AGNR’s Research and Education Centers
hen I was interviewing for the job of Dean eight years ago, I had the opportunity to visit with many of AGNR’s faculty, staff, friends and stakeholders at several of AGNR’s Research and Education Centers across the state. I had the opportunity to not only see the diversity of Maryland’s agriculture and natural resources, but also to witness first-hand the passion and creative work of those using the Centers for their research and Extension educators sharing their findings with the citizens of Maryland.

In this issue of Momentum, you will get a glimpse of the diverse projects conducted at our Research and Education Centers and hopefully realize that they are a resource for you as citizens. I am proud of the productivity of our scientists that augment on-campus efforts through the diverse field trials conducted at our Research and Education Centers, and I’m equally proud of how the Centers serve as the front door to our college and university since they are located in citizens’ backyards.

It has been busy on campus as another semester came to a close. We took time to celebrate the accomplishments of our students, faculty, staff and alumni at awards events highlighted in this issue. I think you’ll agree that our talent and commitment runs deep as we congratulate the award winners!

Graduation is also a wonderful time to reflect. As I looked over the class of 2013, I was very proud of our faculty and staff in making sure that our newly minted AGNR graduates are the best of the best. They’ve been afforded experiences both on and off campus that have set the stage for them to become leaders in their respective fields. And just as quickly as the graduates have been launched into their futures, we welcome our new students at orientation sessions throughout the summer.

I am always happy to visit with you at our many events. During the summer, there are more opportunities to get to see our college in action at various twilight tours, industry-sponsored events and the showcase for agriculture at various county fairs as well as the Maryland State Fair. I hope that you will mark your calendar for some fall events listed inside the back cover, including the AGNR Open House at the Clarksville Facility and the AGNR tailgate at the Campus Farm.

Enjoy this issue as we take you on a “quick trip” across Maryland, sharing a sampling of the activities at our Research and Education Centers.
MOMENTUM

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Alumni notes are also welcome. Please send them to Gail Yeiser, University of Maryland, 1104 Symons Hall, College Park, MD 20742 or by email at gyeiser@umd.edu.

Dean and Director
Cheng-i Wei

Director of Development
Office of External Relations
Brian W. Magness

Editor
AgriVisions
Susan G. Summers
ssummers@comcast.net

Creative Director
HDI Corporation
Jennifer C. Hankey
jhankey@hdicorporation.net

Contributing Writers
Nancy L. Smith
Nancy Luse
Sara Gavin
Stacy Anderson
Gail Yeiser
Holly Porter

Resource Assistants
Mary Kearney
Ann Leger

Director of Photography
Edwin Remsberg
remsberg@umd.edu

http://www.agnr.umd.edu

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Research and Education Centers validate discoveries in the lab under pressures of natural environment.

By Sara Gavin

Questions like these and hundreds more like them generate the energy and passion that power the College of Agriculture and Natural Resources’ four Research and Education Centers.
Strategically positioned throughout Maryland’s diverse geographical terrain from the mountains in the west all the way to the lower sandy shore, the RECs are where science and methods developed in enclosed laboratories get put to the test under real-world, natural conditions.

The four RECs, comprised of eight facilities in total, are part of the Maryland Agricultural Experiment Station (MAES). Under the direction of the Hatch Act of 1887, each state has an experiment station dedicated to improving agriculture and food production for its citizens. “I really admire our ancestors for their vision (in developing the Hatch Act),” says Adel Shirmohammadi, Ph.D., Associate Director of the MAES. Just as the Morrill Act of 1862 sought to make higher education accessible to all U.S. citizens, the Hatch Act “led to the democratization of innovation and research in areas of plant and animal production to serve the public,” says Shirmohammadi.

Today, Maryland’s RECs span more than 3,200 acres. In a state as physically small as Maryland, that might seem excessive to people not familiar with its contrasting landscapes, soil types and weather patterns.

“Even though we’re a small land mass state we do have that broad geographical variety” says Frank Allnutt who serves as director for three out of Maryland’s four RECs including Western Maryland, Central Maryland and the Lower Eastern Shore. “The centers really serve as a mirror of the agricultural industry in Maryland which is so diverse compared to other states,” he says.

**FROM THE MOUNTAINS TO THE OCEAN**

For example, the Western Maryland Research and Education Center nestled in the foothills of the South Mountain range in Keedysville, is a prime spot for conducting studies on different varieties of fruit trees and grapes that thrive in hilly regions.

![Adel Shirmohammadi](image1.jpg)

![Frank Allnutt](image2.jpg)
Meanwhile, the Central Maryland Research and Education Center consists of four facilities located in Clarksville, Beltsville, College Park and Upper Marlboro. Whether it’s supporting the state’s burgeoning turf grass industry or helping dairy farmers stay abreast of the latest techniques in animal husbandry and milk production, each facility serves a specific purpose.

Located just southeast of the Bay Bridge, the Wye Research and Education Center specializes in issues involving water quality, particularly related to the Chesapeake Bay. “The Wye is uniquely positioned at the land-sea interface,” says Russ Brinsfield, Ph.D., who has served as director at the Wye REC since it was first established in 1982. “We can measure what’s leaving the field and getting into the Bay and therefore do more to protect the environment.”

Head down to the southern tip of Maryland along the Atlantic Ocean and you’ll find UMD faculty members at one of two facilities that make up the Lower Eastern Shore Research and Education Center working on solutions for problems plaguing fruit and vegetable producers in the region.

While each REC has a designated population and location to serve, the four centers together provide an opportunity for comparative research and collaboration. Figuring out which methods or practices don’t work can often be more important than discovering those that do.

“Wouldn’t you rather something failed here (at one of the RECs) than on your own farm?” says Allnutt. “Let the public university take the risk in trying new methods or practices.”

**TRANSLATING RESULTS INTO IMPACT**

Cutting edge agricultural research has little impact, however, if results and findings can’t get into the hands of those who need it most: farmers and consumers. That is precisely why they’re called Research and Education Centers.

Workshops, seminars, training classes and tours are conducted by University of Maryland Extension personnel at all of the RECs and facilities in order to keep citizens informed and up to date with the latest practices or technologies being studied by UMD faculty.

“The intent is not to point the finger,” says Brinsfield. “We do the research and say this is causing the problem and here are some solutions. We want them to be informed when they make their decisions.”

Students are also a big part of the equation necessary for making the RECs operate efficiently, whether by collecting data for field studies or providing hands-on support to REC staff. Over the past two summers for instance, incoming freshmen at the University of Maryland enrolled in the Scholars Program have participated in a service day at the Upper Marlboro facility in Central Maryland. Students are tasked with various chores such as measuring the height of corn at a demonstration plot or planting apple trees for the orchard.

Each October, the College of AGNR hosts an Open House at its Clarksville facility in Howard County - a free event chock full of family-friendly and educational activities that attracts thousands of residents from all over the state. The rolling hills of the 925-acre site and the clean, crisp autumn air serve as a reminder that the College of Agriculture and Natural Resources is about much more than what goes on in a classroom or a laboratory.

“In many ways the Research and Education Centers are the face of the College in other areas of the state,” says Shirmohammadi. “They are extremely important to our land-grant mission.”
Getting Results with Cover Crops

By Nancy Luse

When Drs. Ken Staver and Russ Brinsfield go to work each day at the Wye Research and Education Center in Queenstown, they pass through agricultural land they’re working to preserve. “In our offices we can look out on the Wye River,” Staver said, mirroring the other task they face in their jobs—protecting Maryland’s waterways.
But as clearly as these two men see the landscape through their windows, they have had to build trust in the farming community to tackle what’s not so easily seen — the way nitrogen discharge from cropland filters into ground water and eventually to the Chesapeake Bay.

The two researchers in the College of Agriculture and Natural Resources, who also have farms on the side, have been at the center since the 1980s, a time in which research pointed to using winter crop coverage as a way to slow nitrate leaching into groundwater. Cover crops have been used for generations, partly as a way to reduce soil erosion and, ironically, as a way to put nitrogen into the soil.

“We need nitrogen to grow crops,” Staver said, “but it’s also the part that can get away from us and cause problems in the Bay.”

“Things have gotten more technical,” he said. “With soil erosion you could see it. When you’re talking nitrate and groundwater that’s not something you can see. There has to be trust between the scientist and the farmer … there’s been a long process of education.”

