Princess Anne farm reserved for UMES research

Previously known as the Stark Farm, one Somerset County site will serve as a prime location for the University of Maryland Eastern Shore’s (UMES) agricultural research, yielding teaching, research and extension opportunities for undergraduate and graduate students as well as senior research faculty at the university.

Located just off Stewart Neck Road in Princess Anne, the $1.55 million, 365-acre parcel of land is reserved for field research in food, agriculture and related areas as well as field demonstrations of farm and ecosystem level processes. Consequently, the land will facilitate the continuation and expansion of ongoing research that’s currently conducted by the School of Agricultural and Natural Sciences on the UMES campus farm.

The new farm will be used, as a part of the regular academic program, for experiential training that involves undergraduate and graduate students.

Additionally, the new farm will facilitate the growth and expansion of new research activities that link directly to emerging areas of national priority and need, but with a specific focus on Maryland and especially on the Eastern Shore. New research initiatives, which will also include graduate and undergraduate students, will address the following: environmental quality and sustainability, sustainable food production and security, human health and safety, conservation and use of coastal and marine resources, and bioenergy.

Coupled with the teaching and research initiatives is the extension and outreach program. Extension educators will employ an enhanced method of delivering research-based knowledge through the development of model demonstrations for both crops and livestock including: small commercial production systems, community gardens and organic production systems.

The farm purchase is part of a five-year plan of work under the USDA/NIFA’s 1890 Facilities Grants Program. Administrators plan to break ground early 2014.
UMES Student Researchers Receive Record Number of Wins

UMES brings home six wins and one faculty award from the 17th Biennial Research Symposium of the Association of Research Directors (ARD) held in Jacksonville, Florida. Overall, with one first place win, four second place wins and one third place win, the university won more research presentation awards than any of the other 17 participating universities.

“I congratulate all students, faculty and staff for these excellent results,” said Dr. Moses Kairo, dean of the School of Agricultural and Natural Sciences and director of the UMES Agricultural Experiment Station. “This is a clear testament of the high quality of research, training and mentorship at UMES. We must continue to strive harder to provide high quality education and to produce research solutions to address the challenges facing Maryland and the nation.”

Rizwana Tasmin secured the university’s only first place win for her poster presentation titled “Chlorine Inactivation of Non-Resistant and Antibiotic Resistant Strains of Salmonella Typhimurium Isolated from Pre-Chill and Post-Chill Poultry Carcasses.” Tasmin is a graduate student studying food science and technology. Her research is conducted under the leadership of senior researchers Salina Parveen, Ph.D., associate professor in the Department of Agriculture, Food and Resource Sciences and Tom Oscar, Ph.D., of the USDA/ARS Residue Chemistry and Predictive Microbiology Research Unit at UMES.

Graduate student Nadine Burton won second place for her poster presentation titled “Symbiotic Performance of Genetically Diverse Cowpea Genotypes on the Delmarva Peninsula.” Burton is studying food and agricultural sciences and conducts her research under senior researchers Robert Dadson, Ph.D., interim chair, Fawzy Hashem, Ph.D., research associate professor, and Corrie Cotton, research assistant professor, all in the Department of Agriculture, Food and Resource Sciences.

For the oral presentation of his research, “Nitrogen Use Efficiency (NUE) Through Sensor-based Algorithms and On-the-go Application,” Christopher Hartman won second place. Hartman is a graduate student who serves as a lecturer in the Department of Engineering and Aviation Science. He works in conjunction with senior researchers Abhijit Nagchaudhuri, Ph.D., professor of engineering in the Department of Engineering and Aviation Sciences and Madhumi Mitra, Ph.D., associate professor of biological and environmental sciences in the Department of Natural Sciences.

Xavier Henry is a professional pilot via the UMES Aviation Sciences program and a graduate student specializing in food and agricultural sciences. He won second place for the oral presentation of his research that’s conducted under senior researchers Nagchaudhuri and Mitra. His research is titled “Design and Evaluation of a Spectrally Optimized Algal Photobioreactor for Carbon and Nitrogen Capture from Fossil Fuel Efflux.”

