

FALL & WINTER 2022

PEGASUS PRESS

MISSISSIPPI STATE UNIVERSITY • COLLEGE OF VETERINARY MEDICINE

COLLEGE'S DEPARTMENT
OF PATHOBIOLOGY AND
POPULATION MEDICINE
DIVERSE IN FUNCTION,
SPECIALTY, AND
GEOGRAPHIC LOCATION



EARNING RESPECT BY EXCEEDING EXPECTATIONS



A MESSAGE FROM THE DEAN

DR. KENT HOBLET

Legislation enabling establishment of a college of veterinary medicine in Mississippi was enacted in 1974, and the first class was admitted in 1977. The Mississippi Farm Bureau and the poultry, aquatic, and livestock producers recognized there was a severe shortage of veterinarians available to serve their industries. Together, they lobbied effectively for the college. Those needs remain and are at least as important today as they were almost 50 years ago. I am most proud that our CVM and its faculty continue to work effectively to address these needs.

One of the objectives of publishing *Pegasus Press* is to help keep our various constituencies informed of College happenings. Within the CVM, there are three academic departments, each with its own important focus. This issue highlights the Department of Pathobiology and Population Medicine (PPM), the department with the greatest focus on meeting the needs of agriculture in Mississippi. Since 2007, Dr. Bill Epperson has ably served as head of PPM, which is currently home to 47 of the College's 120 faculty.

The department offers specialists in all of the major farm animal species as well as horses, food fish, and marine animals with faculty responsible for teaching required courses in histology, anatomy, anatomic and clinical pathology, epidemiology, and preventive medicine as well as the required clinical rotations in population medicine, food animal medicine and surgery, theriogenology, equine medicine and surgery, ambulatory practice, and diagnostic pathology. The ambulatory service, the diagnostic laboratory system, and the hospital rotations of food animal and equine deliver veterinary services to animal owners and associated teaching to all veterinary students 24/7/365.

The department boasts the largest number of board-certified veterinary epidemiologists and preventive medicine specialists among all US colleges of veterinary medicine.

More than half of US colleges of veterinary medicine that are co-located in land grant universities also host their state's animal disease diagnostic laboratory, and Mississippi is one of these states. We have a four-laboratory system that covers livestock, equine, wildlife, poultry, aquatic, and public health needs of the state. Kudos to former deans Dwight Mercer and John Thomson, as well as Dr. Lanny Pace, director of the laboratory system, for making this happen to the great benefit of the CVM and the people of Mississippi.

Department research is focused on improving the health of cattle, horses, and food fish, with major areas of work in bovine respiratory disease and antimicrobial resistance. In addition, the department has three faculty members located on the Mississippi Gulf Coast. These faculty, as well as nine others on the Starkville campus, are involved in marine animal rescue and conservation, teaching veterinary students, and conducting research on dolphins and critically endangered sea turtles.

This issue of *Pegasus Press* also includes summaries of many other accomplishments, from Dr. Joey Burt leading the annual Career Expo, to Drs. Skip Jack and Margaret Khaita receiving the Division of Agriculture, Forestry, and Veterinary Medicine's faculty awards. The Dean's Office and the Office of Admissions and Student Affairs moved into a renovated suite made possible by a generous gift from Mr. Turner Wingo.

Many good things continue to occur at CVM. Please give us a call if you have questions or, better yet, come by for a visit.

Dr. Kent Hoblet

Dean & Professor | CVM Office of the Dean | (662) 325-1131



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COVER PHOTOS

FRONT: MSU CVM Clinical Professor Dr. Jim Brett of the ambulatory and field services unit of the Department of Pathobiology and Population Medicine and third-year DVM student Makayla Wiley make a follow-up call to a client's farm in Cedar Bluff.

BACK: Class of 2023 DVM student Ashley Smith of Alexander, Ark., completed her 500th surgery last fall, likely putting her in the top 0.01% of veterinary students around the world to reach such a milestone. Smith completed a procedure on a feral cat at the Oktibbeha County Humane Society Animal Shelter.

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DEAN'S COUNCIL GATHERS FOR FALL SESSION

The CVM Dean's Council gathered for their semi-annual meeting in Starkville on October 13 and 14. Thursday evening, council members were invited to a reception at Properties at 4300, where they heard from MSU CVM DVM students Matthew King, class of 2026, and Emily Vowell, class of 2023, regarding their experiences at the College and career goals.

Friday's meeting began with a continental breakfast and an update on the College from MSU CVM Dean Kent Hoblet. Before lunch, council members heard from MSU Division of Agriculture, Forestry, and Veterinary Medicine Vice President Dr. Keith Coble, who discussed developments within the division; Dr. Marty Fuller, federal government relations consultant for the university, regarding happenings on Capitol Hill; MSU Chief Communications Officer and Director of Public Affairs Sid Salter, who provided an overview of the university's new branding efforts; and CVM Director of Outreach Mel Thurlow, who presented plans for the College's upcoming videography project, which will play a vital role in future student recruitment, social media advertising campaigns, and other outreach efforts. The morning concluded with presentations from Dr. Christine Bryan, associate clinical professor, and Dr. Alison Lee, assistant professor, who work in community veterinary services and radiology services, respectively, within the CVM Department of Clinical Sciences.

After lunch, three additional DVM students addressed the council: Hanna Kruse McDowell, class of 2023, Makayla Wiley, class of 2024, and Kelsey Yates, class of 2023; they offered insight into their reasons for choosing MSU CVM, experiences in the DVM program, and plans for the future. MSU CVM Department of Clinical Sciences Head Dr. Andrew Mackin then provided the council with an overview of the department's role within the College, and Dr. Isaac Jumper, a clinical instructor and PhD candidate in the Department of Pathobiology and Population Medicine, discussed his research related to record-keeping and data use in the beef industry. Assistant Clinical Professor and Veterinary Medical Technology Program Director Dr. Maralyn Jackson offered an update about the success of the VMT program, and Dr. Joey Burt, assistant dean for clinical services and Animal Health Center (AHC) director, shared key statistics from the AHC, Veterinary Specialty Center, and Animal Emergency & Referral Center, regarding faculty and services, caseloads, and other such information.

Prior to the meeting's conclusion, council members received an update from CVM Director of Development Jimmy Kight and were then offered tours of the facility.

The Council's next meeting is tentatively slated for May.

THE CVM DEAN'S COUNCIL

was established to assist with areas of promotion, growth, and sustainability of the College by providing strategic advice regarding vision, direction, and long-term planning.

The council also assists with acquiring resources from private, corporate, state, and federal entities and with the student recruitment efforts of the College. Members serve in an advisory capacity for the marketing and public relations efforts of the College and as an advocate of the College to university administration, the state of Mississippi, and on a national level. They are selected by the dean in consultation with his senior leadership team and gather twice per year for meetings.

Current council members include: Dr. Mac Huddleston, Dr. Bob Filgo, Dr. Rebekah List, Lynn Spruill, Karen McCord, Dr. Mikell Davis (council chair), Dr. Susie Taylor, Dr. Mike Johnson, Dr. Wanda West, Dr. David Dale, Dr. Betsy Lipscomb, John Lewis, Dr. Kevin Smith, Mike McCormick, Dr. Paula Schuerer, Rona Johnson-Belsar, Dr. Todd Henderson, Dr. Mark Akin, Terri Nusz, and Wayne Wilkerson.

"Having guidance, support, and feedback from a group of individuals with a strong connection to the College, genuine interest in its mission, and sincere concern for its continued success is most certainly beneficial to all of us in leadership roles here at the CVM," Dr. Hoblet said. "We're thankful for their willingness to serve and the input they provide."



