maryland Research and Education Center’s Clarksville Facility prior to traveling with the animals to Timonium for the fair. AGNR alumni and members of Sigma Alpha, the professional sorority of agriculture, were on hand during the fair to help answer questions and supplement AGNR faculty and staff as they visited with the public.

Adjacent to the dairy cattle display, and next to the ever-popular birthing center, the Maryland 4-H Foundation teamed up for the second year with the Maryland State Fair, Maryland Agricultural Education Foundation (MAEF) and AGNR to provide an educational activity area for fairgoers of all ages. Student intern Mike Amoss brought his energy and creativity to the expanded area including a straw maze with agricultural facts placed at strategic locations.

Four-H club members took the spotlight each of the 11 days with activities across the fairgrounds including engineering contests, fashion review, livestock shows and sale, showmanship competitions, indoor exhibits and subject area contests. Dean Wei and Associate Dean Nick Place joined state 4-H leader Jeff Howard in congratulating 4-H’ers throughout the fair.

Dean Wei received special recognition from the Maryland State Fair during a luncheon held on Agriculture & Governor’s Day. A beautiful clock was presented for his leadership and commitment to “creative educational programs” throughout the fair.

AGNR faculty, staff, students, alumni and partners from across the state converged at AGNR’s Central Maryland Research and Education Center’s Clarksville Facility near Ellicott City, bringing their expertise and enthusiasm to community neighbors.

Fried chicken, hot dogs and hamburgers, bean soup, chili, and brownies, along with Creatures feed and Future Farmers feed were also featured. The afternoon concluded with the MAAGCS barbeque picnic.
As a new tradition, the University of Maryland, College Park honored 50-year alumni by including them in the 2010 commencement ceremony in May. “Golden Terp” Andrew Theodore “Ted” Ridgely ’60, dairy science, joined his grandson, Keith Bennett, who graduated from AGNR’s Department of Plant Sciences and Landscape Architecture at the 2010 ceremony. Golden Terps wore golden robes and led the class into the Comcast Center for the ceremony. The next day, Ted joined other family members in Memorial Chapel for AGNR’s ceremony.

Prior to the campus-wide ceremony at the Comcast Center, the University of Maryland Alumni Association hosted a combined Emeritus Alumni Induction Ceremony with the Official Class Ring ceremony for the class of 2010. Ted and Keith took part in this special grandfather-grandson Terp moment. The Class of 1960 members present received 50th reunion medallions while the new graduates were presented with their official class ring.

**50-Year Emeritus AGNR Terps**

Those attending from left, are, Andrew “Ted”’ Ridgely, Wayne McGinnis, Keith Bennett, Paul Weller, Demorest Knapp, Dr. Joseph Marshall and Kenneth Schmidl. McGinnis graduated in ’59 but was on hand to celebrate with his wife Harriet McGinnis ’60 and his fellow AGNR alumni.

**Terrific Terps**

Dr. John Kable, DVM, ’76 AGNR graduate was elected and inducted as president of the Maryland Veterinary Medicine Association at the MVMA Ocean City summer session. Included in the summer session was a symposium on “Disasters and Disruptions: Peace of Mind for Practitioners” engaging leaders in veterinary public practice with Maryland practitioners and veterinary students. Dr. Kable follows past-president and fellow alum, Dr. James B. Reed, DVM, ’80 AGNR graduate and 1987 graduate of the Virginia Maryland Regional College of Veterinary Medicine. Dr. Kable practices at the Airpark Animal Hospital in Westminster and Dr. Reed is in practice at the Annapolis Animal Hospital.

**Dr. John Kable, DVM, ’76**

Chris H. Runde, DVM, ’81 has received the Maryland Veterinary Medical Association’s 2010 Distinguished Veterinarian Award in recognition of and in appreciation for his outstanding leadership, dedication and continued commitment to the veterinary profession. Dr. Runde was a Magna Cum Laude graduate of University of Maryland College Park with a degree in agriculture. He received his doctorate in veterinary medicine from Virginia-Maryland Regional College of Veterinary Medicine in 1985.