A graduate student studying food and agriculture sciences, Jorge Rodriguez won second place for his poster presentation depicting the “Effects of Feeding a Pelletized Diet Containing Pumpkin Seeds on Nematode Fecal Egg Counts (FEC) and Blood Hematocrit (PCV) in Lambs.” His poster is a component of a project on natural anthelmintics for sheep and goats. The project is sponsored by a grant from USDA/NIFA and the principal investigator is E. N. Escobar, Ph.D., an assistant professor of small ruminant production in the Department of Agriculture, Food and Resource Sciences.

A third place win was awarded to Ian Bottone, who is an undergraduate student studying general agriculture and serving as a sustainable agriculture research intern. His research, “Determining Urea Persistence in a Coastal Plain Soil: An Incubation Study,” is being conducted under senior researcher Arthur Allen, Ph.D., associate professor in the Department of Agriculture, Food and Resource Sciences and associate research director of the UMES Agricultural Experiment Station.

Some 900 faculty, staff, researchers and students attended the 17th Biennial Research Symposium, which brandedish the theme 1890 Research: Sowing Seeds of Change for the Global Community. More than 300 undergraduate and graduate students competed for recognition in oral and poster competitions. Faculty presentations were non-competitive.
The 2013 Small Farm Workshop Series was pulled off without a hitch this year, beginning with the March 16 Solving the Social Media Puzzle workshop and ending with the April 20 Small Ruminant Integrated Parasite Management workshop.

More than 80 participants, with some taking advantage of more than one workshop, attended the events.

**Solving the Social Media Puzzle**

**Basic Building Blocks for Using Social Media to Grow Your Business**

With Social Media Strategist, Apryl Parcher

Held on Saturday, March 16, the social media workshop was attended by members of the farming community looking to learn more about how to use the Internet to expand and/or promote their respective agricultural enterprises. Before this workshop, the participants may have been puzzled about using Social Media! After all, figuring out the WHO, WHAT, WHERE and HOW can be quite overwhelming!!!

Following the same principles as outlined in her book, “Solving the Social Media Puzzle,” Apryl Parcher of Parcher Marketing Associates (http://aparcher.com/) designed this workshop for farmers and agri-business owners who want a concrete plan for using social media. Her 4-hour interactive workshop helped the participants to: determine their ideal audience, find out where their audience lives online, and structure a plan for communicating with them online.

Participants included both men and women of varying ages who currently are farming as well as those looking to start new agribusiness enterprises. All in attendance were “social media beginners,” having none or very limited experience using social media. Each participant received a copy of Ms. Parcher’s book as well as a workbook to guide them step by step through the process of creating their unique social media marketing plan.

**Growing and Marketing Blackberries, Raspberries and Blueberries**

This workshop drew more than 40 participants, who braved the 40° weather on Saturday, March 23, to Fred “Butch” Wells’ Wicomico County farm.

From his many years of experience, he imparted information about how to plant, grow, prune, pick and sell blackberries, raspberries and blueberries on less than an acre of land.

**Free Range Poultry and Egg Production Workshop**

Eighteen participants were in attendance for the April 6 free range poultry workshop, which featured poultry specialists and experts.

Dr. Jennifer Timmons explained the nutritional needs of layers. She is an assistant professor in the UMES Department of Agriculture, Food and Resource Sciences. Dr. Maurice Clarke, also assistant professor in the same department and UMES veterinarian, described common poultry diseases.

To round out the day, Deanna Baldwin, chief food quality assurance officer for the Maryland Department of Agriculture, outlined Maryland regulations as they pertain to egg grading and handling.
The Be Smart . . . Drench Smart Small Ruminant Integrated Parasite Management Workshop attracted 10 small ruminant farmers during an all-day event held at UMES.