CVM PPM DEPARTMENT Encompasses Array of Programs and Services

The variety of services represented within the MSU CVM Department of Pathobiology and Population Medicine (PPM) is expansive. While the PPM department is diverse in function, specialty, and geographic location, foundational roles are educating veterinary students and providing diagnostic and clinical services.

PPM faculty members hold a range of specialty certifications and work in several CVM locations, including with marine animals such as dolphins and sea turtles on the Mississippi Gulf Coast and with catfish and the catfish industry through the Aquatic Research and Diagnostic Lab in the Thad Cochran Warmwater Aquaculture Center in Stoneville, Miss. Through the Mississippi Veterinary Research and Diagnostic Laboratory and the Poultry Research and Diagnostic Laboratory in Pearl, Miss., PPM faculty members provide diagnostic animal health assistance for the state's livestock and poultry industries, as well as for owners of companion animals. Faculty members providing these services are also stationed in the diagnostic and aquatic labs housed in the Wise Center on the College's main campus, which also works closely with the College's main

teaching hospital, the Animal Health Center.

Mississippi food animal industries receive assistance with animal health problems through our in-hospital patient care through the PPM Food Animal Medicine Clinical Service, as well as on-farm, real-world animal care provided through the PPM Ambulatory and Field Services unit. Members of the PPM Equine and Surgery Unit provide a full range of primary and tertiary care for horses, ranging from Coggins testing, lameness exams, and dentistry, to care for sick neonatal foals and neurologic abnormalities, to soft-tissue and orthopedic surgeries. The team also has access to outstanding imaging equipment and special facilities along with a faculty member with extensive training and experience in hoof-trimming and shoeing. They provide advanced diagnostic, therapeutic, and surgical services for equine patients throughout the Southeast.

The PPM department boasts faculty who specialize in theriogenology (reproductive problems and diseases in animals), as well as those who specialize in public health and epidemiology (the study of disease in populations) who assist producers in managing herd problems.

In addition, numerous PPM faculty members are involved with the Global Center for Aquatic Health and Food Security and the Feed the Future Innovation Lab for Fish, both of which are involved with improving the health and well-being of animals and people throughout the world through research related to fish. Focus areas include improving food security, decreasing antimicrobial resistance, and improving aquaculture biosecurity. PPM faculty researchers are also actively involved with projects impacting One Health issues, as well as those related to cattle diseases that have a significant economic impact on producers.

“Whether it’s support for the state’s catfish, poultry, or livestock industries through diagnostic service, on-farm consultation, and disease research; efforts to improve the health and contribute to the conservation of marine animals in the Mississippi Sound; helping an equine patient return to the show ring; or working with partners around the globe to alleviate poverty through sustainable aquaculture development, PPM clinicians and researchers are providing their knowledge and expertise to make a difference,” Dr. Bill Epperson, PPM department head, said. “And, they are accomplishing these things while using hands-on, experiential learning techniques to prepare DVM and veterinary medical technology students to enter the workforce and do the same.”

This issue of *Pegasus Press* spotlights a few of this impressive and expansive department’s many units and services. Additional information about these and other PPM units is available on the College’s website at vetmed.msstate.edu.





CVM Pathobiology and Population Medicine Earns ACVPM RESIDENCY CERTIFICATION



Following a site visit from the American College of Veterinary Preventive Medicine (ACVPM) Training Program Review Task Force, the MSU CVM Pathobiology and Population Medicine Department has earned certification for its population medicine residency program (PMRP), making it one of only three ACVPM-approved residencies in the country.

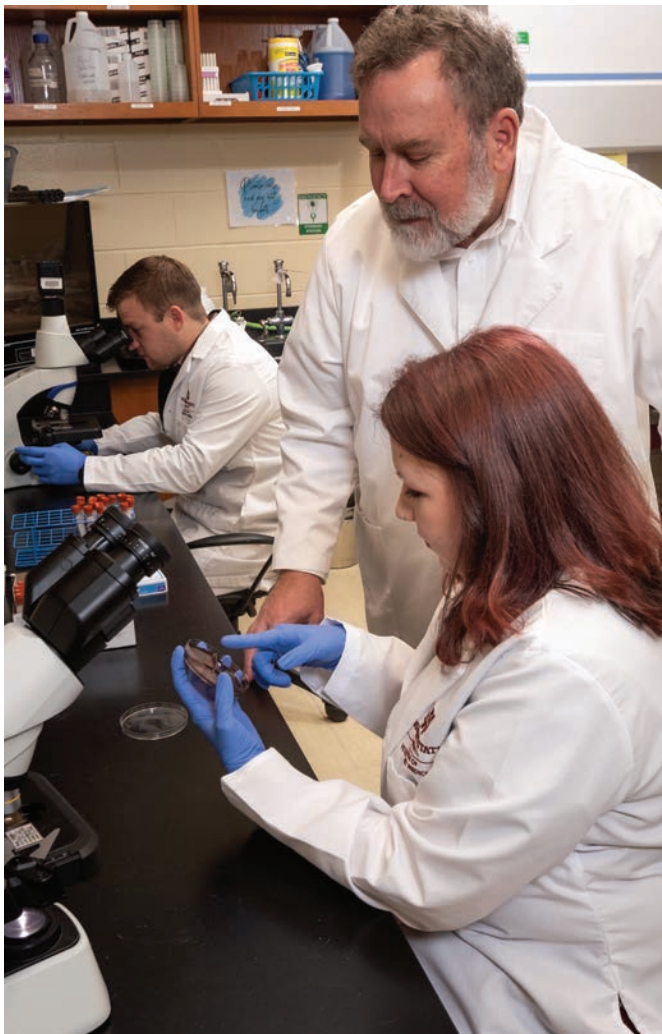
The CVM's PMRP is a combined post-doctoral residency and degree program for early to mid-career veterinarians interested in pursuing specialized training in veterinary preventive medicine, epidemiology, and/or public health. The program accepts up to two new residents each academic year and is administered by the CVM Department of Pathobiology and Population Medicine.

According to Dr. David Smith, CVM associate dean for research and graduate studies, all PMRP residents are required to complete formal coursework in biostatistics, epidemiology, and food safety, in addition to elective courses that align with individual interests and a research-based thesis project that leads to an MS or PhD degree. Residents also participate in clinical rotations; weekly grand rounds that include quarterly sessions with faculty and students at the University of Mississippi Medical Center School of Population Health; weekly departmental seminars; veterinary student instruction; focused research activities; and public-speaking engagements with various public, professional, and stakeholder groups. In addition, outbreak investigations are a major focus of the training experience.

“These investigations offer unique opportunities to provide services for underserved constituents and forge strong working relationships with the state’s practicing veterinarians. Residents work with CVM faculty, and in consultation with experts at the Mississippi Veterinary Research Diagnostic Laboratory (MVRDL) System, to provide outbreak investigations, remote and on-farm assessments, and animal health assistance at no charge to the state’s livestock, poultry, and aquaculture industries; animal shelters; and marine mammal conservation programs,” Dr. Smith said. “Residents prepare a customized report for each case, which is reviewed and edited by a faculty member before being issued to the referring veterinarian or to the client if a valid veterinary-client-patient relationship has not been established. Recommendations focus on changes in production systems and management practices that will improve animal health and well-being overall, rather than focusing on the diagnosis and treatment of individual animals.”

The ACVPM Training Program Review Task Force’s site visit consisted of four segments: an entrance briefing to review the site visit agenda and expectations with PMRP directors; a period of information gathering through document reviews, live interviews with faculty, students, and other key program personnel, process observations, and facility inspections; a closed executive session for site visit team deliberations; and an exit briefing with PMRP directors to discuss the site visit outcome and preliminary conclusions.

