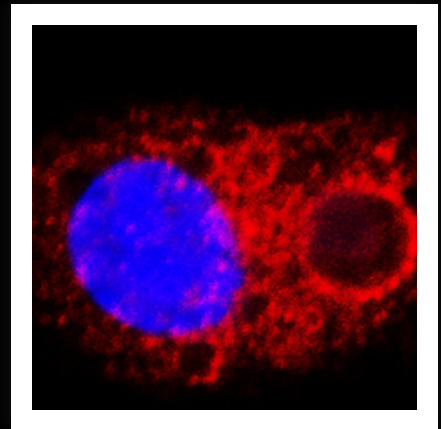
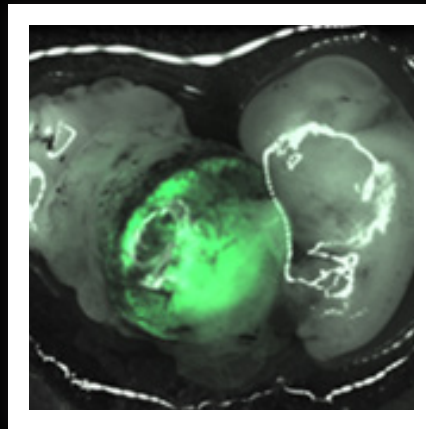
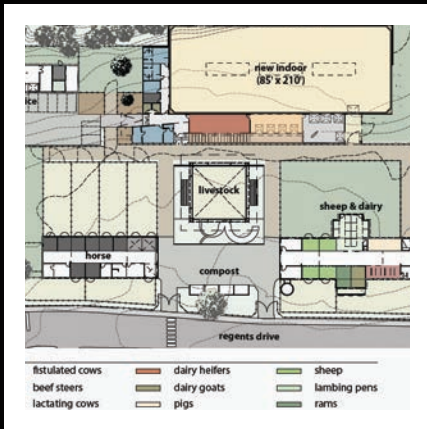
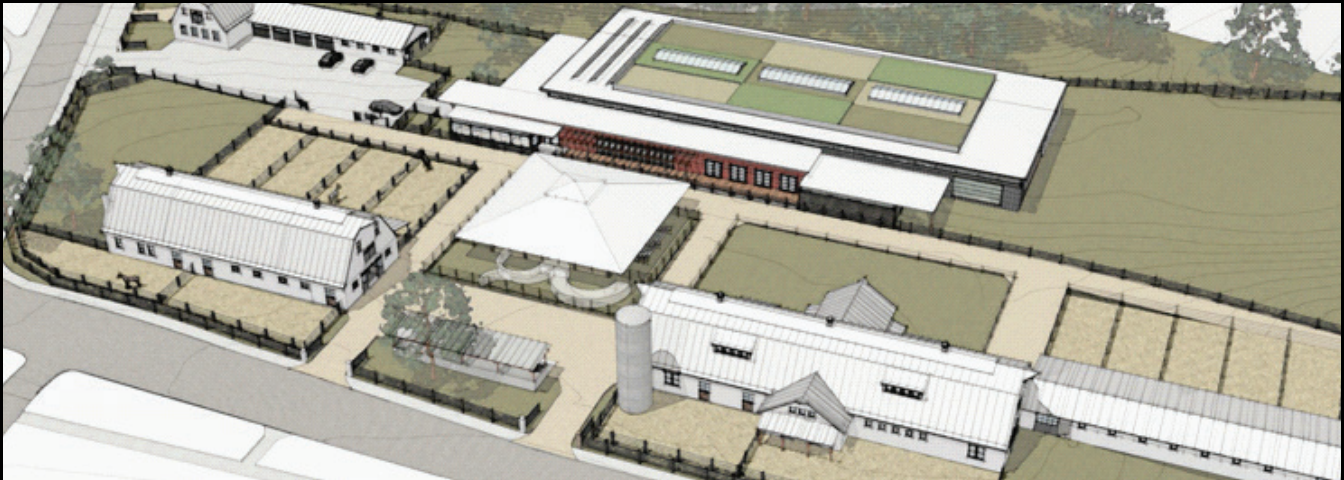




DEPARTMENT OF
ANIMAL & AVIAN SCIENCES



Farm Revitalization Project

Special Workshop

Scientific Findings

Campus Farm Master Plan



Sindu Manoharan



Aikeen Jones



Adam Memon

In the middle of a bustling, expanding, urban university, the campus farm serves as a small patch of rustic tranquility and a constant reminder of the University of Maryland's heritage as an agricultural college. Now, the College of Agriculture and Natural Resources (AGNR) is embarking on a bold mission to turn the unique piece of property into a teaching facility for the future. With help from experts at Blackburn Architects, the College of AGNR has developed a Campus Farm Master Plan which it unveiled to the public for the first time at a special presentation held inside the Riggs Alumni Center.