At least one participant immediately implemented the technology taught during the workshop.

“Prior to this workshop, we had been worming on a regular schedule. But much to our surprise, we needed to up dosing for about 75% of the herd,” he said. No one, absolutely no one, should try to raise goats without using the FAMACHA method.”

Dr. E. Nelson Escobar, small ruminant specialist at UMES, has been presenting workshops about the use of the FAMACHA score card to help sheep and goat farmers mitigate or manage parasite burdens common to small ruminants for some 4 years here on the Lower Eastern Shore of Maryland and beyond. In his estimation, use of the FAMACHA score card among sheep and goat farmers is essential.

Such certification courses are offered on a regular basis. For more information, contact Dr. Escobar at 410-651-7930.

TAD STUDENTS VISIT UMES FARM AND FACILITIES

Throughout the month of April, UMES personnel hosted some 150 students from the Wicomico County Thinking and Doing (TAD) Program to help create awareness about local agriculture and support for local farmers. Six different afternoon trips were organized to accommodate the middle schoolers, who traveled in groups of 20-25 students per visit.

Their time on the UMES Research Farm provided exposure to the UMES sheep, goat and poultry units; the GIS/Water Quality Project; the plant science unit; and the labs within the Center for Food Science and Technology. While campus visits were organized by Small Farm Program Coordinator Berran Rogers, Farm Management Specialist Michael Sigrist helped to coordinate visits to local farms.

“In partnering with the TAD Program, the goal of the Small Farm Program was to showcase the education, extension and research efforts of UMES faculty and staff and to expose the youth to the broad array of career choices in the field of agriculture as well as in the natural and food sciences,” said Rogers.
Faculty within the School of Agricultural and Natural Sciences (SANS) is hosting as many youth as possible this summer with the expressed goal of exposing the next generation to the benefits of scientific discovery and the educational and career opportunities available in the fields of agriculture and natural sciences.

The UMES Living Marine Resources Cooperative Science Center (LMRCSC) is currently holding a 10-week summer program for undergraduate students that began on Monday, June 3, and will continue until Friday, August 9. The Research Experience for Undergraduates (REU) Program in marine and estuarine science, funded by the National Science Foundation (NSF), is an internship that will allow the undergraduates to participate in laboratory and field research activities. In addition to participating in field trips, the students will receive instruction in topics such as scientific ethics, library resources for research, experimental design, and data analysis. They will also attend seminars and workshops on such topics as scientific writing and communication. On the final day of the internship, they will present their research results to their peers, undergraduate and graduate students, and faculty at a symposium that will be held at the Paul S. Sarbanes Coastal Ecology Center. The internship pays a stipend of $5,000 to each student over the course of the summer, and housing and meals are provided. Students must attend the whole 10-week session to receive the stipend.

Dr. Paulinus Chigbu, professor and director of the NOAA LMRCSC, directs the program along with Dr. Eric May, the program coordinator. For additional information, visit www.umes.edu/reu.

The Student Enrichment & Experiential Learning (SEEL) and Coastal Marine Sciences (CMARS) programs are components of the Center for Research Excellence in Science and Technology – Center for the Integrated Study of Coastal Ecosystem Processes and Dynamics (CREST-CISCCEP) funded by NSF and directed by Chigbu. The SEEL Program promotes environmental literacy among high school students through activity-rich educational and outreach experiences related to the Coastal Bays. For high school students in the tri-county area, the 7-week internship provides a $2,000 stipend for the summer. Student research will be focused on the influence of land use and climate variability on water quality in the Maryland Coastal Lagoons, phytoplankton and macroalgae dynamics in the Maryland Coastal Lagoons, zooplankton community dynamics in the Maryland Coastal Bays, physiological effects of hypoxia on Atlantic croaker in the Chesapeake Bay, and the effects of environmental factors on blue crab and its relation to infection by Hematodinium sp. Students will present their research during the symposium at the end of the internship period.

