College of Veterinary Medicine

Highlights 2017
Drug Developed at U Increases Survival in Dogs with Cancer; Shows Potential for Humans
A College of Veterinary Medicine research trial testing a new drug resulted in improved survival rates for dogs diagnosed with hemangiosarcoma.

“This is likely the most significant advance in the treatment of canine hemangiosarcoma in the last three decades,” said study coauthor Dr. Jaime Modiano. “The drug was invented here at the University of Minnesota, developed here, manufactured here, tested here, and showed positive results here. We would also like this drug to achieve positive outcomes for humans here.” The lead author of the student that detailed the results was Dr. Antonella Borgatti.

Construction Completed on Veterinary Isolation Building
Construction of the new Veterinary Isolation Building is complete, and equipment installation has begun. The laboratory is in a biosafety-level-2 and biosafety-level-3 “commissioning” phase, which is the testing of all systems to make sure they are working correctly.

New Gross Pathology Lab
Vastly improved sightlines and seating are making the CVM’s Gross Pathology demonstration and multi-purpose teaching laboratory course a better learning experience for students. A $180,000 remodeling project added bleacher seating for 60, a surgical light with built-in camera, and a large monitor that will help students see what their instructor is demonstrating. It’s a big improvement from the days when some students had to stand for the entire demonstration, and squint to see the important details.

Another Record Year for Raptor Medicine
For the second straight year, The Raptor Center’s clinic is seeing a record-setting number of patients. 1,085 patients were admitted to the clinic in 2017. Growing that number was an irruption of snowy owls. Many of these raptors moved down from the Arctic in search of food, and juveniles in particular were challenged in their hunting pursuits. The TRC’s clinic also admitted more barred owls and broad-winged hawks than in previous years.

New Pathologist at MPTL
The additional services of an onsite pathologist are increasing the caseload at the Minnesota Poultry Testing Laboratory in Willmar. Dr. Saad Gharabieh’s arrival fulfills the University’s commitment to not only expanding the lab’s facilities, but its services as well. Having a pathologist on staff allows necropsies to be done in Willmar, which results in faster results for area producers.

Leatherdale 10th Anniversary
In its first decade, the Leatherdale Equine Center has thrived by continuing to innovate and introduce new technologies to serve the region’s equine community. Specific improvements include a new standing MRI, a neonatal intensive care unit with specialized monitoring equipment, and a new wireless telemetric ECG unit. Improvements also were made to equine educational facilities, including the Dudley Barn.

U of M, Poultry Industry Bring DNA Sequencer to Willmar Lab
A high-performance, high-resolution DNA sequencer was installed in the research laboratory at the University of Minnesota Mid-Central Research and Outreach Center in Willmar, Minnesota, to help provide solutions to problems facing the turkey industry. Funding for the $100,000 machine came from the University of Minnesota and four companies in the poultry industry, including Jennie-O Turkey Store and Willmar Poultry.
Tuition Rates Approved for 2017-18
College of Veterinary Medicine tuition rose less than one percent for DVM students. Tuition is now $29,448 for students claiming residency in Minnesota, North Dakota, or South Dakota, and $54,720 for other students. Over the past five years tuition has increased a total of 3.3 percent.

Work on Foot-and-Mouth Disease Leads to Alliance
The University of Minnesota signed a memorandum of agreement with the Global Foot-and-Mouth Disease Research Alliance, a partnership initiated by Dr. Andres Perez and Dr. Kim VanderWaal. University of Minnesota scientists have been active in foot-and-mouth disease research in countries in which it currently occurs (Kenya, Uganda, India, Vietnam) or was successfully eradicated (Argentina, Uruguay), and in guiding the response plan for a potential epidemic in the U.S.

Diet Kitchen Hosts Grand Re-Opening
The Veterinary Medical Center hosted a ribbon-cutting ceremony and reception for its new Nestle Purina Diet Kitchen with representatives of Nestle Purina PetCare. Foods are organized and displayed according to nutrient profiles, so once the patient’s individual needs are determined, it is easy to see what options are available.

College Hosts Conference on Canine and Feline Genetics and Genomics
The college hosted the Ninth International Conference on Canine and Feline Genetics and Genomics at the Landmark Center in St. Paul in May. Several CVM faculty and staff members made presentations and presented posters on topics related to canine genetics. Held every other year, the conference is hosted on a rotating basis by research groups in North America and Europe. This was the first time the meeting was in Minnesota.