“The University of Maryland is one of the only land grant universities that has a working farm actually located on its campus,” said Cheng-i Wei, Dean of the College of AGNR. “Current national trends and emerging interests in topics like urban agriculture, buying locally grown products, micro-farming and food security make this the perfect time to invest in upgrading what is already a major asset for our College and university.”

Proposed improvements to the campus farm include expanding and renovating current structures, creating indoor teaching spaces, streamlining the layout to more efficiently move animals throughout the site, improving accessibility, and increasing the farm’s visibility on campus – all while preserving its bucolic charm.

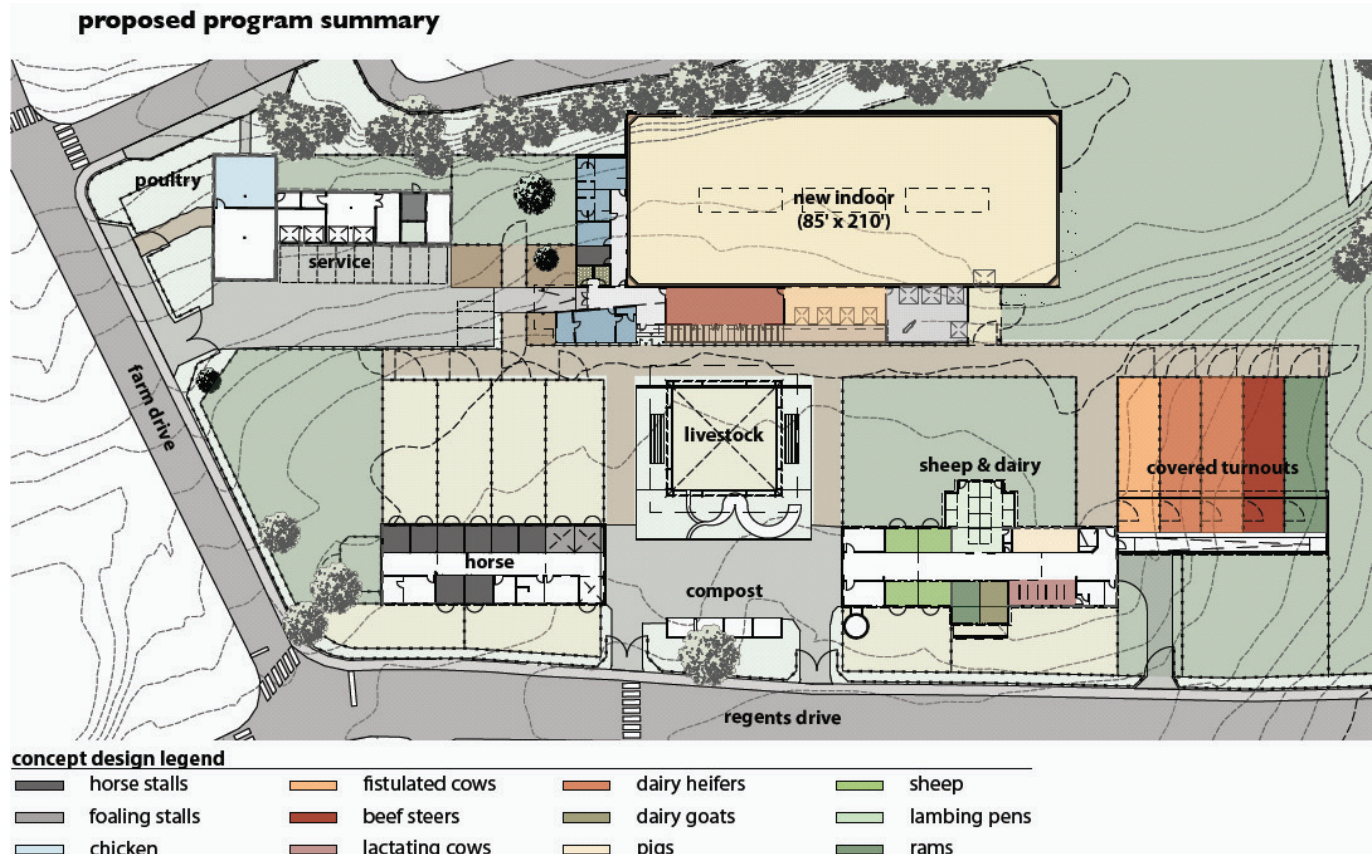
The Campus Farm Master Plan is a capital project. Fundraising efforts are underway to gather the money necessary to transform the Campus Farm into a modern teaching facility to support the academic programs of the Department of Animal and Avian Sciences.