The long process also pertains to the actual research. Staver said that during the 1980s “we thought Bay restoration had to do with other things and when things didn’t go as perceived we had to look at more options. We started with how nutrients move around in agricultural systems. It became clear that large nitrogen loads came out of agricultural lands through the groundwater system. People want lower nitrogen levels, what can we do?”

Brinsfield said it was not enough to “identify a problem, but to identify a solution. We’ve always been solution oriented.”

The solution points to planting winter cover crops, specifically the “cereal grains” of rye, wheat and barley. Brinsfield explained that during the regular growing season summer crops take up water from the soil as high temperatures cause high evaporation rates. In the fall and winter there’s more water flow downward in the soil and cover crops are needed to take up soil nitrate before it leaches into groundwater.
"We’ve done field studies," Staver said. "We’re certain it works." Brinsfield added that, "Cover crops are the cornerstone for any program to reduce nitrate levels" and "if we can do it on a small scale, we can do it on a large scale."

Already other states are picking up on the benefits of cover crops, including in the coastal areas of North Carolina and the Mississippi River basin.

After the science comes public policy, something that excites Brinsfield as he moves into more management and less research. "Now Ken is the real researcher, but I love the public policy part of it."

Public policy can have its twists and turns, especially when dealing with people coming from all directions. An important step hammered out in Annapolis during the Ehrlich administration was the Chesapeake Bay Restoration Fee, more commonly known as the "flush tax." The fee is used to upgrade the state’s major sewer treatment plants and failing septic systems, as well as subsidizing farmers for planting cover crops.

In the final bill, 60 percent of funding went to septic system upgrades and 40 percent to the Maryland Department of Agriculture to subsidize cover crops, Brinsfield said, a formula that continues today.

"Cover crops work so well, but are an added cost to the farmer," Staver said. True, "they are building organic matter long term, but we suggested providing an incentive to offset the cost of planting a crop that they’re generally not going to harvest."

The men said that the state’s fiscal 2014 budget contains $20 million to pay farmers to use cover crops, with $10 million coming from the flush fee and $10 million from the Chesapeake Bay Trust Fund.

The number of acres in cover crops varies from year to year. A sliding scale on what is paid to the farmer is between $25 and $100 an acre.

"The idea is you pay the most for the ones that work the best," said Staver. "You can’t just pick the low-hanging fruit," Brinsfield added, "so there’s an incentive to do the best management practice you can."

The subsidy is helping to lessen the conundrum some farmers may face between being good stewards of the land and making a living. "We want to keep farmers on the land and we have to eat," Brisfield said. And at the same time, "society says that protecting the Bay is important."

As researchers and players in policy making, both realize that anything can happen, but they are optimistic about crop cover practices being a large part of the answer. As Staver put it, "There’s a commitment to getting it done and it’s not fading."
Clarksville is home to one of the University of Maryland’s gems, the working dairy farm at the Central Maryland Research and Education Center (CMREC). The farm provides hands-on experience for students, and a practical research facility for faculty. The farm boasts an impressive award-winning Holstein dairy herd that they show off each year during their visit to the Maryland State Fair. Now, the farm is installing a new, high-tech, well-deserved milking facility that will generate big changes to the farm’s current routines.

By Stacy Anderson
With 75 milking and dry cows and 80 replacement heifers, there is a lot for Agriculture and Natural Resources students to learn at CMREC. Introductory and advanced students are able to experience firsthand proper milking procedures, farm management techniques and veterinary practices during lectures and labs at the farm. Throughout the school year, two or three students are able to work part-time at the farm, and three or four students work full-time during the summer. Working students get to observe vet checks, surgical procedures and experience real world methods for record keeping, feeding calves and cleaning and prepping stalls.

CMREC is also a great place to conduct research. One recent research project studied the influence of potassium and DCAD on dairy feed efficiency. Another project measured cattle brain waves in order to accurately measure stress. Currently, animal stress is measured by taking blood samples to find the level of corticosteriods, which are elevated when the animal is stressed. This study looks for a less invasive way to measure stress.

The quality of cattle and milk produced earns the farm a lot of respect. In 2012, CMREC won the milk quality award from Land O’ Lakes, who regularly buys milk from the dairy. Milk quality is measured by the somatic cell count (SCC) – the number of cells shed from the cow’s udder into the milk. For example, if the cow has an infection, they shed more cells into the milk giving you a lower milk quality. The legal somatic cell limit to ship milk is 750,000 cells/ml. CMREC’s herd SCC is under 100,000 somatic cells/ml. The center also received a milk quality award in 2011 from Dairy One, an information technology cooperative that provides Dairy Herd Improvement record services used by dairy owners to make profit-enhancing decisions.

To continue their strides in quality, CMREC is installing a new, high-tech, efficient milking facility. The current system is a double four-side opening parlor. The new structure is a double eight parallel parlor, which is double the size, and it will include computerized equipment and remote system access. The new capabilities make caring for the cows much easier. For example, the system can sort cows automatically. If a sick cow needs to be examined, operators can punch the cow’s number into a computer. As the cow walks out,
the computer transponder she wears alerts the system, and the gates will automatically switch and sort her into a different pen.

A StepMetrix Lameness Detection System will also help herd managers. When cows walk they should distribute their weight evenly. If a cow has a sore foot, she favors it and changes her weight distribution. The new technology works like a scale and assesses how much weight is on each leg. Before you even see a cow limping, the software can detect if a cow is favoring a foot, and she can be sorted out using the office computer or smartphone. The whole system is scheduled to be in place this summer.

For the past four years, CMREC has shown off their quality cattle at the Maryland State Fair. The fair features beef cows during the first half of their schedule and dairy cows during its second half. State Fair officials invited the University of Maryland’s College of Agriculture and Natural Resources to display some of their milking cows so the public could watch cows being milked throughout the 11 days of the fair.

A highlight in the herd display is a newborn calf that fairgoers get to name. The calf always returns to the fair the following year to show the difference in size between a newborn calf and a yearling heifer. The difference between the two is about 750 to 800 pounds. The two cows are part of a chronological line-up UMD presents to demonstrate how cows grow over time. They show a newborn calf, a one-year-old heifer, a 13 to 15 month-old heifer, which is breeding age, and a two-year-old cow, which is calving age. This dairy herd and other AGNR displays show the public the important role agriculture plays in Maryland. The College intends to continue the tradition.

If you miss the herd at the state fair, CMREC holds their annual AGNR Open House on October 5th from 10 a.m. to 3 p.m. with animals, wagon rides and a chance to view graduate students’ research and meet faculty members. Come to this free event and experience agriculture in your backyard.
Wye Angus
Makes the Grade

By Holly Porter

The first Saturday of April brings hundreds of cattlemen from Montana to Florida and states in between. They all gather at the Wye Research and Education Center (Wye REC) in Queenstown, MD, to participate in one of the cattle industry’s premier events – the Wye Angus Annual Sale.

To Eddie Draper, the Wye Angus program manager, this sale is his report card for the year. “One true test of our work throughout the year is seen that Saturday.” But the work to grow and maintain a world-renowned Angus herd begins long before April. As a matter of fact, much of the work started over 75 years ago.

In 1937, Arthur Houghton, the
chief executive of Steuben Glass, purchased the Wye Plantation, a farm that had been part of Maryland agriculture since the 17th century. His goal was to raise the finest quality beef cattle, and he employed James Lingle to manage the farm.

The original herd started in 1938 and included 18 heifers and a bull calf. Those first heifers were the only females that were ever purchased, with 12 still represented in today’s herd. Building perfection is never an easy process. For 18 years, Lingle traveled to find the best bulls possible. While American breeders in the mid-century were raising small, compact animals, he preferred large-framed cattle from Scotland, Ireland and England. After importing 25 bulls, the herd was closed to outside breeding in 1958.

Recognizing the importance of research to help maintain a quality herd, Lingle began working with the University of Maryland in the mid-1950s. With the success of several projects, some of the most superior sires were established, leading to the genetic reputation that still exists today.

Due to that partnership, in 1979 Mr. Houghton gifted the herd to the University of Maryland, with the Maryland Agricultural Experiment Station in charge of managing the animals. One condition of the gift was any extra animals not needed for research should be made available to the general public, establishing the annual sale.

Since becoming the Wye Angus program manager in 1986, Eddie Draper has used those superior genetics to improve the grade of the herd. “Our goal is the maternal traits – a sound, functional female that is able to produce consistently.” He does this through health, feed, and pasture management, along with a significant amount of record keeping.