“The task force noted several strengths within our program. These included a high level of synergy and enthusiasm



“The MSU CVM Population Medicine Residency Program has earned certification... making it one of only three such ACVPM-approved residencies in the country.”

throughout the college; our success in recruiting and retaining ACVPM diplomates who are board certified in epidemiology as faculty; an emphasis on our residents achieving diplomate status; the opportunity our residents have to develop expertise in aquatic medicine and coastal ecosystem management; and the practical training and problem-solving experience they gain for addressing outbreaks,” Dr. Smith said. “They were also impressed with our efforts to obtain feedback from our residents and the opportunities they are given to interact with practitioners, diagnosticians, stakeholders, producers, and the public.”

Each PMRP graduate student can take up to six credit hours per semester at MSU CVM funded by the College. Currently, there are four residents in master’s degree programs and two residents pursuing PhD-level degrees. For more information about the PMRP, visit vetmed.msstate.edu/academics/internships-residencies/population-medicine-residency or email dsmith@cvm.msstate.edu or kwoodruff@cvm.msstate.edu.

WOODRUFF RECEIVES NIFA GRANT



The National Institute of Food and Agriculture (NIFA) has awarded Dr. Kimberly Woodruff, associate clinical professor in the CVM Department of Clinical Sciences, a \$249,282 Veterinary Service Grant Program grant in Education, Extension, and Training. The grant will help Dr. Woodruff and her team complete four objectives to

prepare a veterinary workforce to help livestock producers in rural communities improve animal health and well-being, the safety and security of the food supply, public health, and profitability.

“The objectives of this grant include additional opportunities for veterinary students to gain practical experience and applied problem-solving in population medicine; advanced training for population medicine residents and graduate students; informal education and online resources for rural veterinarians; and

activities for youth to learn about livestock care and rural large animal practice,” Dr. Woodruff said. “Our hope is that the work we do through this grant will allow us to establish or expand programs carried out in coordination with accredited colleges of veterinary medicine, cover expenses of attending training programs in food safety or food animal medicine, and provide continuing education opportunities for veterinarians, veterinary technicians, and other health professionals needed to strengthen veterinary programs and enhance food safety and public health.”

The Veterinary Service Grant Program was established in 2014 with the goals of supporting food animal veterinary medicine education, extension, and training funds for accredited schools and organizations through Rural Practice Enhancement funds for veterinary clinics that provide services in veterinary shortage situation areas. The program is designed to support education and Extension activities that will ultimately enable veterinarians, veterinary students, and veterinary technicians gain specialized food animal skills and practices.



Woolums' Bovine Respiratory Disease Research Findings to **SIGNIFICANTLY IMPACT PRODUCERS**

Ever noticed that when cold season comes along, some people regularly get sick, while others nearly always stay healthy? According to Dr. Amelia Woolums, the Mikell and Mary Cheek Hall Davis Endowed Professor of Beef Cattle Health and Reproduction in the CVM Department of Pathobiology and Population Medicine (PPM), this same scenario occurs in animals, too. A nationally recognized veterinary immunologist who is board certified in both veterinary internal medicine and veterinary microbiology, Dr. Woolums' impressive research portfolio is far reaching; however, it focuses on three main areas, one of which is focused on trying to determine why some cattle stay healthy when others in the same group develop bovine respiratory disease, or BRD.

Beef cattle are a key segment of the Mississippi agricultural economy, and when BRD moves through a group of recently weaned, co-mingled stocker cattle, it becomes very costly when

affected animals die, need expensive antibiotics, or fail to grow to their full potential. Working in collaboration with other MSU professors, her former graduate student and current collaborator Dr. Matthew Scott (MSU DVM '18, MSU PhD '21) of Texas A&M University, and her other graduate students, Dr. Woolums' research has resulted in discovery of substances in blood of cattle at arrival on the farm that is predictive whether cattle will stay healthy or need BRD treatment over the next four to eight weeks.

"This research showed that, on the day the cattle arrived, those that would go on to remain healthy for the next two months had signals in their blood related to quieting down lung inflammation, while cattle that would be treated for BRD in the next two months had blood signals indicating that they were ramping up to fight off infection," Dr. Woolums said. "While this research is in the early stages, it suggests that resistance

“Our collaboration with other scientists... has provided us with some amazing tools to attack problems that have frustrated veterinarians and cattle producers for decades.”

DR. AMELIA WOOLUMS, PROFESSOR AND VETERINARY IMMUNOLOGIST

to BRD is not only the result of the ability of cattle to specifically fight off the viruses and bacteria that cause BRD. It is also related to their ability to calm down inflammation that occurs in the lungs during the fight against infection. This discovery is reminiscent of the COVID-19 pandemic, when many people died when they developed severe inflammation in their lungs that couldn't be controlled."

Dr. Woolums noted an important finding of this research is that although veterinarians have used certain anti-inflammatory drugs for many years to aid in treatment of BRD, it turns out that these anti-inflammatory drugs might actually suppress certain pathways found to be important in the recovery of BRD. Given these findings, Dr. Woolums and her team will be investigating whether new classes of drugs could be developed that would reduce inflammation without suppressing pathways that are beneficial.

"Presently the blood test we are using in our research to predict resistance to BRD in stocker cattle is too slow and expensive to be used on the farm, but, as with much technology, there is a good chance that it will soon become faster and less costly," she said. "My hope—and that of my team—is that one day farmers will be able to tell if a stocker calf will develop BRD at any time in the next two months on the very day the calf arrives on their farm, using a test that takes only a few seconds to run. Such a test could decrease the number of antibiotic doses veterinarians need to give to calves, by accurate identification of the calves that truly need the medicine."

Obviously, should Dr. Woolums' research goals and predictions for technology prove true, they would translate to a significant economic impact for farmers and the overall beef production industry.

MSU CVM fourth-year DVM student Cassandra Barber, who is currently working in Dr. Woolums' lab, said the experiences provided have allowed her to greatly increase her knowledge and understanding of BRD and the importance of effectively managing it, as well as the vital role veterinary researchers play in discovering new diagnostic and treatment methods for animals and translationally to humans.

"Dr. Woolums and I have developed a project for my PhD that will map part of the immune system within cattle with BRD. It will focus on the natural disease process in an effort to better defend against disease and ultimately decrease antibiotic usage," Barber said. "She has provided excellent mentorship throughout my time in her lab, and working beside her has been an honor. Writing proposals, grants, procedures, and publications with her guidance has helped me think like a scientist; the experience is proving very valuable towards my goal of becoming a veterinary research pathologist."



Another focus of Dr. Woolums' research—mechanisms of action and efficacy of bovine respiratory vaccines—is closely connected to her work in the area of BRD and also has potential to dramatically impact the beef production industry. Her work with collaborators, including Dr. Philip Santangelo of Emory University, involves testing the ability of messenger RNA (mRNA) treatment to induce cattle to produce compounds within hours that could help the cattle fight off infections of the respiratory and reproductive systems.

"Calves and cows treated by application of mRNA directly onto the surface of the respiratory or reproductive tracts have been shown to produce antimicrobial molecules that can kill viruses, bacteria, and parasites, or prevent them from even entering the cow's body," Dr. Woolums said.

The infectious agents this research team is addressing include the respiratory viruses IBR and BRSV, the respiratory bacteria *Mannheimia haemolytica*, and the reproductive parasite *Tritrichomonas foetus* ("trich"), which infects bulls, leading to infertility in cows. There is currently no legal treatment for trich in bulls, so when a bull becomes infected, he has to be sent for slaughter.