U hosts Equine Science Society Meeting; Grad Student Wins First-Place Award
The University of Minnesota hosted the 2017 Equine Science Society Symposium in Minneapolis May 30-June 2. The Leatherdale Equine Center hosted a tour for symposium participants, and more than 100 graduate and undergraduate students from across the U.S. and the world competed in student research presentation competitions. Several University of Minnesota graduate students won awards, including Dr. Elaine Norton, PhD student with Dr. Molly McCue, who received first-place honors in the Genetics Graduate Student Competition.

Discovering and Sharing New Knowledge
A sample of some of the highly competitive research funds awarded to College of Veterinary Medicine faculty.

Antimicrobial resistance education
Dr. Jeff Bender and the Minnesota Department of Health were awarded a grant by the Centers for Disease Control and Prevention to modify and update antibiotic-resistance training materials for veterinary students and veterinarians.

Avian influenza
Dr. Carol Cardona is principal investigator on a cooperative agreement sponsored by the U.S. Department of Agriculture’s Animal and Plant Inspection Service for the project "Facilitating Public-Private Partnerships for the Management of Highly Pathogenic Avian Influenza and Other Animal Disease Emergencies to Support Continuity of Business."
**Canine health**
- The Veterinary Orthopedic Society awarded a contract to Dr. Mike Conzemius for "Long-term Fate of Decellularized Allografts Used for Cranial Cruciate Ligament Reconstruction in Dogs: A Clinical Trial." Conzemius also received a grant to explore the role of cellular aging in spontaneous canine knee osteoarthritis.
- Dr. Steven Friedenberg received a research grant from the Clumber Spaniel Health Foundation to study the genetics of immune mediated hemolytic anemia (IMHA) in clumber spaniels.
- Dr. Eva Furrow received a grant for a canine health study of genetic risks for developing calcium oxalate urinary stones.
- Cosa Products Company, LLC, awarded Dr. Sheila Torres, with a grant to study the safety and efficacy of a food additive in client-owned dogs with atopic dermatitis.

**Dairy cow health**
Zoetis awarded a contract to Dr. Sandra Godden for an investigation of the relationship between bedding materials, bedding characteristics, and intramammary infection in late-lactation dairy cows.

**Education**
- Dr. Tom Molitor received a two-and-a-half year grant from Zoetis for website development and online educational programs for veterinarians in China.
- The U.S. Department of Agriculture’s Foreign Agricultural Service awarded funding to Dr. Katey Pelican for the U.S.-China Cooperative Exchange Program, which is based on a One Health approach. Six participants will travel to China.

**Equine health**
- Dr. Connie Gebhart was awarded Boehringer Ingelheim Vetmedica’s Advancement in Research Award to support her research proposal, "Equine Proliferative Enteropathy—In Vitro Antimicrobial Activity Against Two Equine Lawsonia intracellularis Isolates."
- Dr. Molly McCue is the principal investigator on "Tools to Link Phenotype to Genotype in the Horse," a three-year, $500,000 project funded by the U.S. Department of Agriculture’s National Institute of Food and Agriculture. McCue and Dr. Elaine Norton were awarded a two-year grant from the Morris Animal Foundation to explore the functional prioritization of candidate genes and alleles for equine metabolic syndrome.

**Feline health**
Hill’s Pet Nutrition awarded Dr. Jody Lulich a two-year grant to research the characterization of mineralization and expression of osteogenic proteins in feline kidneys with and without calcium oxalate uroliths.

**Food animal welfare**
Dr. Gerard Cramer is principal investigator on a project sponsored by Iowa State University to create tools to develop animal welfare knowledge and skills for the next generation of food animal veterinarians.

**Oncology**
- The One Health Company awarded an 18-month contract to Dr. Antonella Borgatti for the clinical trial, "The Effect of Study Drug on Progression of Residual Disease in Canine Splenic Hemangiosarcoma."
- Morris Animal Foundation awarded a two-year research grant to Dr. Erin B. Dickerson for the project "targeting alpha-AR signaling to inhibit cholesterol processing and arrest hemangiosarcoma growth."