Dr. Runde was appointed to the Maryland State Board of Veterinary Medical Examiners in 2003 and in 2004 he was elected president and continues in that role. He has been a member of the American Veterinary Medical Association since 1981 and of the Maryland Veterinary Medical Association since 1985. From 1985-1987, Dr. Runde worked as an associate veterinarian at Squire Veterinary Clinic in Upper Marlboro. In 1987, he co-purchased Tidewater Veterinary Hospital in Charlotte Hall.

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**Chris H. Runde, DVM, ’81**

Paul S. Weller, Jr. ’60 was inducted into the Alpha Gamma Rho Fraternity Hall of Fame during the fraternity’s national convention in St. Louis. A native of Hagerstown, Paul grew up on a dairy farm. Following graduation, he earned a commission in the U.S. Army Reserves and spent nearly 50 years in his chosen profession of agricultural communications and public affairs. During that time, he has served on the editorial staffs of two major farm magazines and managed the agricultural groups of two major agricultural public relations agencies. He has chaired the Washington Agricultural Roundtable, the Food Group, the Agricultural Relations Council, the Educational Foundation of Alpha Gamma Rho Fraternity, the University of Maryland Alumni Association-International, the College of Agriculture & Natural Resources’ Alumni Chapter board of directors and his village council in Chevy Chase. During 2001, he was honored as a Distinguished Graduate of the University of Maryland’s College of Agriculture and Natural Resources. He was named a Brother of the Century by Alpha Gamma Rho national agricultural fraternity in 2004.

**Chris H. Runde, DVM, ’81**

**Paul S. Weller, Jr. ’60**

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LEWIS W. BATELDER ‘71 is the Senior Vice President of Agriculture Services at Archer Daniels Midland Company, with responsibilities for the company’s grain origination and marketing business along with its large transportation network, including ocean freight, barges, railcars and trucks. In 2005, he assumed additional responsibility for the company’s feed manufacturing businesses. He holds a Bachelor of Science degree in agricultural economics from Oregon State University and a earned his Master’s of Science degree in agricultural economics from the University of Maryland in 1971.

He joined ADM in 1971 as a commodity merchandiser. Early in his career, he traveled extensively in Eastern and Western Europe, the former USSR and Africa, promoting ADM’s commodities, as well as their food and feed products. Upon his return to the USA, he became an export trader for the Tabor Grain Company of Decatur, Illinois, and later became vice president.

He was appointed Senior Vice President-ADM Growmark in 1986. In this position, Lewis was responsible for strengthening the growth of both the domestic and international sides of ADM’s grain business. He was named Group Vice President-Grain at ADM in 1997, with responsibility for ADM’s grain elevator business and an expanding worldwide marketing network. He was a member of the executive committee and board of directors of the National Grain and Feed Association and Kalama Export Company.

DAN GUSTAFSON ‘91 is the Director of the FAO Liaison Office for North America. He has worked for the past 30 years on agricultural and rural development in Latin America, Africa and Asia as well as in the U.S. He holds a Master’s in Agricultural Economics from the University of Wisconsin and a Ph.D in Agricultural Extension from the University of Maryland in 1991. He began his career in Brazil with the Inter-American Institute for Cooperation on Agriculture (IICA), where he worked from 1977 to 1988. This was followed by work at the University of Maryland as program director of the University’s International Development Management Center. He joined FAO in 1994, first in Mozambique as an advisor within the Ministry of Agriculture and then as head of FAO’s country offices in Kenya from 1998 to 2002 and most recently in India where he worked until returning the U.S. in December 2007.

DR. JOHN SOPER ’81 & ’83 was named vice president of DuPont’s Crop Genetics Research & Development group earlier this summer. Through plant genetic research, the group has responsibility for advancing worldwide crop genetics research strategies to drive increased productivity and create new value for seed and agricultural value chain customers.

Dr. Soper received his Bachelor of Science in Botany in 1981 and Master of Science degree in Agronomy in 1983 from the University of Maryland, College Park. He earned his doctorate in agronomy and plant breeding from North Dakota State University.