"While it may seem surprising that we're working on diseases of the respiratory system and the reproductive system at the same time, these two body systems actually have a lot in common. Our collaboration with other scientists at MSU and those at Texas A&M and Emory University has provided us with some amazing tools to attack problems that have frustrated veterinarians and cattle producers for decades," she said.

Dr. Woolums and her collaborators are building a foundation for a future when old problems like BRD and trich have new solutions, helping veterinarians and farmers to keep cattle more healthy and productive, with less reliance on antibiotics.

PATHOLOGY SERVICES: BEHIND THE SCENES BUT VITAL TO SUCCESS

Virtually every profession has a group of people vital to its success that work behind the scenes. In veterinary medicine, pathologists—who are generally tucked away in a laboratory—certainly fit the bill. Often out of sight and out of mind of animal owners, these professionals frequently hold the keys to what is actually ailing your pet or farm animal, enabling those you do see to know how to appropriately and effectively treat his condition.

Pathology faculty, staff, and students in CVM's diagnostic laboratories study the causes and effects of diseases in every species that comes through the doors. From herd outbreaks to infections in companion animals to sickly stranded dolphins and sea turtles, MSU CVM pathologists see it all!

“Our understanding of pathology is essential for human and veterinary medicine to even be possible,” said Assistant Clinical Professor and Anatomic Pathologist Dr. Justin Stilwell. “We could not begin to approach medicine without understanding how and why diseases happen.”

At MSU CVM, anatomic and clinical veterinary pathologists are significant contributors in the veterinary diagnostic laboratory that is housed in the Department of Pathobiology and Population Medicine (PPM), while also serving as part of a bigger diagnostic laboratory system in the state of Mississippi—including the Mississippi Veterinary Research and Diagnostic Laboratory and the Poultry Research and Diagnostic Laboratory located in Pearl, Miss., and the Aquatic Research and Diagnostic Laboratory located in the Thad Cochran Warmwater Aquaculture Center in Stoneville, Miss.

Anatomic pathologists diagnose disease based on visual and microscopic examination of organs or tissues from patients both living and deceased. The pathology service—alongside necropsy—provides veterinarians with information about diseases happening in live animals through biopsies to better inform decisions made clinically both for the individual animal and the health of the herd. Through necropsy (the veterinary version of human autopsy), the team also investigates why animals die to provide closure to pet owners, protect food security for the public, and in a forensic capacity for any legal cases involving animals. Within pathology, the microbiology diagnostic service identifies and characterizes bacterial, viral, and fungal pathogens from diagnostic samples.

The MSU CVM pathology service features six anatomic pathologists, including Drs. Alicia Olivier, Brittany Baughman, Timothy Morgan, Justin Stilwell, Kaylin McNulty, and Ann



Marie McBride. In addition to anatomic pathology faculty, there are five anatomic pathology residents on the service.

“Anatomic pathologists provide clinicians with a report which details information about the disease process and is vital for treatment decisions,” said Associate Professor and Assistant Laboratory Director Dr. Alicia Olivier. “Anatomic pathologists serve an extremely important role to support veterinarians, small animal owners, and the livestock industry. If there is an infectious agent, the tissue may be cultured in the microbiology laboratory or may undergo further molecular testing to determine the infectious agent.”

The role of a clinical pathologist is quite different, as they evaluate cells and fluid. Typically, a cell would be aspirated from a lesion in the clinic and evaluated under the microscope. Often times, the cells evaluated on the slide provide an idea about the actual disease process, allowing the clinician to make rapid treatment decisions. MSU CVM clinical pathologists include Drs. Matthew Williams and Marjorie Williams.

“The microbiology diagnostic service aims to provide clinicians with a timely and accurate diagnosis that will, in turn, help them provide a high level of care for their patients,” noted Assistant Clinical Professor Dr. Natalie Stilwell, whose focus is on microbiology and molecular diagnostics. “Many bacterial samples also undergo antimicrobial susceptibility testing, which helps guide appropriate antibiotic therapy for patients and identify patterns of resistance against one or more antibiotics. This is particularly important considering the increasing resistance we’re seeing with several important veterinary pathogens, and these tests also help us to continually screen for emerging and resistant pathogens, thus keeping us on the frontlines of disease surveillance efforts for the state of Mississippi.”

While the CVM pathology service has proven a great resource to the Animal Health Center veterinarians, it also continues to provide information for surrounding veterinarians, the state's diagnostic laboratories, and even veterinary clinics around the country—all while teaching the College's DVM and veterinary medical technology students!

All third-year DVM students spend four weeks on the laboratory services rotation. During that time, they develop and practice necropsy techniques on a variety of animals, examine cytologies, and interpret clinical pathology data, including hematology, clinical chemistry, urinalysis, and hemostasis, as well as learn about the wide array of molecular- and microbiology-associated diagnostic tests that are available in veterinary medicine.

“During this rotation, students spend time in clinical pathology and molecular diagnostics in the morning and in anatomic pathology on the necropsy floor in the afternoon,” said Dr. Olivier. “Necropsy is very hands-on and serves as a time for students to see disease and how tissues change in various disease processes. Students leave the rotation with a greater understanding of disease pathogenesis and how tissues and organs respond to injury, which can inform how they will interpret imaging (ultrasound, xray, etc.), physical exam findings, and diagnostic tests when they are in practice.”



“Our understanding of pathology is essential for human and veterinary medicine to even be possible. We could not begin to approach medicine without understanding how and why diseases happen.”

DR. JUSTIN STILWELL,
ASSISTANT CLINICAL PROFESSOR

During necropsy, students can refresh their knowledge of anatomy, which will be useful for their surgical skills. Students also have the opportunity to see how necropsy examination provides important information in herd health cases. The pathology group often coordinates with the overall PPM department's population medicine rotation to discuss important pathology information from cases that are relevant to disease outbreak situations or herd health issues. According to Dr. Olivier, this collaboration provides students an opportunity to put all the pieces of the puzzle together.

“This is especially important for infectious disease in which herd management, including pasture rotation, vaccination and nutrition, plays a critical role,” Dr. Olivier noted. “The pathologist often communicates with the veterinarian from the population medicine rotation going to the farm to request collection of additional samples, like blood or feed, to further evaluate the problem and to assist in providing a solution to the producer. These collaborations are very rewarding as all pieces of information can be utilized to make an informed decision for the client regarding treatment or other management decisions.”





Ambulatory and Field Services: LIFE IS BETTER ON THE FARM

With fewer veterinarians providing food animal and field services, there's a void that needs to be filled for both the financial well-being of the client and the health and well-being of their animals. MSU CVM's Ambulatory and Field Services Unit is doing their part to fill this void by offering high-quality field services and preparing future veterinarians to fill these roles.

"Each farm call is a teaching opportunity," said MSU CVM Clinical Professor Dr. Jim Brett. "We use patient cases and herd services to reinforce the information provided students in our lectures. We allow them to take on the primary role with the case and the client—I call it 'Dr. Brett doesn't touch the cow,' and I only step in to assist when needed or if the student is having difficulty."

The ambulatory and field services team at MSU CVM consists of Drs. Jim Brett, David Christiansen, Michael Pesato, and Kevin Walters. Among the four clinicians, they see patients ranging from beef and dairy cattle to sheep, goats, pigs, camelids, and even exotic hoof stock. The service provides opportunities to expose students to primary food animal care in the field. Services rendered by the team include everything

from routine herd work to individual animal cases to disease or production investigations and emergency services to area livestock owners.

"These services are of utmost importance to the clients for the benefit of their animals, and providing them offers outstanding experiential learning opportunities for our students," Dr. Brett, who sees the vast majority of calls involving dairies—including the MSU dairy—and also assists with beef operations, the food animal clinic, and theriogenology services, said.