-Sara Gavin

Although it sits on just 4.3 acres, the campus farm is used for hands-on instruction in a variety of undergraduate courses offered through the Department of Animal & Avian Sciences, ranging from livestock management to equine nutrition and small ruminant parturition, affectionately known as “lamb watch” at the university. One of the major goals of the Campus Farm Master Plan is to expand curriculum to better meet emerging agricultural industry trends.

More information on the Campus Farm Master Plan, including architectural drawings and photos can be found at: <http://agmr.umd.edu/campusfarm>

The online giving link for the farm project is: <http://advancement.umd.edu/giving/showFund.php?Fund=77ee3bc58ce560b86c2b59363281e914>



Faculty News

IBBR 2012 Complex Therapeutics Seed Grant

The University of Maryland Institute for Bioscience and Biotechnology Research (IBBR) awarded the Complex Therapeutics Seed Grants on June 20, 2012. The program fosters creative teams of investigators working across disciplinary boundaries and campuses: UMD, UMB and NIST. The seed grant of \$75,000 supports fifty percent of the research collaboration of **Drs. Mary Ann Ottinger**, co-PI and an Affiliate Faculty member at IBBR, **Rosemary Schuch** (UMB) and **Danna Zimmer** (IBBR). The group plans to examine the effectiveness of two antibody-based therapeutics on the progression of Alzheimer's disease (AD).



Mary Ann Ottinger

Chesapeake Bay Trust Grant

For the third consecutive year, **Dr. Amy Burk** and her team have received a Chesapeake Bay Trust Grant of \$15,000 to support their outstanding program on horse pasture management education.



Amy Burk

NIH Grant Renewal

Dr. Iqbal Hamza was awarded a 5 year renewal of his NIH grant titled "The Biological Role of Heme in Nutrition" for over \$1,900,000. His research program is supported by two additional NIH grants.

Special Workshop: Domestic Large Animals as Models for Agricultural and Biomedical Research

The department and USDA-ARS sponsored a two day workshop on March 21-22, 2013 on "Domestic Large Animals as Models for Agricultural and Biomedical Research." Fifteen speakers from Maryland and across the country gave talks throughout the two day event organized by **Drs. Bhanu Telugu** (Committee Chair), **Tom Porter**, **Carol Keefer**, **Mary Ann Ottinger** and from USDA-ARS, **Drs. Le Ann Blomberg** and **David Donovan**. Other sponsors were USDA/NIFA, MAES, and Genus.

For more information go to:

<http://ansc.umd.edu/workshopDomesticLargeAnimals/index.cfm?directory=home.cfm>

Faculty News



Charlie Apter

New ANSC Lecturer

Dr. Charlie Apter joined the faculty of the Department of Animal and Avian Sciences in August 2012 as Livestock Lecturer. His B.S. is from Clemson University, and his Ph.D. is in Animal Science (Equine) from Texas A&M University in College Station, TX. Dr. Apter has spent much of the last 15 years teaching animal science and equine-related coursework. During the 11 years he taught at Truman State University in NE Missouri, he managed a 45-head university-owned horse herd. Most of his teaching has focused on the basic science of animals, including anatomy, physiology, reproduction, nutrition, and behavior, and the practical implications of animal science for the management of horses, cattle and other livestock. Then for the last 5 years he was Director of Agriculture at Northeast Texas Community College in Mount Pleasant, TX. His teaching assignment at the University of Maryland will include a mix of equine, livestock, and animal science courses.