The CMARS Workshop, reserved for 6th -12th grade teachers of biology and marine and environmental science, began on July 7. For the program, which ends on July 19, teachers are recruited nationwide in the effort to promote environmental literacy among high school and middle school teachers and students. The ultimate goal is to incorporate ocean science educational material into the existing curricula. Program activities are aligned with state and national standards and they meet the Middle and High School Assessment (MSA and HSA) requirements. Each participant will be provided a support system through collaboration with CREST-CISCCEP researchers, staff (Kerrie Bunting, CREST-CISCCEP program coordinator), and graduate students. On-campus housing, meals, and a travel allowance will be provided. Dr. Andrea Johnson, research assistant professor and associate director of the CREST-CISCCEP Program in the Department of Natural Sciences, administers the SEEL and CMARS programs. Additional information for both programs is available at www.umes.edu/CREST.

For the Geoscience Bridge Program, funded by NSF and NOAA, 20 students who have received admission to begin college in fall 2013, participate in a 6-week educational program involving marine geology and chemistry, atmospheric science, physical oceanography,
and remote sensing/GIS. The program was established through the collaborative effort of four cooperative science centers funded by NOAA EPP. It offers lectures and hands-on laboratory and field activities, field trips, and lectures in DNSC 100, a freshman seminar course designed to facilitate the adjustment of freshmen science majors to college life. Interns will also enroll in college algebra or Calculus I. The 2013 session began Sunday, June 30, and concludes Friday, August 9. Each student will receive $500 per week and will be reimbursed for travel to and from UMES. Housing and meals will also be provided. Dr. Paulinus Chigbu, professor and director of the NOAA LMRCSC, directs the program along with Dr. Ali Ishaque, associate professor in the Department of Natural Sciences, who is the associate director. Additional information is available at www.umes.edu/cscgeosciences.

UMES hosts the AgDiscovery Summer Enrichment Program July 14-27. High school students, ages 14-17, will learn about careers in animal management, plant biotechnology, nutrient management and natural resource sciences during this summer. Students are provided experiential learning opportunities through state-of-the-art research, education, farm facilities and field trips to conservation areas and research centers. Students reside on the university campus for two weeks and work with university faculty and other agriculture professionals. In addition to APHIS, funding is also provided by the USDA Natural Resources Conservation Service (NRCS). Dr. Bessie Green, research associate, and Dr. George Shorter, assistant professor, both in the Department of Agriculture, Food and Resource Sciences, administer the program. With questions, contact Green at bmgreen@umes.edu or Shorter at gshorter@umes.edu.

The Junior Academy of Science & Technology (JAST) Program provides unique learning experiences for underrepresented groups in geospatial data collection and mapping training using GIS & GPS software; watersheds and water chemistry; rescuing the Chesapeake Bay; developing emergency evacuation plans for pets and livestock animals; and networking with local school teachers, faculty, staff and university interns and UMES faculty. In addition to a summer camp, to be held August 5-9, the program supports an afterschool club that meets two days a month from September to May. The academy covers all costs for participation in the camp and the afterschool program, and participants will be enrolled into the 4-H program at no cost. The academy is a partnership among UMES, the University of Maryland Extension, and the Maryland 4-H Youth Development Program. Dr. Arthur Allen, UMES professor and project director; Tracie Bishop, UMES GIS Program manager; Amy Rhodes, 4-H educator for Wicomico County; Amanda Chesser, 4-H educator for Somerset County; and Chris Anderson, 4-H Youth Development Specialist will administer the program. Funding for JAST is provided by NIFA’s USDA Capacity Building Grant Program.