Dr. Russell Brinsfield, director of Wye REC, is extremely proud of the program. “The quality of the management of the Wye Angus by Eddie and his team is easily seen each year at the sale.” This spring, sales totaled $189,000 and $14,000 was paid for the top bull.

It’s not just the sale that Draper has as part of his grade. The Wye Angus herd also has a strong reputation in producing outstanding research. One current project by Dr. Jiuzhou Song has Draper really excited. The study is examining the effects of the beef quality and fatty acid profile of finishing cattle on alfalfa and orchard grass diets (generally beef cattle are finished on grain and corn).

The results are still being gathered, but the study couldn’t come at a better time. Draper comments, “Over the last few years I’ve had more buyers at the sales trending towards grass-fed beef for sustainability and economic growth. It’s what many consumers are asking for, too.” And it’s where Draper sees the Wye Angus program focusing for the next few years.

Another focus is the hands-on internship program they offer. Each semester, up to two undergraduates live at the farm and experience the day-to-day operation of managing cattle. “The students do everything that we do,” says Draper. “From calving during the winter, helping with the sale in the spring and making hay during the summer.” The internship program is open to all undergraduate students, but at least one spot a semester is reserved for a Maryland undergraduate.

Developing future vets, farmers and scientists is just part of what Wye REC has in store for the future of the Wye Angus. “We’re working with the agriculture community, including the animal sector, to develop practices that can keep their industries economically viable but at the same time protect the Chesapeake Bay,” says Dr. Brinsfield. Such practices include planting buffers and installing fencing along the streams that lead to the Wye River.

Between excellent management practices, the superior genetics of the cattle and the countless research potential, it’s no doubt that the Wye Angus Program will continue to make the grade for years to come.
Located just off the University of Maryland College Park campus is a unique green expanse – the Paint Branch Turfgrass Research Facility. The facility allows researchers, professors and students to learn about new grass varieties, identify sustainable turfgrass management practices and measure runoff losses from turf. Industry professionals who value the research done at the facility have lobbied state legislators and provided financial support for the turf farm to become one of the finest turfgrass facilities in the nation.
“One of University of Maryland’s strengths is having a turfgrass facility right on campus,” says Mark Carroll, Associate Professor for the Plant Science and Landscape Architecture Department and one of three University of Maryland faculty members that work at the research facility. “Several universities have a facility that is much smaller than ours, or it is so far away that it’s too difficult for faculty and students to visit it regularly. Here, you can jump on a bus at the student union, and it’s right there!” The Paint Branch Turfgrass Research Facility has a long-term open lease with the U.S. Department of Agriculture, with whom they share a fenced border. The farm consists of 35 acres, much of which can be easily irrigated by an extensive in-ground irrigation system. In addition, there is a laboratory, conference room, large classroom and several offices totaling 13,000 square feet. Since opening in July 2000, other universities have taken note of the great design and modeled their facilities after it.

With the extensive grounds and convenient location, both 2-year and 4-year students in the turfgrass management program are able to utilize what the facility has to offer. For example, field laboratories such as turfgrass identification and turfgrass establishment, which are part of the university’s introduction to turf management course, are conducted right at the facility. Students enrolled in the university’s turfgrass irrigation course install small-scale working irrigation systems in open areas of the farm. The convenience factor allows students to regularly return to the farm outside of class to monitor the progress of labs conducted earlier in the semester. Other courses that have labs at the facility include Sports Turf Management, Integrated Pest Management Studies and Commercial Turfgrass Maintenance and Production. Even one of UMD’s landscape architecture courses takes place at the research facility.

There is a steady initiation of new research projects at the turf farm with a number of groups benefiting from the studies. Beneficiaries are homeowners, lawn care operators, golf course superintendents, sports field managers, sod producers and various environmental groups. Right now, much of the research conducted impacts homeowners. Turfgrass variety studies look into which grass species perform best in Maryland. Many of the varieties examined are newly developed and not released for sale yet. “Most turfgrass in the state is residential. We work with seed producers to see what varieties will do well in our area with
the least amount of maintenance. If you start out with the right turf species and variety, everything will be cheaper and easier to manage down the line,” says Dr. Carroll. To understand how the grasses perform, some researchers intentionally avoid using pesticides while evaluating turfgrass performance over a period of several years. With the growing interest in sustainable landscapes, Dr. Carroll predicts there will be more low chemical input home lawn studies in the future. In fact, last year the facility held a successful first field day for landscaping businesses. Most of the interest was in the low-input studies underway at the facility.

Research studies at the facility traditionally focus on grass fertility, fungicide and herbicide performance, and the impact of shade on turf persistence. However, one research topic gaining popularity is nutrient and stormwater management. “Fifteen years ago, stormwater runoff was not on most turfgrass researchers’ radars. Now it is huge,” states Dr. Carroll. The facility currently has a number of nutrient run-off and management studies in progress. Several past projects in these two areas were a big help in formulating the new turf management regulations due to take effect in the state this October.

Dr. Thomas Turner, another Associate Professor for the Plant Science and Landscape Architecture Department, develops the nutrient management recommendations for turfgrass in Maryland. His recommendations are frequently based on data collected at the Paint Branch facility. The nutrient management documents he worked on will soon become legally binding and will impact how much and when homeowners can apply fertilizers to their lawns. For example, there are blackout periods for using fertilizers on lawns, only certain amounts can be used (resulting in a 20% reduction), and using phosphorus fertilizer is only allowed in certain situations. Otherwise, you must use phosphate-free fertilizers.

The turf farm’s success is a product of the hard work put in by faculty leaders. This summer, one of the facility’s key faculty members will retire. Dr. Peter Dernoeden, who has led the turf program for nearly three decades, is leaving the University of Maryland and will be sorely missed by his students and co-workers who respect and appreciate the significant contributions he made throughout his time with the University of Maryland.
For many people, summer just wouldn’t be summer without weekly trips to the local farmers’ market. Fresh and colorful fruits and vegetables just off the farm are healthier and safer than produce from the supermarket and organically grown is even better — or is it?

“There are a lot of beliefs about food safety, but they are not necessarily based on fact. There is no science to back up the belief that one is safer than the other in terms of local versus nonlocal or organic versus conventional cultivation,” says Dr. Kathryne Everts, professor and Extension specialist in plant pathology. She says food safety issues are a challenge. “We have good science in some cases, but in others, the science just is not there.”

Everts is the only plant pathologist in the University of Maryland College of Agriculture and Natural Resource’s Department of Plant Science and Landscape Architecture who is not located in College Park. From her office in the Lower Eastern Shore Research and Education Center in Salisbury she directs the Eastern Shore piece of a multi-state grant-funded research project to help fill the gaps in knowledge by developing scientifically based food safety metrics for tomatoes and leafy greens. The focus of the work is on ensuring a safe food supply and reducing food borne illness.

Everts and her team collect samples of tomatoes and leafy greens directly from farms and send them to College Park where they are tested for pathogens. “Large agricultural operations are required by their buyers to...
test produce for safety. In the Mid-Atlantic, some medium and small farms that sell to certain buyers also do such testing, but many smaller operations haven't collected safety information because they didn't have to," Everts explains.

But regulations are coming that could affect farms of all sizes. In 2011, the Food Safety Modernization Act was enacted. Called "the most sweeping reform of our food safety laws in more than 70 years" by the Food and Drug Administration, the law is aimed at preventing food contamination. The work being done by Everts and her team will inform FDA rulemaking under the law.

In addition to tomatoes and leafy greens, samples of soil, compost, pond sediment and irrigation water also are collected. Samples are tested for four indicators. "We look for generic E. coli and fecal coliform, neither of which is a pathogen, but which can indicate the presence of pathogens. We also test for pathogenic E. coli and salmonella," says Everts.

As to the source of the pathogens, Everts says, "The pathogens come perhaps from the feces of birds and animals. They could come from surface water if the farmer irrigates out of a pond."

Everts explains the project also seeks to determine what production practices, events and locations increase the risk of microbial contamination of produce, whether small to medium-sized farms have risk factors not found in large industry farms and whether risks on organic farms are different from those on conventional farms. Researchers collect samples from farmers who agree to participate. Everts credits University of Maryland Extension with the willingness of producers to participate. "We are asking farmers to allow us to sample for something that, if positive, could be devastating to their operation. But we have had huge success recruiting growers because University of Maryland Extension has generated great trust," she says. "That has been very important. Growers have been very generous. It would be hard to get their buy-in if it wasn't for that level of trust.