"Our hospital is considered a tertiary referral center, so some of the procedures and cases are considerably more involved than what our students would see as a primary care veterinarian who is 'first on the scene'," CVM Assistant Clinical Professor Dr. Michael Pesato said. "Our goal is to expose them to what it will be like for them once they graduate—the calls they could get from clients and the cases and procedures they could perform in the field."

Perhaps the most unique aspect of the College's ambulatory service—and a vital one to the financial well-being of farmers—is the ability to serve clients across the state of Mississippi.

While the service focuses heavily on patients and clients in the Starkville area that can be quickly reached, it is not uncommon for the faculty to be called for consultation to any corner of the state by veterinarians and also if there are no local veterinarians to provide specialized care to cattle or small ruminants.

All four ambulatory and field services clinicians also work closely with Extension specialists in the MSU Department of Animal and Dairy Sciences, visiting farms across the state to provide education, hands-on instruction, and guidance.

“We also serve as the primary veterinary service for the junior livestock shows, the Mississippi State Fair, and the Dixie National Livestock Show and Rodeo,” Dr. Brett said. “These are wonderful opportunities for our students, and we heavily involve them in these services, as well.”

Students will typically participate in two or three farm calls with Dr. Pesato, who sees a range of patients but specializes in small ruminants, such as goats and sheep, while on the ambulatory services rotation. When attending these calls, the students do just about everything from the physical exam to a problem list and differential diagnosis list.

“I consider my role with the students to be one of a facilitator,” Dr. Pesato said. “I’m there to guide them through their procedures and skills while letting them do as much as they



can as safely as possible. Of course, I always double check everything, but I think it’s important for our students to be heavily involved in the case, procedure, and discussion.”

According to the team, while sometimes challenging and frequently physically draining, working with large animals and other farm animals—and doing so on-site—is not only beneficial to the animals and clients, but also very rewarding.

“Every day is an adventure since each situation and reason we’ve been called differs with every farm,” Dr. Brett said. “There’s rarely a day that’s the same, and helping these folks—most of whom love animals and work hard from sun up till sundown—is really gratifying. There’s no doubt that life is better on the farm!”

With the growing demand for rural food animal veterinarians, proper training in this area of veterinary medicine for all MSU CVM students is imperative to the profession. “For many years, all students have been required to complete a two-week rotation with ambulatory services,” Dr. Brett said. “They can also elect to do an advanced rotation with us. And now, the College is expanding these learning experiences with the addition of the Enhanced Clinical Practicums program, where students are assigned to participating veterinary clinics and services throughout the country to gain additional hands-on training. Having students involved with farm calls and cases will prepare them to be practice-ready at graduation to perform these services in a proficient and ethical manner, thereby helping fill a void in this area of veterinary medicine.”

PPM RESIDENTS' RESEARCH ADDRESSES DIVERSE TOPICS AND BENEFITS WIDE RANGE OF SPECIES

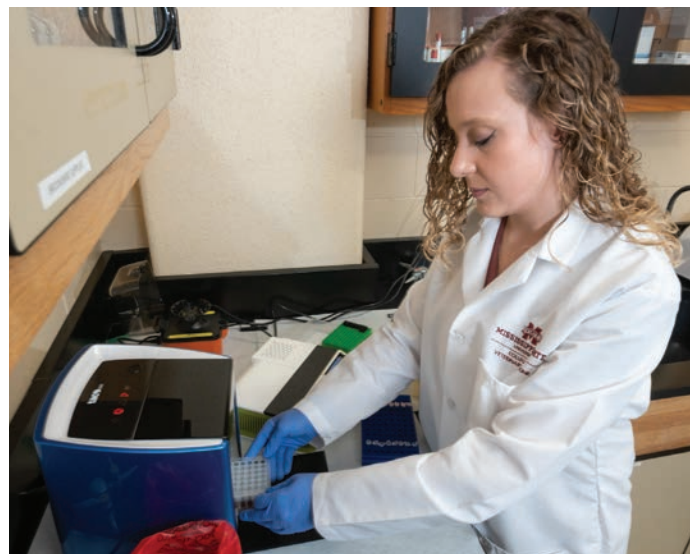
Veterinary residents within the MSU CVM Population Medicine Residency Program (PMRP), one of only three American College of Veterinary Preventive Medicine-approved residencies in the US, are involved with research projects addressing diverse topics and affecting a wide range of animals and people. According to MSU CVM Associate Dean for Research and Graduate Studies Dr. David Smith, the applied research they are conducting is important on a number of levels.

"I could not be more proud of the work our population medicine residents do to help regional animal caregivers improve the health and well-being of their animals," he said. "They are also critically important in helping CVM veterinary students learn and apply the principles of population medicine to their professional careers."

The following is a brief overview of resident projects currently underway:

DR. HANNAH URIG

Dr. Urig's current research project focuses on determining the true prevalence of feline leukemia virus (FeLV) and feline immunodeficiency virus (FIV) among cats entering Mississippi shelters. The information will be used to formulate recommendations for retrovirus testing strategies for open admission shelters. Cats are often screened for FeLV and FIV during the admission process using commercially available point of care tests which are imperfect in their performance;



therefore, results can lead to potentially life-altering decisions, with presumed positive cats not being adopted, being euthanized, or being housed with positive cats where they are put at a greater risk of truly becoming infected. The first two phases of Dr. Urig's study have been completed and focused on determining the apparent prevalence of FeLV and FIV in apparently healthy and clinically ill shelter cat populations. This enabled the simulation of the true prevalence of disease based on the reported test sensitivity and specificity. It also allowed for testing recommendations to be made for the apparently healthy cat populations; however, research is still being conducted with the clinically ill shelter cat population. Phase three of the study will evaluate serial testing methodologies with the use of serum. The overall goal of the project is to determine the true prevalence of FeLV and FIV and formulate testing strategies for open admission shelters, ultimately improving the adoption rate and care provided cats in shelter environments.

DR. TODD GUNDERSON

Dr. Gunderson's research investigates the population level effects of the bull breeding soundness evaluation (BSE) and how veterinary perception and methods regarding this diagnostic test influence the US beef industry. This research is based on the premise that reproductive efficiency is a major driver of profitability in cow-calf operations. Reproductive

“As population medicine veterinarians, we are unique in that we can diagnose an individual animal but also have the skills necessary to suggest improvements for the rest of the herd, flock, shelter, etc.”

DR. TYLER MCMURRAY, PMRP FIRST-YEAR RESIDENT



efficiency is achieved by maximizing the number of calves born per number of cows maintained in the herd and minimizing the number of days a cow is either not pregnant or nursing. Maximizing reproductive efficiency requires maintaining high levels of fertility in both cows and bulls. However, because one bull typically impregnates multiple cows, the effect an individual bull has on herd pregnancy rates is much higher than the effect of an individual cow. Because of this, the bull BSE was developed to screen herds for infertile and sub-fertile bulls and maximize herd fertility rates. The Society for Theriogenology has traditionally set standards for breeding soundness evaluations; however, there are members of the profession who feel that these standards are not universally followed. Dr. Gunderson's research aims to determine to what extent these standards are not being followed and to elucidate the factors that drive non-compliance. He is also using economic models to assess the economic impact of failing to properly utilize BSEs.