A one-week workshop is reserved for STEM faculty and pre-service and in-service science, technology, engineering, math and agriculture (STEAM) educators who teach grades 6 through the undergraduate level and who aspire to be leaders in bioenergy and bioproducts education. The Bioenergy and Bioproducts Education (BBEP) Program is a USDA-funded multi-state initiative that connects educators to major sustainable bioenergy research initiatives. The program includes intensive teacher training in bioenergy and bioproduct STEM disciplines, including agriculture. Teachers utilize engaging hands-on activities, field trips to bio-based industries, research-based teaching materials, and networking opportunities with world-class researchers and other educators to develop and integrate resources appropriate for their classrooms. As pioneers in the emerging bioeconomy, many of the program's past participants are now creating teaching materials for use by educators across the country. Topic areas at
Dr. Jennifer Timmons joined the University of Maryland Eastern Shore in 2012 after five years serving as the poultry specialist with the University of Maryland Extension (UME). At UME, she supported the state’s poultry industry through research and educational programs to promote sustainable practices that minimize environmental impacts and improve biosecurity awareness and education. Before joining UME, she worked as an Hazard Analysis & Critical Control Points (HACCP) coordinator and a broiler flock supervisor.

At UMES, she serves as assistant professor in the Department of Agriculture, Food and Resource Sciences. Her teaching responsibilities include animal and avian nutrition and poultry production and management. Her research interests are dietary strategies to address environmental issues, ammonia control/litter management and energy usage. Additionally, Dr. Timmons is a member of the Delmarva Poultry Industry, Inc. Board of Directors and serves on several DPI committees.

Richard F. Hazel Hall is named for the former president of the Pepsi-Cola Bottling Company of Salisbury. The building houses the university’s education, social science and health science programs.
Luke's Premier Foods

Named sofi™ Finalist

Luke's Premier Foods won the “sofi Finalist” award from the Summer Fancy Food Show in New York City, which placed the company in the running for a coveted Gold sofi™ Award, reserved for the best of the best in the $86 billion specialty food industry. Owner Jim Hudson’s entry, Luke’s Heirloom ™ “Bloody Delicious Mary Mix™”, was named a 2013 sofi™ Awards Finalist in the Outstanding Cold Beverage category, and it was the only product in that category that is made in the U.S.

“We have been working at this for seven years now,” said Hudson, “and have been told that our ‘Bloody Delicious Mary Mix’ is a high quality product by hundreds. But to have expert judges in the industry agree . . . well, it’s pretty much like receiving an Oscar! In fact, it’s a privilege to even be acknowledged in the same group as the other finalists.”

Luke’s was one of 109 finalists selected from 1,885 entries across 30 award categories by a national panel of specialty food professionals. Gold winners for the cold beverage category, Fever Tree Premium Sparkling Lemonade and Jin-Ja, were announced at a red-carpet ceremony Monday, July 1, at the association’s Summer Fancy Food Show in New York City. The event was hosted by Marcus Samuelsson, the internationally acclaimed chef and restaurateur.

“Creativity, innovation, and excellence were in evidence across all the award categories this year,” says Ann Daw, president of the Specialty Food Association. “The judges had a challenge to narrow down their favorites to come up with this great group of finalists.”

Hudson, an avid home gardener and native of Iowa, is known for the products he has perfected over the years, all stemming from his grandmother’s recipe for tomato juice: Luke’s Heirloom™ Tomato Juice, Original Blend; Luke’s Heirloom™ Tomato Nectar™/Water; Luke’s Heirloom™ “Bloody Delicious” Mary Mix; and Luke’s Heirloom™ Pure-No Salt Added Tomato Juice. With product in hand, he entered an agreement with the University of Maryland Eastern Shore to conduct research with the aim of testing the feasibility of taking the products from kitchen to commercial micro-batch heirloom tomato juices by setting up a stabilizing kitchen and canning facility at UMES. Dr. Jurgen Schwarz, director and associate professor of the UMES Food Science and Technology Ph.D. program, provides leadership for the research that yields engineering and processing advice. “His is the first company we have physically incubated in the university’s state-of-the-art Food Science and Technology Center,” said Schwarz, “and the Rural Development Center has played a critical role in making that happen. Our food science program has helped other companies, but in this case there was a perfect fit. Jim had an excellent product and the desire to take his already successful venture from the kitchen to the commercial market. We had to lend our technical advice in terms of processing.”