"There is no other way to get these samples. We can't sample at a supermarket because by then the produce will have been through a lot of hands. It's only possible at a land-grant university where relationships (with farmers) are strong," she explains. Among its many programs, Extension sponsors Good Agricultural Practices training which educates producers on how to avoid contamination.

Samples from produce farms in other parts of Maryland also are being tested. Similar produce sampling and testing is also done in New Jersey and Delaware. In all, universities in seven states are participating in the research.

The Maryland project now has more than 1,000 samples from dozens of farms, most collected during the 2012 growing season. Samples are evenly split between organic and conventional farms and, while a final analysis remains to be written, Everts reports "There are no substantial differences (in the presence of pathogens or indicators) based on farm type."

Assessing the relative safety of organic versus conventionally grown produce is not the only objective of the work, Everts explains. "We hope to answer really critical questions such as what are the on-farm risks on small to medium-size farms. It is important to know if risks are different on small farms. Maybe they should be exempt from certain provisions (of the proposed FDA regulations.)"

"We want to find answers so producers are not unfairly burdened while consumers are protected," she says.

Principal investigator on the research grant is Dr. Robert Buchanan, professor and director of the University of Maryland’s Center for Food Safety and Security Systems. Foodborne pathogen researcher Dr. Shirley Micallef, assistant professor, who holds joint appointments to the Center for Food Safety and Security Systems and the Maryland Institute for Applied Environmental Health in the School of Public Health, is involved in testing the samples.
When a lumbering bug with a bit of a prehistoric look to it first came on the scene around 1997 in Allentown, PA, many dismissed it as a minor nuisance, except maybe when they squashed it, releasing a foul odor that caused its scientific name of Halyomorpha halys to be simply that of stink bug.
“They buzzed around lights or dropped from the ceiling; they didn’t bite people,” said Bryan R. Butler Sr., a Mid-Maryland tree-fruit agent for University of Maryland Extension. In 2008 and 2009 the stink bugs’ penchant for crops became known and 2010 became what Butler called the “Oh, my God” year.

“The damage didn’t just ease in with 1 or 2 percent damage, we had situations of 85 percent of the crop on the ground. In 2010 the damage was so significant it was the number one problem in our states,” he said. In addition to Maryland, the invasive pests, which originated in Asia and may have come into the country on cargo ships, are also prevalent in New Jersey, West Virginia and Delaware.

“It’s still kind of an East Coast problem,” Butler said. “We’re still at the epicenter.”

Investigations at both the Western and Central Maryland Research and Education Centers have been critical to dealing with the local pest.

The 22-year Extension veteran has “never seen anything like this,” and has had to deal with “standing with an owner in a peach orchard that’s worth hundreds of thousands of dollars, the fruit destroyed and all I can do is shrug my shoulders. It was hard emotionally and as a researcher.”

One of the most extreme cases he witnessed was a 90 percent loss by one grower. “It’s not like they were destroyed in a frost. The trees were pruned, maintenance was done and it was to the point of harvest. All that money went into the crop and then it was lost.”

The destruction spurred researchers into action. “We really mobilized,” Butler said. “We had to do in weeks and months what normally would occur over a year.” And the results are starting to be felt.

Dwight Baugher, who owns an orchard in Westminster, said that when the brunt of the infestation occurred four years ago, “it felt like we were in kindergarten” as far as knowing how to combat it. Today, through the efforts of the Extension Service and the U.S. Department of Agriculture, “we’re in third or fourth grade. We’re nowhere near a master’s degree, but soon we’ll be in middle school.

Butler said that “one thing we strive for is an integrated pest management program” that combines looking at the insect’s life cycle and other factors then devising a plan that is going
to effectively put the bugs on the run in the most economical and environmentally-friendly way.

Weather patterns are one part of the equation.

“Look at the weather in 2010 and you realize it was a very dry year,” Butler said. “Summer was brutally hot and the woods and other vegetation dried up so the bugs fed on the cultivated crops” that were irrigated. “The next year the population went down, it’s hard to predict; there’s not enough years to say this is a pattern.” Another tool is developing models for targeted applications so that sprays are effective but not excessive and don’t leave an unwanted residue on the crops going to market.

In 2011 Butler took a sabbatical to work in a USDA lab in West Virginia, where he looked at biological ways of pest control. “We’re starting to get a better handle, we’re understanding the life cycle” and discovering it has a lot of natural enemies such as starlings and cow birds.

Guy Moore, owner of Larriland Farms in Lisbon, said, “Mother Nature accommodates” by providing predators that are excited about “a new food source out there.”

Working closely with Extension and USDA, Moore has devised a spraying schedule that brings results, is cost-effective and “doesn’t kill the good bugs ... I rotate the arsenal so they don’t get immune.” Moore also mentioned some headway being made with trapping the bugs with a pheromone lure.

Researchers have logged that around the third week in September stink bugs start to find places to winter over, usually in homes. They move in and spend the winter hibernating, just waiting. When spring comes they wake up and move into a crop. They eat, mate and lay eggs, usually 28 in a mass with multiple masses. “They’re pretty prolific; they lay until they wear out,” Butler said.

Baugher, who last year lost about half of his crop of Pink Lady apples, describes them as “very diligent and aggressive; they’re a tough bug.”

Butler also called them “a very mobile pest. It moves from the edges” on an orchard or field and heads inward. “It’s really hard to see what’s going on until it’s too late.

“They have a piercing, sucking mouth. It’s like a needle going into the fruit.” One apple could have has many as 40-60 brown spots. “It’s trash,” he said. Unlike some toddlers, stink bugs are not picky eaters. More than 300 crops have them licking their chops from apples, peaches and raspberries to tomatoes, peppers and corn.

In the struggle, however, hope remains high for managing the problem. Baugher, for instance, who is a fourth generation fruit grower, said they’ve had similar woes and moved through them.

Butler’s take is “We get them every time. Every day we figure things out. Will stink bugs always be here? Yes. But we keep grinding away” to lessen their impact on the livelihoods of farmers and growers and the consumer. “It’s not going to be a neat movie ending, but I’m optimistic.”
KEEP US GROWING...

The Research and Education Centers are a tremendous asset to our College and University. They set us apart from all other colleges at University of Maryland because they allow us to conduct hands-on, practical research across the state and share our findings directly with our citizens. Here are just a few of the UMCP Foundation Funds that have been established to support our research efforts:

If you would like to make a contribution to any of these funds, please visit agrn.umd.edu and click on the “Giving to the College” link. If you are interested in supporting the research efforts of a different part of the College, please contact Brian Magness at bmagness@umd.edu or (301) 405-7733.
**Fun With Fungi: PSLA Professor Receives Award for Research**

Priscila Chaverri is unapologetic about her passion for fungi. "What I like the most is going out to the field. I got interested in this (subject) through going out in the forest and looking for these little fungi," says Chaverri, Ph.D., an assistant professor in the Department of Plant Science & Landscape Architecture (PSLA). "It's so relaxing and I don't think about anything else. I just go into the forest and spend hours collecting the fungi. I love the fungi."

This spring, Chaverri found out she will be awarded the 2013 Alexopoulos Prize from the Mycological Society of America (MSA), considered the premier award for early career stage researchers in mycology – the study of fungi. She will travel to Austin, Texas, to accept the award in person at the MSA's annual meeting.

Here at the University of Maryland, Chaverri aims to pass on her enthusiasm for fungi to the next generation. She teaches a 100-level course available to students in all majors called Mushrooms and Molds, as well as the advanced PSLA class Biology of Fungi. "We go out and we collect and I tell them all the fun stories about fungi. I think the students enjoy that," she says.

Chaverri also helps teach a winter term study abroad course called Sustainable Tropical Ecosystems in Costa Rica, her native country. She frequently travels to Central and South America, as well as other regions around the world, for her research which primarily focuses on identifying fungi that cause diseases on plants or those which can be used to control diseases as an alternative to pesticides. One specific project, which involves two UMD graduate students, centers on the rubber tree native to the Amazon Basin and its potential to produce fungi that could protect against devastating plant diseases such as South American Leaf Blight.

Chaverri joined the PSLA faculty in 2008. For more information on her research, visit http://mycology.umd.edu.

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**Master Gardener Mania**

Hundreds of enthusiastic volunteers from across the state descended upon the University of Maryland's College Park campus in May for the annual Maryland Master Gardener Training Day.