Iqbal Hamza

Hamza Publishes in Cell Metabolism

Associate Professor Iqbal Hamza and NRSA postdoctoral fellow **Dr. Carine White** revealed the identity of the long-sought heme transporter that permits humans to recycle over 5 million red blood cells per second in their spleen and liver. Their study also showed that mutations in the human transporter, which they first discovered in worms, might be a causative agent for genetic disorders of iron metabolism in humans. These findings were published in the February 5th issue of *CELL METABOLISM*. The work follows on the heels of their discovery of the first heme importer (*NATURE*, 2008) and chaperone (*CELL*, 2011).



Carine White



December Graduation

The AGNR graduation ceremony was held on December 20, 2012 in Memorial Chapel. Here are the Animal and Avian Sciences December 2012 graduates:

Undergraduates

Kristal Beall
Emily Bielecki
MacKenzie Campbell
Andrea Castilla
Elisabeth Fox
Elizabeth Furr
Jeanne Herbert
Emily Jenkins
So Young Kim
Kimberly Laser
Matthew Levy

Undergraduates cont'd

Angela Malczyn
Colleen McMichael
Emily Milchling
Kelly Morani
Amanda Morehead
Nicole Ogle
Alysha Ryan
Christopher Salamon
Eugene Skinner
Vanessa Trujillo
Anna Wisniewska

Graduate Students

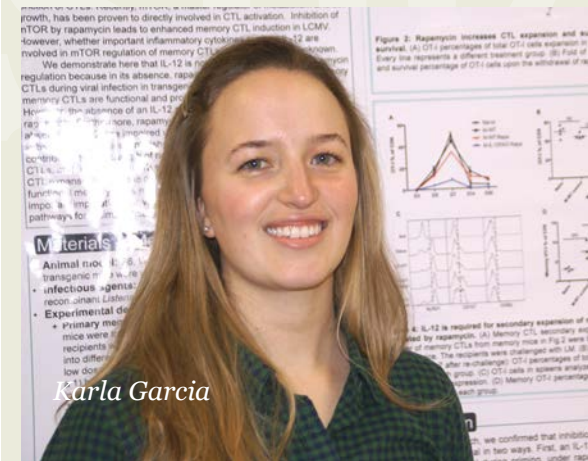
M.S. Recipients

Rachel Hooper
Emily Nestle

Ph.D. Recipients

Kara Duffy
Anna Schlappal
Fei Tian
Xiaojing Yuan

Student News



Karla Garcia Receives AAI Trainee Poster Award 2013

Karla Garcia, a graduate student in **Dr. Zhengguo Xiao's** laboratory, received a 2013 AAI Trainee Poster award (\$500) for an exceptional abstract that she will present at the 100th Annual Meeting of the American Association of Immunologists to be held in Honolulu, Hawaii on May 3-7, 2013.

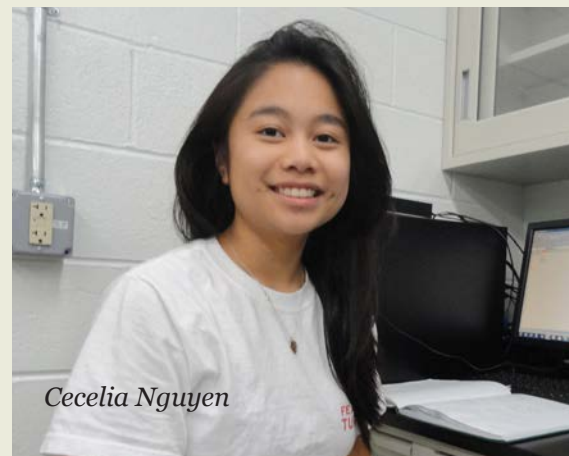
USDA Travel Grant

Apratim Mitra, graduate student in **Dr. John Song's** laboratory, received a travel grant from the Poultry Workshop at the International Plant and Animal Genome Conference XXI held at San Diego, CA from January 11-16, 2013. The award was funded by the USDA and covered up to \$1200 in travel assistance. He delivered an oral presentation at the workshop and also presented a poster.



Interns win at ERHS Science Fair

Two interns in **Dr. Debu Biswas' laboratory**, **Geetika Reichmann** and **Cecelia Nguyen** from Eleanor Roosevelt High School, presented their research in the school's Science Fair held in February. Geetika won 1st place and Cecelia 2nd, out of more than eighty students participating. They were selected to go on to the Regional Science Fair.