To help incubate the project, UMES has received Maryland Industry Partnership grants for three years. As a result of the “exceptional” support from Maryland and UMES, Luke’s business operations were moved from Iowa to Maryland in 2010. Based on the resources available, Schwarz and his team lends technical advice to local companies as well as companies that are not so local.

For Luke’s Premier Foods, winning the “sofi™” finalist award gave the brand national recognition. For more information about the sofi™ Awards, visit:


Dr. Jurgen Schwarz (left) consults with Luke’s Premier Foods Owner, Jim Hudson.
Dr. Sonny Ramaswamy, director of the National Institute of Food and Agriculture (NIFA), provided a sobering state-of-the-world address to the faculty, staff and students of the School of Agricultural and Natural Sciences (SANS) early 2013. His talk, sponsored by the School, explored the role of land-grant universities and NIFA in addressing global challenges.

"As a key agency that supports agricultural research, education and extension, NIFA is a critical partner for UMES. Dr. Ramaswamy provided a sobering view of the global challenges we face, but he was also clear that as a land-grant university, UMES has a critical role to play in the development and implementation of knowledge solutions to meet these challenges," said Dr. Moses Kairo, dean, UMES School of Agricultural and Natural Sciences. "We value the productive partnership we have with NIFA, and we remain highly committed to tailoring our programs to address the areas of greatest need."

Prior to his address, Dr. Ramaswamy met with departmental chairs and the UMES Extension administrator. After his address, he spoke at length with USDA Scholars studying at UMES, providing real world challenges and opportunities as they pertained to their specific fields of study.

Afternoon meetings found him in talks with Dr. Retia S. Walker, then provost and interim vice president for academic affairs; Dr. Ronnie Holden, vice president for administrative affairs; and Dr. G. Dale Wesson, vice president for research and economic development. Research-based presentations from the Agricultural Experiment Station scientists rounded out the day.

Dr. Joe Leonard, Jr., USDA Assistant Secretary for Civil Rights, made a recent visit during which he met with UMES president, Dr. Juliette B. Bell, and other UMES administrators, including Dr. Moses Kairo, dean of the School of Agricultural and Natural Sciences (SANS). A follow-up to his 2010 visit, his day was centered on updates concerning SANS, the 1890 Scholars, agriculture field days, the UMES solar project he previously visited and more.

Dr. Leonard’s final business on campus involved an overview of student research, which began in the Center for Food Science and Technology and then progressed to the Crop Aquaculture Building and to one of the UMES greenhouses.

Graduate students were on hand and provided the technical and detailed aspects of their various research projects.
In the fall semester 2012, the Department of Natural Sciences marked the commencement of two academic programs designed to produce Bachelor of Science degrees in BIOCHEMISTRY and Master of Science degrees in CHEMISTRY.

Four SANS faculty have been commissioned to serve on national committees: Dr. Paulinus Chigbu, the Sea Grant Advisory Board; Dr. Maurice Clarke, the General Conference Committee of the National Poultry Improvement Plan; Dr. Salina Parveen, the USDA Food Safety and Inspection Service National Advisory Committee; and Dr. Virginie Zoumenou, the Society of Nutrition Education and Behavior.

A 2-year longitudinal study conducted by the EFNEP team at the Head Start Center in Princess Anne, Md., involved 102 three-year-old preschoolers, 6 teachers, 1 cafeteria staff, and 50 parents in food demonstrations and gardening activities. As a result, approximately 90% of the preschoolers improved their knowledge in nutrition and gardening, and a significant difference (p<.05) in terms of fruit and vegetable consumption between groups was observed. The study was part of a USDA Capacity Building Grant project.

SANS faculty and students recently participated in the fourth annual Regional Research Symposium that was organized by the School of Graduate Studies and held during the week-long celebration of the inauguration of UMES’ 15th president, Dr. Juliette B. Bell.