DR. DALLAS RILEY

Dr. Riley's research focus was developed with her desire to help guide decisions being made for animal shelter populations. Specifically, her current project is regarding intestinal parasites in cats and dogs entering southern shelters and the medications used to treat these parasites. Because medications are often given without knowing what specific parasites an animal has, medications may be being administered that don't address the correct parasites. Large animal veterinarians already deal with many issues concerning resistance to common deworming medications, and Dr. Riley's concern is that small animal veterinarians and caretakers might face these same issues if deworming medications are used unnecessarily. Her project is being conducted in two phases. The first phase estimates what the most common intestinal parasites in cats

and dogs are in this region, and the second phase evaluates a commonly used deworming medication (pyrantel pamoate) for its effectiveness against these parasites when used as the sole deworming medication. The long-term goals of Dr. Riley's research are to determine the most common types of parasites in shelter animals, test the value and effectiveness of one dewormer against these parasites, and help guide decisions being made by shelters regarding treatment of these parasitic infections.



DR. TYLER MCMURRAY

A 2022 MSU CVM graduate who just joined the PMRP last fall, Dr. McMurray has not yet begun an official research project but said she has already gained a better understanding of and appreciation for the important role of PPM veterinarians.

“Through this residency, I get to visit with owners and producers across the state about their specific difficulties, whether it's nutrition management or infectious disease, while also helping them improve their animals' overall well-being,” Dr. McMurray said. “As population medicine veterinarians, we are unique in that we can diagnose an individual animal but also have the skills necessary to suggest improvements for the rest of the herd, flock, shelter, etc. I have quickly seen how rewarding it is to help producers solve their herd health and production issues.”

In addition to the work being done by the PMRP residents, two students pursuing PhDs are also conducting research in the PPM department through Dr. Smith's lab. Watch for stories in the next issue of *Pegasus Press* regarding the important applied research these graduate students are conducting.



FOOD ANIMAL SERVICE

Vital to Livelihood of Food Supply

Healthy animals mean healthy products, and faculty and staff within the MSU CVM Food Animal Service (FAS) are doing their part to achieve both while helping prepare future veterinarians for careers in this ever-so-important and underserved field.

“Food animal veterinarians protect our food supply from farm to table. We provide care for cattle, sheep, small ruminants, and swine—the animals that produce milk, meat, wool, and other such protein and fiber products,” MSU CVM Assistant Clinical Professor Dr. Gretchen Grissett of the College’s FAS unit said. “We play a critical role in maintaining a healthy, secure, and safe food supply through preventive care for healthy animals and the treatment of sick animals.”

Dr. Grissett and Drs. Jennifer Beam and Amelia Woolums, also faculty members in FAS, not only prepare DVM students to serve in this field but strive to illustrate why this area of veterinary medicine is so vital to human health and provides so much gratification.

“A career in food animal medicine is very rewarding. We are providing services to animals that need—and often aren’t getting—veterinary care because there isn’t an adequate supply of veterinarians to provide these services and, at the same time, promoting public health,” Dr. Grissett said.

“Producers know the hard work that goes into treating cattle and are so appreciative of the help we provide to their

individual animals, herd, and livelihood. They take great pride in their jobs and work with us as a team to do what’s best for animal health and production.”

Food animal veterinarians ensure medications used in animals don’t impact human health and that animals are clear from all medications prior to consumption by working with producers to ensure withdrawal times are adhered to as required. This both protects the producer’s livelihood and public health.

The CVM FAS boasts faculty with skills in both production and internal medicine, who work together as a team on a variety of topics related to food animal health and productivity. Primary care services provided include vaccinations, deworming, castration, dehorning, routine foot trims and lameness services, pregnancy exams, sick animal care, breeding soundness exams, and dystocias. The service is often referred cases that require more intensive time, equipment, or facilities than the local veterinarian can provide and also provides advanced and specialty services/care such as abdominal surgeries, sick neonatal calves, severe lameness issues like septic arthritis and fractures, and complicated bovine respiratory disease.

The CVM FAS not only has the faculty experts, but also the equipment and facilities—such as processing chutes, tilt chutes, tables for lameness workups, and surgery suites—needed to provide the very best clinical care to large animals. The service

is also actively involved with other aspects of food animal medicine, providing consultation services for producers and veterinarians throughout the state addressing livestock nutrition and disease outbreaks.

Dr. Grissett said providing these services allows for the high volume of hands-on training that is such a benefit to MSU CVM students. “While they’re on the food animal rotation, students are involved with every case that walks through our door. They get to interact with our owners and producers and provide care for the patients through procedures and daily needs of the patients,” she said.

Cassidy Doss, a third-year DVM student, said her time on the food animal rotation brought a new appreciation for the practitioners in this field. “Under the guidance of the experienced FAS clinical faculty, residents, and interns, I gained confidence and found a true passion for working with these species while developing a great respect for producers, owners, and veterinarians who make this field what it is.”

Time spent with students and watching them gain confidence in their abilities is one of Dr. Grissett’s favorite things about her work. “Seeing the spark when a student finally masters a skill is a great feeling,” she said. “The confidence that comes from actually doing the work makes all the difference.”

Fourth-year DVM student Katie Jones agrees. “During my food animal rotation, I was able to work up and care for many animals. The clinicians were very encouraging and allowed me to take the lead on several cases which has helped me become a better diagnostician,” she said. “While on this rotation, I learned important skills that will contribute to keeping both food producing animals and the public healthy.”



BRETT HONORED WITH AVMA PRESIDENT’S AWARD



Photo by Sara Beugen

2021-2022 AVMA president, at the 2022 AVMA Convention in Philadelphia, Penn., last year. The award recognizes those who have made a positive impact on health, veterinary organizations, or the profession.

MSU CVM Clinical Professor Dr. Jim Brett of the Department of Pathobiology and Population Medicine was presented the American Veterinary Medical Association President’s Award by Dr. Jose’ Arce,

A food animal veterinarian, Dr. Brett joined the CVM faculty in 2007, where he serves as a clinical professor in the ambulatory and field services unit and provides instruction in numerous courses. He earned his DVM from MSU in 1983 and spent almost 25 years in private practice in Montezuma, Ga., most of which was as owner of a rural mixed animal practice.

Dr. Brett is a past president of the Georgia Veterinary Medical Association, served on the Georgia State Board of Veterinary Medicine, and was the Georgia alternate delegate in the AVMA House of Delegates. He has also served as the Mississippi alternate delegate to the AVMA House of Delegates and as a member of the Mississippi Veterinary Medical Association Executive Board.



THERIOGENOLOGY: The Birds and the Bees of Veterinary Medicine

The names of most specialty areas of veterinary medicine parallel their counterparts in human medicine. For instance, there are animal internists, surgeons, and radiologists; however, in veterinary medicine, reproductive health specialists are known as theriogenologists. Much the same as human medicine, however, their services are most often sought out by those in need of assistance with conceiving, managing pregnancy, difficult deliveries, or dealing with reproductive system diseases and conditions.

Farmers frequently seek “therio” services for their animal agricultural operations as do others who work with and care for animals such as dog breeders and horse owners, as well as entities such as zoological parks. The knowledge and expertise of theriogenologists are often needed for diverse and varied species. And, the MSU CVM Theriogenology Service stands ready to help.

The four-member therio team falls within the College’s Department of Pathobiology and Population Medicine and includes Dr. Jack Smith, who also serves as CVM’s associate dean for academic affairs, and Drs. Kevin Walters, Heath King, and Darcie Sidelinger. These specialists treat all domestic species small and large.

“Assessing the fertility and breeding soundness of livestock and restoring fertility in animals that have suffered injuries or diseases in the reproductive system are the bulk of and most important services we provide,” Dr. King said. “Reproductive efficiency is paramount to the sustainability of animal agriculture. All animal agricultural production begins with reproduction.”