Maryland Master Gardeners are volunteers trained by University of Maryland professionals to educate state residents about ways to build healthy gardens and landscapes using safe, effective and sustainable practices. This is the 15th consecutive year...
AG-Mazing Students

Terps Dig Deep to Win National Championship

The University of Maryland beat out 21 other colleges and universities from around the country to take home the top prize in the National Collegiate Soil Judging Contest hosted by the University of Wisconsin at Platteville in April. It marks the first time in 29 years the Terps have won this prestigious national competition. UMD’s previous victories came in 1984 and 1972.

Soil judging develops and tests a student’s ability to apply knowledge and skills to real-world natural systems. To “judge” a soil, students spend one hour in a 5-foot-deep pit describing the characteristics of the various layers that have developed in the soil, the ability of the soil to transmit and retain water and support roots, the geological history of the site, the long-term processes of soil development, the classification of the soil and the potential challenges of using the

the program has hosted a statewide training day. The event drew more than 900 people to UMD’s campus this year.

“Training day has been growing every year and this is the largest crowd we’ve had yet,” said Jon Traunfeld, state coordinator of University of Maryland Extension’s Master Gardener program. “Master Gardeners are a passionate group of people dedicated to sharing their love and knowledge of gardening with people in their communities.”

Participants in this year’s training day engaged in sessions covering more than 30 subject areas including landscaping, wild gardens, honey bees, horticulture therapy, aquaponics, insect control, healthy trees and more. For the first time, this year’s training included volunteers from the Maryland Master Naturalists program, which instructs people on how to help preserve and share the state’s environmental wealth.

There are more than 1,700 trained Master Gardeners in nearly every Maryland county, Baltimore City and two state prisons. In order to become a Master Gardener, volunteers complete a basic training – 40 to 50 hours – and then receive additional instruction on an annual basis.
soil for land uses such as building a home. In this contest, students studied the fascinating and complex soils of the driftless (unaffected by glaciers) region of southwestern Wisconsin. 

“Describing soil judging to someone is always interesting because soils are something most people don’t think about, but almost everyone has interacted with,” says senior Isabel Enerson. “Soil judging is a competition, but it’s also one of the best and most applicable learning experiences I have ever had.”

Maryland’s soil judging team braved freezing temperatures, high winds, rain, sleet, hail and retailers telling them that hand-warmers were “out of season” in order to bring home this year’s trophy.

“We are a group of students with a genuine interest in soils and a deep respect for the earth,” says senior Ryan Adams. “To be able to bond with others over this shared passion and represent the University of Maryland while doing so has been invigorating and unforgettable.”

Members of the victorious team included Adams, Enerson, Davinia Forgy, Laurence Gindi, Heather Hall, Steph Jamis, Peter Lynagh, Jessica Rupprecht, Mujen (Jack) Wang and Tyler Witkowski. Of the competing students, five are Environmental Science & Technology (ENST) majors, four are Environmental Science & Policy majors and one is majoring in Agricultural Science and Technology. ENST Associate Professor Brian Needelman served as the team’s coach and graduate assistant Chris Palardy served as the assistant coach.

“My favorite part of soil judging is the depth of the interactions I get to have with the students,” says Coach Needelman. “The team made memories that will last a lifetime and bringing home a championship is very sweet icing on the cake. The students deserved it for all their hard work and dedication.”

In addition to winning the overall competition, the UMD team won the group judging portion of the contest for the second year in a row. Also, Tyler Witkowski came in third place and Davinia Forgy came in eighth place in the individual portion of the competition. The first place victory builds upon Maryland Soil Judging’s impressive resume, with 10 “Final Four” finishes at the national competition and 22 regional championships.

**Undergraduate Researcher of the Year**

Senior Animal Sciences major Aikeen “AJ” Jones has been selected as one of the University of Maryland’s Undergraduate Researchers of the Year. AJ was honored at a reception on campus in May during the opening ceremonies of Undergraduate Research Day.

AJ describes himself as an animal lover who is passionate about reproductive physiology. His research focuses on finding new ways to collect and preserve genetic information for endangered species through a process called Seminiferous Tubule Isolation. His work was supervised by Associate Professor Carol Keefer, Ph.D., from the Department of Animal and Avian Sciences, who nominated AJ for this prestigious award.

“AJ is one of the most passionate, bright and well-rounded students I have met in my career,” says Keefer. “His research will provide a valuable means of preserving and extending genetic resources for endangered species.”

In addition to his molecular research, AJ juggles a part-time course load and works as a veterinary technician at a local animal hospital. AJ says his research experience helped him decide what he would like to do professionally after graduating with his bachelor’s degree from UMD this spring.

“Before working in the lab, I only wanted to work with livestock at a farm,” says AJ. “This experience has refined me and now I would love to teach the public about animal reproduction in a zoo setting. I still want to work with animals hands-on, but now I want to find a way to incorporate that with public education regarding animal
care, breeding and conservation.”

For being named one of UMD’s Undergraduate Researchers of the Year, AJ will receive a plaque and $1,000. His work on seminiferous tubule isolation has also been accepted for presentation at an international conference, the Annual Meeting of the Society for the Study of Reproduction in Montreal, Canada in July.

**Celebrating Student Scholarships**

The College of Agriculture and Natural Resources (AGNR) is proud to be able to offer students assistance from one of the largest scholarship programs available at the University of Maryland. The annual Celebration of Scholarships event held each spring at UMD’s Riggs Alumni Center seeks to highlight donors and student achievement through scholarship.

The following AGNR students were recognized during this year’s event held on April 26:

Environmental Science and Technology major **Isabel Enerson** has a lofty goal: to help people and the planet co-exist peacefully. After graduating this May, Isabel plans to move to Sweden for a year to further projects she worked on while studying abroad in the spring of 2013 and then apply to graduate school. Ultimately, Isabel hopes to combine her interests in ecological design and soil and water management to “develop integrated solutions that strive to create responsive living systems that work in harmony with natural environments and meet consumer demand to provide water, nutrient, soil, heat and waste management systems.”

Junior **Brooke Hyman** has decided to make it her life’s mission to take a stand against poverty around the world. Brooke’s experiences studying abroad in both Ecuador and Peru, made possible through scholarship funds, encouraged her to pursue a career in international medicine. The nutrition and food science major and Kingsville, MD native plans to attend medical school after graduating from AGNR in May of 2014 and would “like to combine obstetric and pediatric care with educational outreach programs in order to decrease the prevalence of poverty in developing countries.”

Not many people can list “swimming with sharks” as a recreational hobby but for junior **Daniel Mongeon**, it’s been a lifelong passion. However, after spending a semester researching sharks on the island of South Bimini in the Bahamas, Daniel decided to stick with plans to pursue a degree in nutrition and food science from AGNR and then apply to medical school. The Maryland native isn’t giving up his razor-tooth friends though. He vows to continue to support shark research and find ways to interact with the ocean-dwelling predators “for fun.”
Four years ago, **Jason Chun Yu Wong** left his home in Hong Kong to become a freshman at the University of Maryland. “I could not have imagined then what I would be able to do here as a Terp,” Jason said in May, while addressing his fellow graduates from the College of Agriculture and Natural Resources (AGNR).

Jason graduated with honors receiving a double degree in Environmental Science and Policy and Germanic Studies with a minor in statistics. He joins a diverse and talented crop of students who make up the Class of 2013.

During Spring Commencement inside the Reckord Armory on the University of Maryland campus, the College of AGNR awarded:

- 230+ bachelor’s degrees
- 30+ master’s degrees
- 15+ doctoral degrees
- 15+ IAA certifications or two-year program

This spring’s class is one of the largest to graduate from the College of AGNR and encompasses students interested in everything from solving world hunger and securing the global food supply, to preserving endangered species, protecting the Chesapeake Bay and promoting our state’s natural resources.

“Our College is like an ecosystem,” said Environmental Science and Technology major **Isabel Enerson**, during her graduation speech. “Just like in an ecosystem, we each have vital roles to play.”

Like many AGNR students, both Isabel and Jason had the opportunity to study abroad while working toward their degrees at UMD. Isabel plans to move to Sweden in August to continue sustainability projects she worked on while studying abroad there in the spring of 2012. Jason, meanwhile, spent his final semester as a Terp studying in Germany and plans to pursue a PhD in sustainable development from Columbia University. “The great thing about being an AGNR major is that our work always extends to our communities,” said Jason. “We are unstoppable not just here in Maryland but unstoppable around the world.”