He began his career at DuPont subsidiary, Pioneer Hi-Bred International Inc., in 1987 as a soybean breeder in Minnesota. In 1994, Dr. Soper was named regional soybean research director for the northern U.S. and Canada. In 1999, Dr. Soper was named director of sunflower research with additional responsibility for the oversight of Pioneer’s sorghum, rice, millet and alfalfa research. Dr. Soper has led Pioneer’s soybean research efforts since 2001, and was named senior research director of soybean product development in 2008.

John visited his graduate advisor Dr. Marla McIntosh in June 2010.

CARIN CELEBUSKI ’10, recognized by the AGNR alumni chapter as the Two-Year Outstanding Graduating Student is continuing her education by participating in the newly established Sustainable Agriculture course which is the culmination of a partnership with the Institute of Applied Agriculture (IAA) and Accokeek Foundation. AGNR Landscape Architecture alum, Brian Hughes ’08, with more than 20 years of farming experience teaches the Introduction to Sustainable Agriculture course. The course was so popular that there was a waitlist. The class met at Hughes’ organic CSA Shaw Farm in Columbia, to compliment classroom discussions. Carin completed an internship at Accokeek’s Eco-System Farm in 2009 as part of her IAA program. Courses like this and others provide a growth avenue for the IAA’s Agricultural Business Management program.
AREC RECEIVES TOP RANKING

A long-awaited National Research Council study of Ph.D. programs at 212 of the nation’s best universities gives many University of Maryland graduate programs high marks. As many as 36 out of 56 ranked Maryland programs were among the top 25 programs in their fields based on one of the study’s two general assessment methods.

The study provides only ranges of rankings and cannot be used to establish a definitive ranking for universities or their programs. However, agricultural and resource economics was among the many well-rated Maryland programs that were very highly rated by almost any of the analytical measures.

“It is gratifying that our ratings by the new NRC survey are strong,” said Associate Provost for Academic Affairs and Dean of the Graduate School Charles Caramello. “These findings confirm many other recent objective indicators of the overall excellence of our graduate programs and of the particular excellence of Maryland programs in many areas critical to the prosperity and
security of our nation and the world.”

“The University of Maryland is on a steep upward trajectory toward becoming one of the world’s very best universities and the complex and rich data in this study will provide important information that we can use to continue to strengthen our educational and research programs,” Caramello said.

### Study Says Ag Grads Have More Opportunities

As students work their way to graduation, the looming question continues to be: Can I find a job? For ag-focused graduates the answer is more likely going to be ‘yes’ according to a report released by Purdue University and USDA’s National Institute of Food and Agriculture.

The “Employment Opportunities for College Graduates in Food, Renewable Energy and the Environment” report estimates 54,400 jobs in agriculture-related sectors will be added in the U.S. annually between 2010 and 2015. In that same period, 53,500 students are expected to graduate each year from U.S. colleges of agriculture and in the life sciences, veterinary medicine, forestry, natural resources and allied non-agricultural fields.

“Depending on their area of expertise, there should be good opportunities for graduates, with some growth in total jobs during the next five years,” said Allan Goecker, associate director of academic programs for Purdue’s College of Agriculture and one of the report’s authors.

The report shows nearly three-quarters of those new jobs will be in business and science occupations, 15 percent in ag and forestry production and 11 percent in education, communication and government services.

### IAA lauded for support of new agricultural magnet high school

Sixty high school freshmen began classes in the Harford County Natural Resources and Agricultural Cultures magnet program at North Harford High School in Pylesville this fall. Leaders in the Institute of Applied Agriculture have been involved since its inception.

In a recent Baltimore Sun article, IAA Acting Director Glori Hyman said, “This is a heavily science-based program for bright kids who want to use their hands and be outside. They are part of a whole new wave of interest in hands-on farming. We need these kids to protect our environment and increase the productivity of our farms.”

The program’s focus on natural resources management and environmental studies shows agriculture’s wide reach, she said. “Farming is not just about growing food and taking care of animals,” Hyman said. “This program is giving kids many options, especially in the area of urban agriculture and agribusiness.”

Classes will take place in computer labs, barns and on the 10 acres of outside classrooms.