The team provides most services through their clinic in the Wise Center, but they do occasionally visit clients’ farms. And although cattle are their main patients, horses and dogs are also treated frequently, and small ruminants, including goats and sheep, are seen on occasion. Services include everything from fertility assessment to difficult deliveries and managing reproductive tract infections, but the most common are breeding management of females, pregnancy diagnosis, breeding soundness of males, and semen collection and storage.

“Our work varies and our clientele is pretty diverse,” Dr. Sidelinger said. “We do a lot with commercial livestock producers and also with people who are preparing to raise their first foal or first litter of puppies.”

A significant portion of the team’s time is spent on canine and equine reproduction cases, which includes artificial



insemination. Many clients choose not to rely on nature but to specifically select the mate and plan the pregnancies of their animals.

“The sky’s the limit for mating options for owners who want to breed their female animals due to the ability to ship refrigerated and frozen semen, but to obtain the best results, artificial insemination requires expert management,” Dr. Walters said. “Timing is critical to the success of these breeding procedures. Our goal is to ensure insemination occurs at the most opportune time for successful conception.”

In addition to working with clients to provide care for their animals, the therio team also teaches in the second, third, and fourth year of the DVM curriculum. The electives they offer in the fourth year enable many of the College’s graduates to offer advanced reproductive services in their practices.

“Teaching is definitely one of the most rewarding parts of the job,” Dr. King said. “Our students are eager to learn and seeing them grasp a concept or master a procedure is really fulfilling. The fact that they are starting their careers with these advanced skills is impressive and a real asset to animal owners in need of therio services in the locations they choose to practice.”

The theriogenology group provides invaluable skills to graduating students who are interested in mixed-animal practice, including training in bovine breeding soundness exams, equine reproduction and management, and bull injury management and treatment. Students are given the opportunity for hands-on learning through patient cases and instructor-led labs, such as those focused on mare palpation and canine reproduction.

“As someone who is interested in mixed-animal practice with an emphasis in bovine reproduction, the theriogenology service provided me valuable opportunities to expand my knowledge and also with great insight into the industry,” MSU CVM fourth-year student Katlyn Henning said.

Dr. Rachel McCurdy, who earned her DVM from MSU CVM in 2020 and now practices at Carthage Veterinary Clinic in Carthage, Miss., said the theriogenology rotation was one

of her favorite rotations in veterinary school and that the advanced equine reproduction rotation she elected to take offered her experiences providing the confidence needed to tackle equine reproduction cases immediately after graduation.

“Drs. Walters, King, and Sidelinger genuinely cared about my education and went the extra mile to help me develop my skills as a large animal veterinarian. I would not be where I am today without them,” Dr. McCurdy said. “I still rely on them as mentors and call on them if I need assistance with a difficult case.”

CVM’s theriogenologists are also actively involved in research being conducted by a number of their faculty colleagues, collaborating on a range of projects in recent years, including those addressing trichomoniasis, which causes infertility and pregnancy loss in cattle; fetal programming, which looks at gestational influences that affect calf performance after birth; and utilizing messenger RNA to induce antibodies in animals.

“Projects such as the work on trichomoniasis are important to livestock producers because the economic losses associated with this infection have been estimated to cost the US beef industry in excess of \$100 million annually,” Dr. King said. “Currently, there is no approved treatment or preventative in bulls exposed to this organism.”

Through teaching students, providing advanced care and services for animals, and contributing to research, members of the CVM therio team are helping ensure a healthy and productive future for scores of animals, animal owners, and the veterinarians who care for them.





CVM'S POULTRY RESIDENCY PROGRAM

Benefits Students and State

It's no secret that poultry is one of the state's points of pride. It has topped the list of agricultural commodities in Mississippi for 28 straight years. Last year's stats show \$3.8 billion paid to growers, the direct employment of 28,500 people, and a total impact of \$20 billion on the state's economy. Therefore, it goes without saying that the need for well-trained, accessible poultry veterinarians is of key importance to the poultry industry in Mississippi and in the United States as a whole.

The Master of Veterinary and Biomedical Sciences poultry program offered through MSU CVM and housed in the Poultry Research and Diagnostic Laboratory (PRDL) in Pearl, Miss., might be considered a pillar for fulfilling this need. The program has been in place since 2013 and is one of only eight in the country approved by American College of Poultry Veterinarians (ACPV). In addition, the program is one of only a few that is focused on training field veterinarians for the poultry industry.

The program is overseen by MSU CVM professors who are poultry veterinarians and ACPV Diplomates. They include Dr. Danny Magee, who recently retired, and Drs. Alejandro Banda, Martha Pulido, and Natalie Armour Manginsay. Being accepted to the full-time, non-thesis program is highly competitive, as only one slot is available annually.

According to Dr. Manginsay, the residency involves intensive, hands-on training outside of the coursework. "Our master's students participate in coursework, necropsies, field visits, externships, laboratory work, and applied research projects over the course of two years. They are also expected to present their research at regional, national, and international conferences, as well as to produce three research papers prior to completing the program," she said. "The education and training they receive effectively prepares them for the work ahead and are why the program is a true benefit to the industry it serves."

Just as the program benefits the poultry industry, the poultry industry benefits the program. In fact, if not for poultry companies facilitating student field trip and externship experiences, experiential training would be significantly limited.

"The practical learning opportunities provided through collaboration with field veterinarians and other personnel in the poultry industry are invaluable to the students," Dr. Manginsay said. "And, the poultry master's degree program would not have been possible without the financial support of allied companies like Merck Animal Health, Elanco Animal Health, and BioChek that have provided direct funding for it."

“We are really proud of the caliber of the poultry veterinarians we graduate, and we’re excited to see the many different roles they are playing in this vital industry within our state and throughout the country.”

DR. KENT HOBLET, DEAN, MSU COLLEGE OF VETERINARY MEDICINE

A number of companies have also supported the program by funding out-of-state trips and externships.”

The Mississippi Poultry Association has provided scholarships enabling students to travel to present research at several scientific meetings.

If the success of its graduates is a measure for the quality of the poultry master’s program, then it’s evident the program offers outstanding education, training, and learning experiences. First and foremost, graduates have excelled on the ACPV board exam. Moreover, they have secured employment as successful poultry veterinarians within the industry.

Recent graduates are currently working in various sectors of the poultry industry, including primary breeders (Aviagen - Dr. Kevin Maschek), broiler production (Peco Foods - Dr. Will Dillard; Koch Foods - Dr. Rachel Thiemann), turkey production (Butterball - Dr. Eric Orozco), allied industry (Huvepharma - Dr. Leslie Johnson) and private consultancy (Dr. Jessica Hockaday).

Those who completed the poultry master’s program prior to 2013, when it was still located at CVM’s main campus in Starkville, are well-established in the poultry industry in broiler production (Perdue Foods - Dr. Rick Sharpton; Wayne-Sanderson Farms - Drs. Phil Stayer, Mark Burleson and Jonathan James), allied industry (Huvepharma - Dr. David Smith), and private consultancy (Dr. Sue Ann Hubbard).



MSU CVM Dean Dr. Kent Hoblet said the poultry residency program is just one of the many ways the College is striving to provide the well-trained veterinarians needed by a variety of vital agricultural industries throughout the state.

“For many years, this program has been a benefit to our students and those who hire them; however, in recent years we have had increased buy-in from the industry, enabling us to expand the learning experiences it provides our students,” Dr. Hoblet said. “We are really proud of the caliber of the poultry veterinarians we graduate, and we’re excited to see the many different roles they are playing in this vital industry within our state and throughout the country.”