**Congratulations to the Class of 2013!**
AGNR Convocation and Awards Ceremony

Faculty and staff from the College of Agriculture and Natural Resources (AGNR) came together on May 8th for the 2013 Convocation and Awards Ceremony. The theme of this year’s event focused on promoting public health through our food supply. Featured speakers included faculty members from the Department of Nutrition and Food Science, the Department of Plant Science and Landscape Architecture, the Department of Animal & Avian Sciences and University of Maryland Extension.

Following the morning’s presentations, the College took time to celebrate staff members marking a milestone in years of service, from five years to 40 years.

Additionally, a number of staff and faculty members were presented with 2013 College of AGNR Excellence Awards. The honorees included:

Off-Campus Staff Excellence Award

Pamela Chollet, Administrative Assistant II, Talbot County UME

Since joining University of Maryland Extension’s Talbot County office in September of 2004, Pam has consistently gone above and beyond to serve the public and support UME programs throughout the county. As the sole administrative assistant in Talbot County, Pam’s duties vary depending on many factors including the time of year, program needs and requests from clientele calls or walk-ins. Whether maintaining budget and financial re-
Although Steven has a 100 percent teaching appointment, he has been instrumental in the development and coordination of UMD’s Green Roof Research Team – a multi-disciplinary team formed in 2007 that has received funding from the Maryland Environmental Services (a division of the Maryland Department of the Environment), UMD’s Maryland Industrial Partnerships and the USDA Specialty Crops Research Initiative.

**On-Campus Staff Excellence Award**

**Sandra Nola**, Administrative Services Director, ANSC

Sandra joined the Department of Animal and Avian Sciences in 2010 as Director of Administrative Services and has impressed colleagues with her “can-do” attitude and outstanding work ethic ever since. Hired to oversee all of the department’s budgets, employee contracts, personnel functions, financial and administrative reporting, resource allocations, facilities planning and purchasing, Sandra’s broad background in all areas of administration and relationships with key university stakeholders make her an outstanding resource for faculty, staff and students.

**Non Tenure-Track Faculty Excellence Award**

**Steven Cohan**, Professor of Practice, PSLA

Steven joined the faculty at the University of Maryland in 2000 as Professor of the Practice in the Department of Plant Science and Landscape Architecture and has also served as coordinator of the landscape management program since that time.

Although Steven has a 100 percent teaching appointment, he has been instrumental in the development and coordination of UMD’s Green Roof Research Team – a multi-disciplinary team formed in 2007 that has received funding from the Maryland Environmental Services (a division of the Maryland Department of the Environment), UMD’s Maryland Industrial Partnerships and the USDA Specialty Crops Research Initiative.

**Off-Campus Junior Faculty Award**

**Jennifer Rhodes**, Extension Educator, Queen Anne’s County UME

Jennifer is considered by her peers to be a true champion for Maryland agriculture, UME and the College of
AGNR. She was first hired by UME in 1996 as a nutrient management advisor in Queen Anne’s, which is the state’s highest corn and soybean producing county. In 2007, Jenny had the opportunity to fulfill her long-term dream of becoming an Extension agent for her home county. Described as passionate, devoted and outspoken, Jenny works tirelessly to educate farmers about new technology, research and regulations and inform citizens in her increasingly urbanizing county about the importance of agriculture production for the economy, environment and quality of life.

**On-Campus Junior Faculty Award**

**Paul Leisnham**, Assistant Professor, ENST

Paul is an Assistant Professor in the Department of Environmental Science and Technology (ENST) who is passionate about his research and instruction in EcoHealth. This emerging field examines intrinsic multi-component links among ecological processes, social factors and human well-being. Paul’s research focuses on the ecology of native and invasive mosquitoes that transmit wildlife, livestock and human diseases, and that utilize water-filled containers, wetlands, and drainage systems.

**Faculty Research Award**

**Siba Samal**, Professor, VetMed

Siba began his tenure at the University of Maryland on January 1, 1988, as an assistant professor and has spent his entire career at UMD. During this time, he has established an internationally recognized research program in virology and has earned a reputation as a renowned virologist. Siba is a universally acknowledged expert on three important animal pathogens: Newcastle disease virus (NDV), bovine respiratory syncytial virus (BRSV) and Aquareoviruses. His laboratory is known around the world for developing novel vaccines using “reverse genetics” techniques – a cutting edge method of producing infectious viruses from cloned DNA.

**On-Campus Junior Faculty Award**

**Shannon Dill**, Extension Educator, Talbot County UME

Shannon has served as an educator for University of Maryland Extension in Talbot County since 2001. During her time with UME, Shannon has demonstrated a creative, dedicated and energetic drive to develop and provide innovative and effective farm business management and profitability programming, fulfilling a critical need of Maryland farmers and communities. In the last 12 years, Shannon has served as lead author or co-author on 26 UME peer-reviewed publications, two journal articles and helped write the curricula for AgSploration, an innovative youth agriculture education program geared toward middle school students. Shannon has been invited to present at numerous national, regional and state conferences and served as PI or co-PI on grants amounting to more than $1 million.

**The Paul R. Poffenberger Excellence in Teaching & Advising Award**

**Chris Walsh**, Professor, PSLA

Christopher has been teaching and advising students at both the undergraduate and graduate levels for nearly 20 years, demonstrating a sincere dedication to instruction and creativity in course development. Over the past five years, he has developed three new courses for the Department of Plant Science and Landscape Architecture (PSLA) including a popular I-Series class focusing on the agriculture of specialty crops throughout history. Christopher holds an 80 percent teaching and 20 percent research appointment for PSLA and is known for artfully integrating laboratory practicum, activities and excursions to enhance the student learning experience.

**UME Extension Excellence Award**

**Shannon Dill**, Extension Educator, Talbot County UME

Shannon has served as an educator for University of Maryland Extension in Talbot County since 2001. During her time with UME, Shannon has demonstrated a creative, dedicated and energetic drive to develop and provide innovative and effective farm business management and profitability programming, fulfilling a critical need of Maryland farmers and communities. In the last 12 years, Shannon has served as lead author or co-author on 26 UME peer-reviewed publications, two journal articles and helped write the curricula for AgSploration, an innovative youth agriculture education program geared toward middle school students. Shannon has been invited to present at numerous national, regional and state conferences and served as PI or co-PI on grants amounting to more than $1 million.

**The Dean Gordon Cairns Award for Distinguished Creative Work and Teaching in Agriculture**

**Jianghong Meng**, Professor, NFSC

Jianghong is a professor of food safety in the Department of Nutrition and Food Science and Director of the Joint Institute for Food Safety & Applied Nutrition (JIFSAN) at the University of Maryland. Jianghong is an internationally renowned expert in microbial food safety and a dynamic, highly-regarded faculty member. He has conducted innovative and cutting-edge research to address major issues in microbial food safety and other areas that impact public health. He is widely recognized as one of the country’s top researchers in the development of rapid, molecular biology-based diagnostics for the detection of pathogenic microorganisms in food, and the use of these technologies to help discover the source of and risk factors contributing to foodborne disease both in the U.S. and throughout the world. Congratulations to this year’s winners!
PICTURE PERFECT AG DAY/MARYLAND DAY

Sunny skies and warm temperatures helped create a stellar turnout for Ag Day/Maryland Day 2013 held on April 27. “Ag Day Avenue” and the Campus Farm were swarmed with crowds throughout the day – particularly those clamoring for a glimpse of the two thoroughbred foals born on campus this spring.

TERRIFIC TERPS

AREC ALUM WINS PRESTIGIOUS FULBRIGHT GRANT

As the son of Russian immigrants, Alex Gittelson ’09 grew up speaking Russian at home and hearing stories about his parents’ upbringings in St. Petersburg. “I’ve always had this pull to figure out how I’m going to spend some time in my heritage homeland,” Alex says.

Now that he has been awarded a competitive Fulbright grant for the 2013-2014 academic year, Alex will have a chance to pursue his lifelong goal of helping to make a difference in Russia.