Student News

The Broodmares Have Arrived

Dr. Amy Burk announced that two pregnant Thoroughbred broodmares, Daylight Lassie “Cassie” and Amazin’ were donated to the University of Maryland in June and brought from CMREC to the Campus Farm in November. The acquisition of these mares allows the department to expand its hands-on training of students in mare and foal management. Although broodmares and foals will reside most of the year at the Equine Rotational Grazing Demonstration site, the pregnant mares will be foaled on campus as part of our Equine Reproduction class taught by **Dr. Charlie Apter**. Once the mares return to the rotational site, they become integral components of Dr. Burk’s extension program in horse pasture management. After weaning takes place each September, the offspring will be prepared for sale by students and sold as potential racing stock at the Fasig-Tipton sale in December 2013. In a few years, students from the University can begin watching the foals they cared for in class racing at Maryland and other Mid-Atlantic racetracks.



Welcome to Our First Foal!

Breaking news! **Cassie** has given birth to a healthy foal. The baby boy was born on March 9 at 6:41 a.m. There will be a contest to name him.

Student News

Summer Internship in Germany

Annelise Myers, ANSC Undergraduate reports on her summer internship at the Miner Institute in Germany:

Lebniz Institute for Farm Animal Biology

Hello ANSC students!

In Spring 2012 I had a tremendous opportunity to intern abroad in Germany and work in a research setting with large animals. I interned at the Leibniz Institute for Farm Animal Biology in Dummerstorf, Germany, specifically within the Nutritional Physiology Unit. I learned many lab procedures, observed unique surgeries, and even picked up some scientific German it was such a great experience that I wanted to share it with you.

I have divided up my internship activities into three categories: the lab, the animal technical center, and the experimental barn.

The Laboratory (Das Labor)

My time spent in the lab was divided between various research groups and projects. I rotated labs and assisted with analyzing animal samples from dairy cows and swine, including plasma, milk, intestinal fat, and liver. I learned how to pestle tissue samples in liquid nitrogen, create pH buffers, and measure glucose levels in plasma samples. I spent several weeks toward the end of my internship working independently on the protocol, Production of a Membrane Suspension for Saturation Assay. The basic idea is to separate the cell contents from the cell membrane, and isolate the cell membrane to analyze its receptors. The procedure is a multi-step process involving homogenizing the tissues and centrifuging several times. The tissues were surprisingly difficult to homogenize, and it had to be done slowly as to not clog the Ultraturrax, which is a type of submergible blender used in the labs. In one of the final procedure steps I centrifuged the suspension in a Beckmann Ultracentrifuge, which rotates 30,000 times per minute!



Annelise Myers



Student News

The Animal Technical Center (Das Tiertechnikum)

The Animal Technical Center is where the surgical rooms, respiration chambers, and research animals enrolled in studies are located. I observed a couple surgeries here, including a brain catheterization and duodenal cannula surgery. I regularly assisted with a swine calorimetry study where ten swine were rotated in sets through four respiration chambers. Over a period of 24 hours, their feed intake, water intake, and the chamber's O₂ and CO₂ levels were measured. These values were then used for indirect calorimetry measurements. Once we had to milk two dairy cows during their stay in the respiration chambers, and this required a somewhat elaborate setup. Since human presence in the chamber would affect CO₂ levels, the milker was required to wear a facial mask so that his CO₂ did not enter the chamber environment.

The Experimental Barn (Der Stall)

Dairy cows and heifers are housed in the experimental barn. The barn operates in a similar fashion to that of a traditional dairy farm in the sense that cows are milked twice daily, TMR is available (except for cows enrolled in a nutrition study), and there are frequent herd checks to determine pregnancy rates and keep an eye on any sick cattle. I was frequently in the experimental barn to assist with glucose tolerance tests, take tail blood, or shadow a large animal veterinarian from the Reproductive Biology Unit. During glucose tolerance tests, we restrained between one and four dairy cows in head locks and took a muscle biopsy before we started the procedure.