**Pathogen investigation, surveillance, and acquisition**
Drs. Albert Rovira and Jerry Torrison are principal investigators on a five-year contract with Zoetis for a "pathogen collaboration" to investigate, identify, monitor, acquire, and store certain viruses, bacteria, and parasites of newly emergent diseases or clinically relevant strain variants of previously identified diseases, and to establish a framework for the creation of pathogen-related protocols.

**Biomedical research**
Drs. Yuying Liang and Hinh Ly were awarded funding from the National Institutes of Health’s National Institute of Allergy and Infectious Disease for their project, "Mechanism of Lassa Fever Virus Z Protein in Immune Suppression and Viral Virulence."

**Swine health**
- Dr. Marie Culhane is the principal investigator on a research grant sponsored by Boehringer Ingleheim Vetmedica for the study, "Association of the Presence of Influenza-A Virus in Pigs at Weaning with Post-Weaning Performance and Cost of Production."
- Dr. Michael Murtaugh is principal investigator on a two-year grant from the National Pork Board to investigate characteristics of unusually virulent contemporary porcine reproductive and respiratory syndrome virus isolates.
- The National Pork Board awarded grants to Dr. Maria Pieters Silva for "Achieving Safe Introduction of Naive Gilts into M. hyopneumoniae Endemically Infected Herds: Protecting Existing Sows, Exposing Incoming Gilts, and Minimizing Shedding to the Offspring."
- Dr. Fabio Vannucci received a National Pork Board grant for "Impact of Vaccination on Transmission of Lawsonia intracellularis in Pigs." The Minnesota Pork Board awarded Vannucci a contract for evaluation of oral fluids and environmental samples for monitoring Senecavirus A in finishing pigs, transport vehicle, and packing plants.

**Wildlife health**
- The U.S. Department of Energy funded a project at The Raptor Center (TRC) to improve technologies that will protect eagles sharing airspace with wind turbines.
- The Grand Portage Band of Lake Superior Chippewa awarded a research contract to Dr. Tiffany Wolf for the project "Moose Habitat Use and Climate Change." Wolf is also principal investigator on a one-year research grant from the Indianapolis Zoological Society for research on moose calf health and survival.
Preparing the Next Generation

Banfield Conducts Research in Partnership with Dr. Molgaard
Some students excel in making the transition to veterinary practice, while others struggle. Why is that, and how can the veterinary community help prepare students for the aspects of practice that aren’t so easily taught? Banfield recently commissioned research, conducted in partnership with Dr. Laura Molgaard, associate dean for academic and student affairs, that shows there are clear steps students, faculty, and veterinary practices can take to ease that transition.

Students Awarded Degrees at Annual Commencement Ceremony
Ninety-nine DVM degrees, two MS degrees, and 10 PhD degrees were awarded at the college’s annual commencement ceremony May 6. The DVM degrees included five DVM/MPH degrees. Dr. Janet Donlin, chief executive officer of the American Veterinary Medical Association, gave the commencement address, and Melissa Roy presented the response for the class of 2017.

Scholarships Presented at Annual Spring Reception
The College of Veterinary Medicine awarded 56 scholarships totaling $249,000 at the annual spring scholarship reception in April—bringing the total scholarships awarded during the 2016-17 school year to $627,000. Brittany Stewart was honored with the Caleb Dorr Award, which is presented to the fourth-year student with the highest academic standing. The event also included the presentation of the College of Veterinary Medicine Outstanding Service Award to Minnesota State Representative Rod Hamilton of Mountain Lake, Minnesota. Hamilton was instrumental in helping the Veterinary Diagnostic Laboratory improve and expand its services to Minnesota’s livestock and poultry industries.

Students Help Test Deer for Chronic Wasting Disease
University of Minnesota students—DVM students as well as graduate students, residents, and undergraduate pre-vet and wildlife students—were involved in testing Minnesota deer for chronic wasting disease. The College of Veterinary Medicine managed student participation and training in collaboration with the Minnesota Department of Natural Resources.