### Kangas’ algae research gets press

The Baltimore Sun featured Dr. Patrick Kangas, AGNR faculty member in Environmental Science and Technology, in a story, “Algae eyed to clean Chesapeake Bay - Scientists say ‘scrubbers’ can reduce pollution, produce fuel.” The following excerpts show Kangas’s enthusiasm for the potential of algae.

“There it is – green gold!” says Patrick C. Kangas, as he scoops up a clump of blue-green algae growing in the sluiceway he’s set up at the Peach Bottom nuclear power plant, just across the Maryland line. Kangas, a University of Maryland ecological engineer, sees a bright green future in such lowly pond scum – a solution to the Chesapeake Bay’s water-quality woes, and possibly even a clean, renewable energy source to boot.

With the help of Exelon Corp., the Chicago-based power company that owns Peach Bottom and other energy facilities along the lower Susquehanna, Kangas hopes to demonstrate the year-round pollution- scrubbing potential of the algae he’s cultivating in heated discharge water from the nuclear plant.

“… Kangas and others believe that algae can be transformed into the cure, rather than the cause, for the bay’s infamous dead zone – if only the tiny pilot projects they’re working on now could be enlarged and replicated at key points around the bay to cover thousands of acres of land or water…” The trough Kangas has built at Peach Bottom is known as an “algal turf scrubber,” a technology developed in the early 1980s by Walter Adey, an ecologist at the Smithsonian Institution. Adey initially devised it to clean aquaria he had at the Museum of Natural History, explains Kangas. It was designed to simulate the rich biological conditions Adey found on the edge of a coral reef, where sea water pulses in shallow waves over the reefs. Adey, now 76, is convinced his technology can reduce nutrient pollution in the bay more quickly and less expensively than many of the traditional means being pursued.

To really make a dent in the bay’s pollution, though, it’s going to take a massive effort. Adey calculates that to reduce nutrient pollution in the Susquehanna to acceptable levels, there’d need to be enough algae water scrubbers set up to cover roughly 3,000 acres of land – or water, if they’re of the floating type. To deal with the whole bay, he estimates needing about 10,000 acres – not all in one place, but strategically positioned in the main rivers feeding into the estuary.

“The fact of the matter is if we’re going to clean up the bay, then we’re going to have to make some sacrifices,” Kangas says.

### Maryland youth succeed at national events

Over the years, thousands of Maryland 4-H youth have participated in national and international competitive events and confer-
Shooting Sports
Earlier this year, eight members of the Maryland Shotgun and Archery Teams traveled to Texas. The 4-H delegation included Shane Kundell, Travis Gesell, Chelsea Hudson, Cody Stevens, Chris Warfield, Chris Grim, Steven Burroughs and Harryson Underwood. They were led by Shooting Sports Coordinator Conrad Arnold.

The Maryland Shotgun Team placed sixth overall out of 22 state teams. The team was seventh in sporting clay and skeet and was sixth place in trap shooting. There were 92 individual competitors. Chris Grim was fourth in skeet, Steven Burroughs was seventh in sporting clays, Harryson Underwood eighth in trap and Chris Warfield was ninth high individual overall.

In archery, there were 22 state teams with 78 individuals participating. The Maryland team was in the top 20 in each of the three archery categories of 3D, Field and FITA.

Engineering
In September, Dr. David Ross, professor and Extension agricultural engineer (retired), from the Department of Environmental Science and Technology, and a cadre of volunteers and youth descended on Purdue University as the Maryland 4-H Engineering team competed in the 60th National 4-H Engineering Challenge. The 11-member team participated in individual events and a team of seven competed in the 4-H Engineering Bowl. The event had 60 youth from 12 states competing in nine project areas.

Again this year a robotics event was piloted in preparation for adding it next year as a full event. There were four teams with 10 members. Maryland had a four-member team participate – Kevin Haenftling, Mikail Perrine, Kendrick Bender and Derrick Maust, all of Garrett County. Coached by William Lantz, Extension Educator of Garrett County, the team won one of the two challenges. The event is part of an effort toward SET - science, engineering and technology programming.