Once the cows were set up with an IV catheter, we took a baseline blood sample and administered a dose of glucose solution based on the cow's metabolic weight. We took blood samples every seven minutes for a half hour, and then took a final muscle biopsy after the test was completed. We centrifuged the blood samples, isolated the plasma, and froze it for later analysis. Sometimes the tests were a little chaotic when we had four cows set up at the same time—if we had administered the glucose to the four cows within a short time span, then each blood sample thereafter had to be drawn within the same short time frame! This became particularly difficult when IVs stopped running, sometimes due to the cow moving its head or due to a kink in the exterior part of the catheter. I came to really enjoy helping during glucose tolerance tests and always looked forward to working in the experimental barn.

I hope you enjoyed the overview of my internship at the Leibniz Institute. It was truly a remarkable experience!

If you are interested in an internship like this go to this link for more information:

<http://www.youtube.com/watch?v=TXPS6KX4RnE>



Staff News



Cookoff Winners

The 2012 Faculty Staff Cookoff was a huge success with 13 highly competitive entries. On September 20, 2012 more than 80 students turned out to taste the culinary wonders and vote for their favorites. The winners were:

Main Dish

First Place: Animal Science - Zhengguo Xiao

Second Place: Pulled Pork Sliders - Tom Porter

Third Place: A-maize-ingly Delicious Corn Chowder -Victoria Lake

Side Dish

First Place: Buffalo Chicken Dip - Kiera Finucane

Second Place: Corn Bread Pudding - Tim Reardon

Third Place: Fabulous Fritters - Carol Keefer

Dessert

First Place: Tantalizing Chocolate Torte - Bob Peters

Second Place: Insanely Tasty Terrapeanut Butter Pie - Libby Dufour

Third Place: Watergate Salad - Victoria Lake

Dr. Porter was heard to mumble under his breath “wait until next year, **Dr. Xiao!**”



Extension News

Maryland 4-H Dairy Judging has a successful season!

The Maryland State Fair presented the department with the opportunity to work with the CMREC Dairy Herd, the State Fair Birthing Center and countless 4-H Contests over the 11 Best Days of Summer. Our students gained experience in educating the general public about the practices and benefits of production agriculture while our staff and faculty worked to create educational experiences for students, 4-H members and the public. One such event was the 4-H and FFA State Dairy Judging Contest. The eighty five youth contestants evaluated ten classes of cattle and ranked them on their confirmation to breed standards. The quality of the dairy cattle in Maryland is known nation-wide and this year 175 people from collegiate, junior college and 4-H teams from around the country traveled to participate in the contest.



Dairy judging provides youth an opportunity to learn public speaking, leadership, analytical skills and most of all how to work together as a team. These skills serve the 4-H members well after their career in 4-H has come to an end. By all accounts, the 2012 Maryland State Fair was a great success! Two outstanding teams of 4-Hers were selected to represent Maryland at National Contests.

At the Invitational Youth Dairy Judging Contest at the All-American Dairy Show in Harrisburg, Pennsylvania on September 17th, team members **Scott DeBaugh**, **Carol DeBaugh**, **Tessa Wiles**, and **Derrick Zimmerman** finished 5th Overall. They were the high team in the Holstein and Jersey breeds, with **Carol DeBaugh** finishing as the top individual in Jerseys. Their success as a team, coached by **Jessica Fritz Little** of New Windsor, MD and **Kiera Finucane** of the University of Maryland, continued at the National 4-H Dairy Judging Contest held at the World Dairy Expo in Madison, WI on October 1st. The team finished 9th Overall with an impressive 3rd place finish in the Brown Swiss breed and 6th place in Oral Reasons. Scott DeBaugh earned All-American status for his 18th place finish in the contest. Congratulations Scott!

At the North American International Livestock Expo in Louisville, KY on November 4, 2012, **Brent Zimmerman**, **Katelyn Allen**, **Julia Doody**, **Ian Doody** and coach **Amanda Dennis** of Thurmont and **Kiera Finucane** of the University of Maryland, the team finished 6th Overall. The contest included 22 4-H and FFA teams. All team members finished in the top 30 in the contest for Oral Reasons and they were the high team in the Jersey breed and second place team in Guernseys. Katelyn Allen was the fourth high individual in the contest and Julia Doody was the high individual in Jersey and 4th high individual in Oral Reasons.

We are proud to have had the opportunity to travel with and showcase the efforts of the Maryland 4-Hers this fall and thank you for your continued support of the program.