Oral and poster presentations were given by researchers campus wide for the event themed “Achieving Eminence through the Integration of Quality Research and Education.”

Dr. Thomas Kunkel, a National Institute of Health Distinguished Investigator in the Division of Intramural Research, was the keynote speaker.

From SANS were:

**GRADUATE STUDENT WINNERS**

**Heather Wolfer**, first place, oral presentation:

“Physiological and Immune System Effects of Sublethal Hypoxia on Atlantic Croaker, Micropogonias Undulatus, In the Chesapeake Bay”

**Melinda Schwarz**, second place, oral presentation:

“School Lunch Project: If They Cook It, They Will Eat”

**Robert Figliozzi**, first place, poster presentation:

“Thyroid Hormone Treated, Differentiated, Human Neuroendocrine Cells, Exhibit Hormone-Dependent Viral Gene Silencing/Reactivation Similar to HSV-1 Latent Infection”

**Evan Lindsay**, second place, poster presentation:

“Exploring Fecimdotu-somatic Relations in the American Goosefish, Lophius americanus”

**UNDERGRADUATE STUDENT WINNERS**

**Blessing Aroh**, first place, oral presentation:

“The Effect of Nitrogen Treatment on the Anthocyanin and Polyphenol Content of Aronia melanocarpa Grown in Maryland”

**Duane Simpson**, Second Place, oral presentation:

“Biocompatible Polymeric Hooks for in vivo Trapping and Determination of Free Radicals”

**Courtney DePass**, first place, poster presentation:

“Contrasting Biogenic Silica Concentrations in the North and South Atlantic”
UMES is one of two land-grant institutions in the state of Maryland that provide leadership for research in agriculture, food, biomedical sciences, and natural resource conservation and use. The School of Agricultural and Natural Sciences is unique among the academic schools in that it underpins UMES’ land-grant status. Over the years, the SANS research program has established and maintained strong collaborative partnerships with state and federal agencies as well as other academic institutions. These linkages allow the program to be highly responsive to priorities in Maryland and the nation. Support for research comes from several sources: the Evans-Allen Program through the U.S. Department of Agriculture; several state departments, a number of federal agencies, including the National Oceanic and Atmospheric Administration, the National Science Foundation, and the National Institutes of Health; and the private sector.

Dr. G. Dale Wesson presents the Joseph M. Okoh Award for Excellence to Dr. Arthur Allen (pictured above), Associate Research Director, 1890 Programs; Associate Professor, Department of Agriculture, Food and Resource Sciences.
School of Agricultural and Natural Sciences
Graduation Facts

The School of Agricultural and Natural Sciences comprises three academic departments: Agricultural, Food and Resource Sciences; Human Ecology; and Natural Sciences. For the 2013 academic year, 112 SANS students completed their degree programs. The Department of Agricultural, Food and Resource Sciences graduated 15 students, with 11 completing undergraduate degrees and 4 completing master’s degrees. The Department of Human Ecology graduated 40 students, all completing undergraduate degrees. The Department of Natural Sciences graduated 57 students, with 49 completing undergraduate degrees, 4 completing master’s degrees, and 4 completing doctoral degrees.

Undergraduate programs in pre-veterinary medicine, plant and soil science, animal and poultry science, agribusiness, agricultural studies, nutrition, dietetics, fashion merchandising, early child development, family and consumer sciences, biology, chemistry, and environmental science are representative of the School’s varied curricula. Graduate programs, at both the masters and doctoral levels, are offered in marine estuarine and environmental sciences (M.S., Ph.D.) food and agricultural sciences (M.S.), food science and technology (Ph.D.), and toxicology (Ph.D.). Strong research and extension programs are integrated with the school's academic programming.

Dietetic Interns (l to r) Andrew Hade, Cathryn Searcy, Sarah Oswald and Maureen Watts completed their program requirements and graduated from the UMES internship program on June 13, 2013.