The Maryland team (not including robotic members) placed second in the engineering bowl competition. In individual events, Collins Lethbridge of Carroll County placed second in the tractor operator safety event. Brandon Kahler of Carroll County placed third in the small engines event and Katelyn Gnegy of Garrett County placed third in the computer event.

Placing fourth in their events were Aaron Lantz of Garrett County in the electric/energy event and Nathan Tichnell of Garrett County in the bicycle safety event. Gregory Tichnell of Garrett County tied for fifth in the welding event. Robert Preston of Baltimore County placed sixth in the lawn tractor event.

Each event included a written exam, either a presentation or parts identification test and a demonstration of skills component. Dr. Ross was the state coordinator and chair of the National Bicycle Safety Event. Dwayne Murphy, Faculty Extension Assistant, 4-H Youth Development, Baltimore County, University of Maryland Extension, was chaperone and a leader in the welding event. The Maryland 4-H Foundation and Fair View Farm were state sponsors of this program.

Dairy Cattle Judging
At the World Dairy Expo held in Madison, Wisconsin, UME Agricultural Science Educator Jeff Semler made a return visit as coach of the Maryland 4-H Dairy Cattle Judging team – and won the prestigious contest. It was the 30th national contest win for Maryland 4-H and earned its members an invitation to travel to the Royal Highlands Livestock Expo in Scotland and tour of Europe in June 2011. Kiera Finucane, Coordinator, Dairy and Beef Extension Activities in the Department of Animal and Avian Sciences, also coached the team.

Team members are Kaitlyn Corbett of Washington County, Jessica Sentelle and Hannah Hood, both of Frederick County, and Jason Zimmerman of Montgomery County. There were teams from 28 states and Ontario, Canada. While the team won the overall contest, they also placed first in oral reasons. Individually, all team members placed in the top 20 with Kaitlyn taking fourth, Jessica placing fifth, Hannah winning seventh and Jason in 13th place. As a team, the group won
MOMENTUM

PHILLIPS W. FOSTER, a professor of agricultural economics at the University of Maryland, who taught some of the university’s first courses in environmental studies and ecology, died Aug. 29, 2010, at a Manor Care rehabilitation facility in Wheaton. Dr. Foster joined the Maryland faculty in 1962. In the 1970s, he taught a popular ecology course that was held in one of the largest lecture halls on the College Park campus. He wrote more than 100 scholarly papers, and his wide-ranging academic interests included agriculture, international development, nutrition, population growth and preschool education. In the 1980s, Dr. Foster began teaching a course on food supply, demand and agricultural productivity, particularly in Third World countries. He was the principal author of “The World Food Problem,” a textbook now in its fourth edition.

During academic sabbaticals, Dr. Foster spent extended periods of time in India, Australia, Algeria and Colombia, and he was among the first U.S. scholars invited to lecture on economics in China. From 1968 to 1971, he wrote, directed and produced a documentary film about a village in rural India and its struggles to adapt long-held traditions to modern life.

Born April 26, 1931, in Ogdensburg, N.Y., Dr. Foster studied economics at Cornell University. After graduating from Cornell, he was a Fulbright fellow, and in 1958, he received a doctorate in agri-

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cultural economics from the University of Illinois. He taught at Michigan State University before coming to Maryland. Dr. Foster retired in 1994 but continued to consult for several years with the Philippine government on agricultural development. He lived in College Park and was a member of the Rotary Club and Paint Branch Unitarian Universalist Church in Adelphi.

F. Carlton Ernst, Jr. ’60 & ’70 died at his home on the Ernst Farm in Clear Spring on Sept. 20, 2010, after a brief struggle with cancer. He was 71 years old. He was a 1956 graduate of Clear Spring High School and earned his Bachelor of Science degree in animal sciences from the University of Maryland in 1960 and his Master of Science in 1970. He managed the family farm from 1961 to 1983, raising sheep, cattle, crops and Poland China hogs. He was a professor at the University of New Hampshire from 1983 to 1989 and then returned to the family farm. He was a founding member and worshiped at the Hilltop Christian Fellowship in Clear Spring and was active in The Hilltop Gospel Boys, Crossroad (Barrington, NH) and the Brethren Four Quartet. He was an original member of the Potomac Valley Assembly Church in Germantown. He planted the “seeds” for the idea to acquire the land where the church sits.