Complete contest results are available at:

<http://www.ansc.umd.edu/extension/dairy/4H/dairybowl/index.cfm?directory=../results/2012DairyBowl.cfm>

Department Seminars

This year, the department began having seminars every **Tuesday at 3:30 p.m.** The seminar program includes speakers from across the country, adjuncts, faculty, postdoctoral researchers, and graduate students. The series will run through May 7, 2013 and pick up again at the beginning of Fall semester. Here is the schedule:

February 26

Dr. Barnett Rattner,
USGS – Patuxent Wildlife Research Center

March 5

Dr. Liz Koutsos, Director,
Mazuri Exotic Animal Nutrition

March 12

Dr. Ray Kaplan, Professor,
College of Veterinary Medicine,
University of Georgia

March 19

No seminar – Spring Break

March 26

Dr. Andrew Schiffmacher,
Postdoctoral Researcher,
Taneyhill Laboratory, ANSC

April 2

Rotary LeClerc Lecture
Dr. Jerry Taylor
Curators' Professor
Wurdack Chair in Animal Genomics
University of Missouri

April 9

No seminar

April 16

Dr. Cornelia Metges
Leibniz Institute for Farm Animal Biology,
Germany

April 23

Dr. Nucharin Songsasen,
Smithsonian Institute's Conservation
and Research Center

April 30

ANSC Graduate Students

May 7

ANSC Graduate Students

Donate to the Department

Times are tough, and State support for our department continues to decline. If you have the means and the desire, please make a commitment to supporting the teaching mission of the Department of Animal and Avian Sciences by donating to any of the funds below. No matter what the amount, your gift will make a difference and help to preserve the quality of education provided by the Department of Animal and Avian Sciences at the University of Maryland.

There are **FOUR** different funds to which you can make your contribution:

1. **Animal Sciences Undergraduate Student Fund** - Code: 20095 “Animal & Avian Sciences Fund”

<https://advancement.umd.edu/giving/addToGiving.php?Fund=9b04d152845ec0a378394003c96da594>

Contributions to this fund go toward scholarships and educational materials for our undergraduates. Scholarships provide critical support for talented students. Each year, the department awards scholarships to its top incoming Freshmen, but more funds are needed.

2. **Animal Sciences Graduate Student Fund** - Code: 30611 “Animal & Avian Sciences Department Scholarship Fund”

<https://advancement.umd.edu/giving/addToGiving.php?Fund=5737c6ec2e0716f3d8a7a5c4e0de0d9a>

Presenting their research at national meetings is a crucial part of the development of graduate students toward their degrees and career goals. Contributions to this fund go to support travel to national meetings and educational materials for our graduate students. Each year, more graduate students apply for travel support than the funds available. Donations to this fund will support the training and education of our graduate students.

3. **Animal Sciences Campus Farm Fund** - Code: 21723 “Animal Sciences Campus Farm Fund”

<https://advancement.umd.edu/giving/addToGiving.php?Fund=5737c6ec2e0716f3d8a7a5c4e0de0d9a>

Contributions to this fund go toward supporting the operation of the Campus Farm, the focal point of our undergraduate program activities. Located immediately across Regents Drive from the Animal Sciences Building, the Campus Farm occupies approximately 4.3 acres of land and houses various livestock and poultry used extensively in teaching laboratories. Support through this fund will help care for and feed the animals on the Campus Farm.

Donate to the Department - continued

4. **Campus Farm Revitalization Fund** - Code: 22136 “Campus Farm Revitalization”
<https://advancement.umd.edu/giving/addToGiving.php?Fund=5737c6ec2e0716f3d8a7a5c4e0de0d9a>

Donations to this fund will support the renovation and revitalization of the Campus Farm as a modern teaching facility for our undergraduate students.

HOW TO DONATE

Every contribution to the Department of Animal and Avian Sciences is appreciated and makes a difference. We thank you for your support! Donations can be made in the form of a check or online by credit card ([see website for details](#)).

Donating by Check

When writing a check, please make it payable to “UMCP Foundation” and please be sure to specify the code number for the fund you wish to donate to. Checks can be mailed directly to the department at:

Department of Animal and Avian Sciences
1413 Animal Sciences Center
University of Maryland
College Park, MD 20742-2311

Attention Alumni!

Want to stay up to date with ANSC happenings?

Click Here to join our mailing list!

The Department of Animal & Avian Sciences
University of Maryland
Office: (301) 405-1366
Fax: (301) 405-7980
ansc@umd.edu
www.ansc.umd.edu