After graduating with his bachelor’s degree from the Department of Agricultural and Resource Economics at UMD, Alex went to work for the U.S. Department of Agriculture as an International Affairs Specialist focusing on policy issues related to energy, climate, safety and security. His work with the USDA gave him the opportunity to interact with researchers and economists from around the world, including...
Terrific Terps

Outstanding Graduate Student – M.S. candidate: Natalie Lounsbury, Environmental Science and Technology

Natalie Lounsbury's background as an organic crop inspector and farm manager in Maine led her to her current research track at UMD investigating how cover crops can facilitate no-till planting of early spring vegetables. Natalie's interests include efficient nutrient cycling, soil conservation and farm economic viability. Her future plans are to “combine experience and training in environmental science, farming and social science to develop agricultural practices that benefit farmers, consumers and the environment.”

Natalie Lounsbury

Outstanding Graduate Student – Ph.D. candidate: Lindsey Vansandt, Animal and Avian Sciences

Lindsey Vansandt’s doctoral research in the Department of Animal and Avian Sciences focuses on developing a protocol for extracting, storing and preserving genetic data from testicular tissue using the domestic cat as a model for other wild feline species. Prior to studying at UMD, Lindsey earned her doctorate of veterinary medicine from the University of Missouri-Columbia and conducted research at the St. Louis Zoo evaluating and banking semen specimens for a variety of species. She currently serves as instructor of the Physiology of Mammalian Reproductive Laboratory and was instrumental in developing the course content, creating lab guides and mentoring undergraduates. Lindsey is also active in the Animal Sciences Graduate Student Association where she has served as president and vice president.

Lindsey Vansandt

Outstanding Student – 4 year program: Jason Chun Yu Wong, Environmental Science and Policy – Environmental Economics

For Jason Chun Yu Wong, pursuing a double degree in Environmental Economics and Mathematics wasn’t quite enough. He decided to add a degree in Germanic studies as well! During his

Russia. Those experiences in Russia prompted Alex to apply for a Fulbright grant that would allow him to study alternatives to agricultural burning in the country. This common practice of burning excess crops – typically straw – is believed to boost soil fertility but is also harmful to the environment, particularly in the Arctic.

“The main reasons farmers do this is not because it’s good for the soil but because it’s the cheapest way to get rid of the straw,” says Alex. “I’m interested in looking at what you could do with that straw. Could you convert it into bio energy, for example? Or leave it on the ground to use for future planting?”

Alex put together a proposal to partner with faculty at Saratov State Agrarian University, located about 10 hours southeast of Moscow, to examine viable alternatives to agricultural burning. He found out in early April that his proposal had earned him a grant from the highly competitive Fulbright Program – one of the most prestigious awards programs in the world.

“I ran around the building and did an airplane dance basically. I was definitely very, very excited about it. In the short, medium and long-term, it is the ideal thing that I wanted to be able to do,” says Alex.

Alex will leave for Russia in September and spend roughly nine months on the research project. Afterwards, he plans to pursue a graduate degree in public policy.

2013 AGNR Alumni Awards

Congratulations to the recipients of the 2013 College of Agriculture and Natural Resources Alumni Awards! The honorees were celebrated at an awards banquet held at the University of Maryland’s Riggs Alumni Center on April 16.

Outstanding Graduate Student – M.S. candidate: Natalie Lounsbury, Environmental Science and Technology

Natalie Lounsbury's background as an organic crop inspector and farm manager in Maine led her to her current research track at UMD investigating how cover crops can facilitate no-till planting of early spring vegetables. Natalie's interests include efficient nutrient cycling, soil conservation and farm economic viability. Her future plans are to “combine experience and training in environmental science, farming and social science to develop agricultural practices that benefit farmers, consumers and the environment.”

Outstanding Graduate Student – Ph.D. candidate: Lindsey Vansandt, Animal and Avian Sciences

Lindsey Vansandt’s doctoral research in the Department of Animal and Avian Sciences focuses on developing a protocol for extracting, storing and preserving genetic data from testicular tissue using the domestic cat as a model for other wild feline species. Prior to studying at UMD, Lindsey earned her doctorate of veterinary medicine from the University of Missouri-Columbia and conducted research at the St. Louis Zoo evaluating and banking semen specimens for a variety of species. She currently serves as instructor of the Physiology of Mammalian Reproductive Laboratory and was instrumental in developing the course content, creating lab guides and mentoring undergraduates. Lindsey is also active in the Animal Sciences Graduate Student Association where she has served as president and vice president.

Lindsey Vansandt

Outstanding Student – 4 year program: Jason Chun Yu Wong, Environmental Science and Policy – Environmental Economics

For Jason Chun Yu Wong, pursuing a double degree in Environmental Economics and Mathematics wasn’t quite enough. He decided to add a degree in Germanic studies as well! During his
Terrific Terps

four years at the University of Maryland, Jason served as a peer mentor for the College of Agriculture and Natural Resources, worked as a teaching assistant for AREC 200 (Economics of the Chesapeake Bay) and represented AGNR at the university’s Undergraduate Research Day as well as the Atlantic Coast Conference Meeting of the Minds Undergraduate Research Conference in Blacksburg, Va. Jason is currently studying abroad in Germany and has been accepted into the AREC graduate studies program for the fall of 2013.

Outstanding Student – 2 year program: Michael Walsh, Landscape Management

Michael Walsh graduated from the Institute of Applied Agriculture in December ‘12 and now works as a horticulturist at Columbia Country Club in Chevy Chase. While studying with the IAA, Walsh orchestrated a project to move plants from the old President’s house on the College Park campus to install at the Rossborough Inn. He also served as president of the student chapter of the Professional Grounds Management Society and received numerous scholarships from various industry groups including the Maryland Nursery and Landscape Association, the Montgomery County Farm Bureau and Turf Equipment and Supply Company.

Excellence in Extension: Amy Burk, Animal and Avian Sciences

Amy Burk, Ph.D., coordinates the Equine Extension Program for University of Maryland Extension focusing on three major areas: equine nutrition, horse pasture management and 4-H youth development. Amy is credited with developing an extensive applied research program to support her Extension efforts in areas including weight gain, diet and exercise on

Excellence in Instruction: Stephanie Yarwood, Environmental Science and Technology

Stephanie Yarwood, Ph.D., says the main reason she pursued advanced degrees was so that she could one day teach at a university. Hired by the Department of Environmental Science & Technology at UMD in 2011, Stephanie teaches Soil Biochemistry and Microbial Ecology to undergraduate and graduate students. Her evaluations are consistently outstanding and students rank her 10 percent higher than the college mean. She co-advises a Capstone group and mentors four undergraduate students working in her lab to evaluate the effect of forage radish on the abundance of bacteria and fungi in agricultural soils.
insulin sensitivity and inflammation in Thoroughbred geldings and works with a team of 23 on an equine pasture management program at the Central Maryland Research and Education Center located in Howard County. She also created an “Ask the Experts” column featured in major equine publications, is a regular presenter at the Horse World Expo and coordinates the Maryland 4-H volunteer horse council.

**Outstanding Alumnus - Early Career: April Hall Barczewski, University of Maryland Extension – Cecil County**

A 1999 graduate from the Department of Animal and Avian Sciences, April Hall Barczewski currently serves as a 4-H Youth Development Educator for University of Maryland Extension in Cecil County. April is a staunch promoter of the College of AGNR’s programs, coaches Dairy Bowl teams and is an enthusiastic supporter and respected leader for the College of AGNR, Maryland 4-H youth programs and the University of Maryland in general.

**Excellent in Research: Nadine Sahyoun, Nutrition and Food Science**

Nadine Sahyoun, Ph.D., is an associate professor for the Department of Nutrition and Food Science whose area of expertise is in the field of nutrition epidemiology and aging. The goal of her research is to improve the quality of life for older adults and in the process, decrease health expenditures. Nadine’s work was among the first to focus attention on the importance of nutrition in the transition of care. She received many national invitations to present her findings, garnered extensive publicity in the media over the last several years and has been instrumental in securing nearly $3 million in grants to support her research.

**Outstanding Alumnus: Charles Iager ’65, Dairy Husbandry**

For more than four decades, alumnus Charles Iager ’65 has been an enthusiastic supporter and respected leader for the College of AGNR, Maryland 4-H youth programs and the University of Maryland in general. He is currently chair of the Maryland 4-H Foundation Board of Directors, served several past terms on the AGNR Alumni Chapter Board of Directors and is a past Director of the Alpha Gamma Rho Fraternity’s Alumni Board. Charles and his wife Judy established a scholarship to support students in the Department of Animal and Avian Sciences and have been actively involved in planning and generating interest in the recently-launched Campus Farm Revitalization Project. The Iagers received the “Spirit of Maryland” award in 2011 from the university’s alumni association. The AGNR Alumni Chapter is grateful to be able to count on the couple’s unfailing attendance at events, hospitality at their 1,200-acre dairy farm in nearby Fulton, MD, and generously-donated dairy memorabilia for silent auctions and other fundraisers.
at the regional, state and national levels, and is a founding member of the AGsploration: The Science of Maryland Agriculture team that generated a series of lesson plans for use in Maryland middle schools. April first joined University of Maryland Extension in 2000.