He was the beloved husband of Susie Brown Butler and the father of Matthew Hunter Butler. In addition to his wife, he is survived his mother, Shirley B. Butler; his siblings, Wade Butler and wife, Angela, Susan Butler and Washington White, all of Germantown, and Carol Butler and husband, Neal Olson, of Cincinnati; niece, Hallie and husband, Billy Van Horn; and nephews, Tyler and Ben Butler, also of Germantown. Memorial donations may be made to the Todd H. Butler Fund at Damascus Community Bank, P.O. Box 1, Damascus, MD 20872. The fund will be used to make donations to the various charities that Todd and Susie supported with a primary focus on children in need -- one of many demonstrations of Todd’s generous heart and focus on serving his community.

Jeanette Glover Glew ’88 died on Feb. 14, 2010. A soil science major, Jeanette went on to become an environmental scientist and member of the Biotechnology Consultation Team at the U.S. Food and Drug Administration. She also worked with the Center for Food Safety and Applied Nutrition. She was a frequent presenter and panelist at conferences and symposia such as the 2000 Cornell Conference on Agricultural Biotechnology. She developed a specialty related to genetically modified foods with a special interest in voluntary and mandatory food labeling.

She is survived by her husband, Raymond Glew of Silver Spring. She is the daughter of Estelle and the late Robert Glover. She is also survived by her siblings Patricia Kofmehl and Robert Glover, three nieces and a nephew. Memorial contributions may be made to the American Diabetes Association, 1025 Connecticut Avenue, NW, Suite 1005, Washington, D.C. 20036.

Todd Hunter Butler ‘77 died on July 8, 2010, after an accident at the family’s farm and business. He was 55. Born March 6, 1955, in Bethesda, he was a son of Shirley Brown Butler and the late George Henry Butler Jr. He graduated from Damascus High School in 1973 and the University of Maryland in 1977 with a degree in horticulture, where he was also a member of Delta Sigma Phi fraternity. Todd and two of his siblings, Wade and Susan, operated Butler’s Orchard in Germantown. He was a member of the Maryland Horticultural Society, the Maryland and National Direct Marketing Associations, the Maryland Apple Promotion Board, the Maryland Farm Bureau and the Upper Montgomery Farmers Club.

His lifetime work was providing farm-fresh, quality produce, along with a wonderful farm experience for families of the greater Washington area. He could most frequently be found in the farm market smiling and greeting customers -- many who had become lifelong friends. He was an original member of the Potomac Valley Assembly Church in Germantown. He planted the “seeds” for the idea to acquire the land where the church sits.

He was the beloved husband of Susie Brown Butler and the father of Matthew Hunter Butler. In addition to his wife, he is survived his mother, Shirley B. Butler; his siblings, Wade Butler and wife, Angela, Susan Butler and Washington White, all of Germantown, and Carol Butler and husband, Neal Olson, of Cincinnati; niece, Hallie and husband, Billy Van Horn; and nephews, Tyler and Ben Butler, also of Germantown. Memorial donations may be made to the Todd H. Butler Fund at Damascus Community Bank, P.O. Box 1, Damascus, MD 20872. The fund will be used to make donations to the various charities that Todd and Susie supported with a primary focus on children in need -- one of many demonstrations of Todd’s generous heart and focus on serving his community.
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**August 26 – September 5, 2011**

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- AGNR students assisting with Birthing Center
- U-Learn Farm in the Cow Palace
  (Next to the Birthing Center and across from AGNR Dairy Exhibit)
- AGNR, Maryland 4-H Foundation, Maryland Agricultural Education Foundation and MD State Fair collaborative activity center for young and old
- AGNR joins Maryland Department of Agriculture in the Farm & Garden Building near York Road
- Showcase for 4-H Youth Development Programs and Projects in the 4-H Exhibit Building, Cow Palace, Livestock Pavilion and Animal World
- Dean’s Awards for Excellence in 4-H Showmanship – for all species on exhibit

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