New Morrison Swine Innovator Prize Will Support Future Swine Veterinary Leaders
The college unveiled the new Morrison Swine Innovator prize at the annual Leman Swine Conference in September. Established in memory of Dr. Bob Morrison, a faculty member who died in a traffic accident in the Czech Republic in May, the new program consists of two components: a monetary prize funded by sponsoring producers and veterinary clinics, and networking opportunities for finalists and sponsors. The Morrison Swine Innovator Prize will be open to veterinary medicine students at accredited four-year universities in the U.S. and Canada.
Distinguished Achievements

Dr. Trevor Ames, dean, received an American Veterinary Epidemiology Society Honorary Diploma Award at the American Veterinary Medical Association convention in July.

Dr. Christina (Tina) Clarkson is the new president of the American Association of Veterinary Anatomists, a nonprofit membership organization dedicated to the advancement of veterinary anatomical science.

Dr. Lindsay Merkel is now a diplomate of the American College of Veterinary Internal Medicine.

Dr. Connie Gebhart, professor, was awarded the BIOMIC Award for Excellence in Diagnostic Veterinary Microbiology at the 2017 American Association of Veterinary Laboratory Diagnosticians.

Dr. Larissa Minicucci was presented with the Outstanding Faculty Award at the Minnesota Veterinary Medical Association meeting in Minneapolis in February. Marie Bodin was honored with the Veterinary Technician of the Year Award at the Minnesota Association of Veterinary Technicians convention.

Canine brain tumor research conducted by Dr. Liz Pluhar was featured in the 2017-2018 world edition of Brain Tumour, published by the International Brain Tumor Alliance in the United Kingdom.

Veterinary cardiologist Dr. Christopher Stauthammer received the Zoetis Distinguished Teaching Award at the college’s annual Education Day event.

The college’s 2017 Vaughn Larson Award recipients are Dr. Amy Kinsley from the veterinary medicine graduate program and Dr. Haiguang Wang from the comparative and molecular biosciences graduate program. The Vaughn Larson Award recognizes students who demonstrate superior scholastic ability, citizenship, and leadership.

Sam Beeson, DVM/PhD student with Drs. Jim Mickelson and Molly McCue, was awarded a National Institutes of Health fellowship for “Genetic Bases of Exercise Induced Rhabdomyolysis.” The award will provide support for Beeson while she completes her PhD research and the final two years of her DVM curriculum.

The University of Minnesota Graduate School recently awarded Doctoral Dissertation Fellowships to Junjie Shao, a student in the veterinary medicine graduate program, and Dr. Haiguang Wang, a student in the comparative and molecular biosciences graduate program.

Dairy students won first place in the Veterinary Dairy Challenge at Hinkley Dairy near Rochester, Minn., in April, competing with teams from Iowa State University and the University of Wisconsin-Madison. The winning Team 1 from the University of Minnesota was composed of Nate Bos, Mary Liebenstein, and Sara Roerick.

Joe Hammes, class of 2018, was a recipient of the 2017 American Association of Bovine Practitioners (AABP) Foundation-Zoetis Scholarship program at the AABP’s annual conference in September. Hammes was also awarded second place in the AABP conference’s student research presentation.

Sarah Neuser, class of 2019, was sworn in as president-elect of the Student American Veterinary Medical Association (SAVMA) in March. SAVMA, a national organization representing more than 15,000 veterinary student members and associate members, is comprised of 35 student chapters at accredited veterinary medical schools, including the University of Minnesota.

PhD student Dr. Elaine Norton received first-place honors in the Equine Science Society Symposium’s student research presentation competition for "Identification of a Genetic Locus Associated with Height and Metabolic Traits in Welsh Ponies.”

Dr. Irene Bueno Padilla, a PhD candidate in the veterinary medicine graduate program, took first place and viewer’s choice honors at the St. Paul campus Science in Seconds event.

American Humane appointed Dr. Janet Helms, class of 1992, as national director of the American Humane Farm Program.

Dr. Darrel E. Johnson, class of 1957, was honored with the Cattle Production Veterinarian Hall of Fame award at the annual meeting of the American Association of Bovine Practitioners in Omaha, Nebraska, in September. Johnson practiced in the Weyauwega, Wisconsin, area as senior member of Dairyland Animal Health, Inc., until his retirement in 1993.

Dr. Neil C. Olson, class of 1975, became the new dean of St. George’s University School of Veterinary Medicine on the island of Grenada in the West Indies in August. He was previously dean of the University of Missouri College of Veterinary Medicine.