The Circle of Friends award is presented to individuals or organizations that have supported and enhanced AGNR initiatives and programs with mentoring or by providing services. This year’s designees include:

**Professional Grounds Management Society, DC Branch**

Through a long-standing working relationship, the DC Branch of the Professional Grounds Management Society worked with Institute of Applied Agriculture (IAA) students and faculty to create the first student chapter of PGMS in U.S. which now serves as a model for other university chapters. Additionally, the DC Branch created local scholarships for IAA students and supports multiple national awards. They also contribute to research projects conducted by University of Maryland faculty and have served as a source of internship placement and employment opportunities for AGNR students.

**Easton High School Culinary Arts Program**

Working in collaboration with the AGNR alumna and program director, Linda Brown, students from the Easton High School Culinary Arts program have had the opportunity to gain catering experience by assisting with AGNR signature events including Ag Day, AGNR tailgates and numerous luncheons for campus meetings with stakeholders. Class projects, including menu planning, cost estimating, customer service and relations, while using appropriate safe food handling, have become a hallmark for AGNR events. The partnership of providing real life situations for students is of mutual benefit.

**Honorary Member**

**Wesley Brown of Easton, Maryland**

As a 4-H’er from Caroline County, Wesley Brown visited the University of Maryland for events such as 4-H conference in the summer. His future bride attended UM while he pursued his education at Salisbury to be closer to the family farm in Denton. Over the years and especially since his children were students in AGNR and his wife joined the AGNR Alumni Board, Wesley is an enthusiastic, dedicated and reliable volunteer at any alumni or college event. He has assisted in procuring articles for the silent auction, assisting with various functions related to AGNR tailgates and Ag Day. In addition, he embraced the U-Learn Farm outreach program of the College at the Maryland State Fair, storing and identifying supplies for the hands-on activities conducted during the fair.

**Terrific Terps**

Let us hear from you – we’d like to share your story

While we see many of you at events, we would like to share more of your stories. Have you gotten a new position or promotion? Started your own business? Been recognized in your profession? Been a part of an exciting, groundbreaking trip or project? We want to congratulate you on your journey as well as share your successes with those that may be starting their careers by choosing one of the many majors in AGNR.

Take a moment to send us an email at gyeiser@umd.edu and we can follow up for more details. Snail mail also works at Gail Yeiser, 1104 Symons Hall, College Park, Maryland 20742 Attn: Momentum

And yes, a picture is worth a thousand words. We are happy to publish pictures but need your help there as well. Original digital photographs are preferred to ensure good resolution when reproduced. Unfortunately, photos from cell phones and Facebook postings don’t give us the resolution needed for this publication.
Margery Fry Grace ’52 died unexpectedly at her home in Trumansburg, NY on April 9, 2013.

Margery was raised in Laytonsville, the youngest of five children born to Edwin D. and Susan Ransome Fry. She grew up on a dairy farm, in a family noted for its involvement with progressive farming techniques. They were active proponents of Maryland 4-H and Cooperative Extension programs.

In 1956, she moved to Tokyo, Japan, to establish the registrar’s office for a new Far East Division of the University of Maryland’s Overseas Program. By 1959, she had become the registrar for the entire European division based in Heidelberg, Germany, serving ten thousand students before the advent of computers. In June of 1963 she married Charles C. Grace Jr., and they moved to Ithaca, NY, where Margery worked as the assistant to the dean of Cornell’s School of Human Ecology.

In 1966, they moved to Trumansburg where Margery devoted herself to community work. She logged over 6,000 hours as a volunteer at the Ulysses Philomathic Library and actively supported the Trumansburg school system. She had a passion for travel, regularly visiting old friends in England, Europe and the U.S. She was also a lifelong supporter of the Maryland 4-H Foundation.

Survivors include her husband, Charles, and two sons, C. Christopher Grace (Kathleen Roberts) of Boston, MA, and David H. Grace of Madison, WI; two grandchildren, David F. Grace and Amy E. Grace of Boston; a brother, Frederick A. Fry of Sudlersville, Maryland, and many devoted nieces and nephews.

Those wishing to make donations in her memory are asked to consider the Ulysses Philomathic Library, 74 East Main St., Trumansburg NY, 14886.

Richard Lansdale Pue ’68, a farmer in Highland, passed away on April 19, 2013. Son of the late Richard Pindell and Margaret Lansdale Pue, he is survived by a brother, Thomas F. Pue of Morgantown, WV. He was predeceased by an infant brother, James Pindell Pue.

Lansdale was an alumnus of the Maryland 4-H Dairy Cattle Judging program and was a member of Alpha Gamma Rho Fraternity.

Donations may be made to Metro Ferals of Maryland, P.O. Box 1385, Sykesville, MD 21784.

Francis E. “Gene” Wood ’70 died May 18, 2013, at his home in University Park from complications of Lewy Body Dementia (LBD), a pernicious disease that attacks both cognition and mobility. He was 80 years old.

Following service in the U.S. Marines during Korea, he earned his B.S. and M.S. degrees in his native state from the University of Missouri and moved to Maryland in 1964. After earning his Ph.D. in Entomology from the University of Maryland in 1970 he was viewed as a pioneer in the field of urban entomology. As an Extension entomologist and professor, he concentrated on educating the pest control industry and the public they serve, as well as conducting applied research. In the 1970s he began transforming a loosely organized group of Maryland “exterminators” into pest management professionals by providing training leading to certification at his annual Interstate Pest Control Conference.

In the 1980s, Gene adapted the agricultural concept of Integrated Pest Management (IPM) to reduce pesticide use in dwellings by developing trapping, baiting and harborage reduction techniques to manage exploding German cockroach populations in apartment buildings. In retirement Gene co-authored three IPM manuals for the EPA and consulted with the National Park Service to use urban IPM to preserve historic buildings across the country. Gene received the Distinguish Service Award for Extension from the University of Maryland College of Agriculture in 1986. In 1988, the year of his retirement, he co-founded and hosted the first National Conference of Urban Entomology.

Gene is survived by his wife and partner of 33 years, Nan Booth; four children from previous marriages, a brother and a sister and three grandchildren.

A memorial program in Gene’s honor was held on the University of Maryland campus on June 21, 2013, in the Plant Science Building. Donations may be made in Gene’s name to either the non-profit organization Literacy West Virginia, to support establishing a literacy program in Hardy County, WV, or to the University of Maryland Foundation, to support student scholarships. Checks for the literacy program should be made to Literacy West Virginia and sent to Judy Azulay, PO Box 522, Union, WV 24983. Checks for the entomology scholarships should be made to the University of Maryland Foundation, with a note on the check “For Steinhauer Scholarship,” and sent to the U of MD Department of Entomology, Room 4112 Plant Sciences, College Park, Maryland, 20742.
AGNR Open House
AT THE CENTRAL MARYLAND RESEARCH AND EDUCATION CENTER CLARKSVILLE FACILITY, 4240 FOLLY QUARTER ROAD, ELLEICOTT CITY
10 A.M.-3 P.M. SATURDAY, OCTOBER 5, 2013
This is a great opportunity for the general public to learn about all the components of the College of Agriculture and Natural Resources – academics, research and outreach – through fun, family-oriented educational activities and exhibits. Farm tours, pumpkin painting and cutting edge research presentations round out the nearly 60 ongoing activities. Free and open to the public.

Homecoming – Ag-toberfest
AGNR Tailgate at the Campus Farm
Saturday, October 26, 2013
3 hours before kick-off against Clemson

AGNR Alumni Awards Celebration
AT THE SAMUEL RIGGS IV ALUMNI CENTER
5:30 P.M., THURSDAY, APRIL 10, 2014
Watch for details or contact gyeiser@umd.edu

Watch AGNR’s Facebook page for details about the 2013 Ag-toberfest. Contact Gail Yeiser at gyeiser@umd.edu or 301-405-2434 for sponsorship opportunities.
http://www.facebook.com/pages/University-of-Maryland-AGNR-Alumni-Chapter/115419941422