MANGINSAY HONORED BY AAAP



Dr. Natalie Armour Manginsay received the 2022 American Association of Avian Pathologists Best Field Case/Diagnostic Report Award. The award was presented at the AAAP Annual Meeting in Philadelphia, Penn., last fall. Her report, “Investigating Unusual Outbreaks of Neurologic Disease in Broiler Chickens,” focused on the diagnostic investigation of a

series of cases of neurologic disease with lameness in four-week-old broilers on three broiler farms. Avian reoviruses belonging to genotypes four and five were identified as the cause of the encephalitis and tenosynovitis, causing central

nervous signs and lameness, respectively, in these flocks. Dr. Manginsay’s report is one of only a few reports of reoviruses causing CNS signs in chickens and suggests that reovirus infection should be considered as a differential for neurologic disease in chickens.

Dr. Manginsay holds a Bachelor of Veterinary Science (DVM equivalent) from the University of Pretoria in South Africa, a master’s in avian medicine, and a PhD in veterinary and biomedical sciences from the University of Georgia. A Diplomate of the American College of Poultry Veterinarians, she joined the CVM faculty in March 2015 as an associate clinical professor in the Department of Pathobiology and Population Medicine and is stationed at the Poultry Research and Diagnostic Laboratory in Pearl, Miss.



COUNTRY ROADS LEAD GRAD HOME to the Place She Belongs

Born and raised in Jane Lew, W.Va., MSU CVM graduate Breanna Brown always dreamed of becoming a veterinarian and knew she was meant to return home to practice. As a little girl growing up on a small sheep and goat farm, Dr. Brown made her plans—although as “a horse girl through and through,” she didn’t realize her practice would actually be mixed-animal with emphasis on large animals, not just equine.

“When I was about five, my pet ewe was laboring and couldn’t deliver. The veterinarian came and let me ‘help’ deliver a healthy baby and save my ewe via C-section; I thought that was the coolest thing in the entire world,” Dr. Brown said. “I began spending a lot of time with the vet in clinic or on farm calls, going through several phases of just what kind of vet I wanted to be. I was a huge ‘horse girl’ and rode on my college equestrian team, so I originally wanted to be an equine vet; I have a dual degree in equine science and biochemistry/molecular biology. However, a summer spent on IX Ranch in Montana as an intern actually shifted my focus from horses to cattle.”

Dr. Brown says she applied to MSU CVM for two main reasons, and she’s forever thankful she was accepted.

“The contract MSU CVM has with the West Virginia Legislature enabling West Virginia residents to pay in-state tuition rates with the legislature covering the difference was definitely one reason I applied to MSU; however, the two full years of

clinical experience with the MSU program was very appealing to me. I’m a hands-on learner, so I knew having more time in the clinical setting was ideal,” she said. “However, I didn’t fully realize how valuable the experiential learning and family-like environment was until after graduation.”

Before finishing her first two years of classroom studies at CVM, Dr. Brown knew she wanted to work in rural mixed practice and was pleased to find that the ambulatory/field service faculty took her dreams seriously.

“I am super appreciative of the time I spent on clinics and the relationships I built with several of the clinicians. From talking with graduates from other schools, we got double the amount of time on rotations at State, and I think that really improved my clinical skills,” Dr. Brown said. “When I graduated, I felt as confident as I could in basic skills and was ready to jump in my first day of work.”

“Many of the faculty members did more than expected to help me while I was a student. The large-animal and ambulatory faculty were awesome. They helped me find amazing externships to build my large animal skills and gain mentorship outside of school,” she continued. “I asked them entirely too many questions, but they were always willing to answer and would take me on calls whenever a spot was available. I learned so much, and I am so grateful.”

However, Dr. Brown says the benefits of her time at MSU CVM are further reaching than just her four years of formal training. “I still talk to Dr. Jim Brett and Dr. Kevin Walters on a regular basis; they are always willing to help when I get stuck on a case. And, even though I was a ‘large animal kid,’ Dr. Patty Lathan was always very helpful to me; I still text her for help with strange endocrine cases, and she always responds,” she said.

Dr. Brown accepted a position with Dr. Jeremi Wurtz at Central City Veterinary Clinic in Central City, Neb., when she graduated and credits his mentorship, as well as that of MSU alums Drs. Ben Pickin of Ashby Herd Health in Virginia and Adam Nelms of San Saba Animal Hospital in Texas, with teaching her much about being a vet “in the real world.” “I had some absolutely amazing mentors. I wouldn’t be where I am today without them,” she said.

Dr. Brown is now where she dreamed of so long ago—back home in her own practice, Lewis Mobile Veterinary Services, in W.Va., thanks to a US Department of Agriculture National Institute of Food and Agriculture (NIFA) Rural Practice Enhancement Grant (RPE). The grant provided \$125,000 for a three-year commitment for her to serve in an NIFA-designated, high-priority veterinarian shortage situation.

“There is a critical shortage of food animal veterinarians, particularly in rural communities like Jane Lew and others in West Virginia,” Dr. Brown said. “Applying for the grant was a rigorous process, but it was well worth it. Receiving it literally changed my life, enabling me and my husband to move back to West Virginia to start my ambulatory practice.”

The grant allowed Dr. Brown to purchase the equipment needed to open her practice, including a truck and vet box, ultrasound machine, breeding soundness equipment, and portable hydraulic chute. It requires her to serve a nine-county shortage area, covering about 6,000 square miles, but she also covers other counties that surround her home county.

“It seems like we are covering the whole state some days; we try to group appointments by location, but it never fails

“There is a critical shortage of food animal veterinarians, particularly in rural communities like Jane Lew and others in West Virginia.”

DR. BREANNA BROWN,
MSU CVM CLASS OF 2020



there is an emergency three counties over that keeps us out late at night. My clients are primarily small family farms, homesteaders, elderly clients who cannot take their pets to a regular small animal hospital, and referrals for at-home euthanasia from other clinics,” Dr. Brown said. “I offer large-animal services—herd work, pregnancy checks, sick animals, dystocias, etc, and for small animals,

I offer vaccinations, wellness exams, palliative care, and at-home euthanasia. I also work with a local humane society doing their veterinary care.”

Dr. Brown said one of the things she enjoys most about her work is that every day is different. “We can go from checking a group of cows, to vaccinating a litter of puppies, to fixing a choked horse, to putting down a dog, and ending the day pulling lambs or looking at a chicken’s foot,” she said.

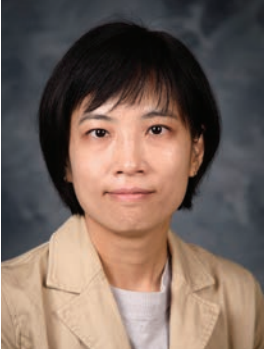
“But, hands down, my favorite thing is bringing new life into the world. While they can be physically challenging, delivering a healthy calf or pulling a set of twin lambs who got their legs tangled in the birth canal is incredible to me. Leaving a call knowing those animals would have died without your help and you saved them is a great feeling.”

“Probably the most challenging part of my job is feeling like I’m never ‘off the clock.’ I look forward to hiring my first associate so I can have a true night off! Plus, I also really miss having someone to work with,” she continued. “It’s exhausting getting a business off the ground, but it’s getting better every day.”

Dr. Brown and her husband, Nick Smith, are currently designing a mixed-animal haul-in facility they hope to occupy in about a year. Her goal is to hire more associates, eventually having satellite clinics throughout the state.

“I’m so thankful to family and friends for supporting me and to my mentors for always answering the phone and constantly reminding me this was a good idea,” Dr. Brown said. “To any students who are interested in a mixed-animal ambulatory internship or an associate position, please reach out to me. To anyone who is contemplating starting their own practice or buying into an existing practice, if I can do it, so can you!”

MEET the FACULTY



DR. WEN HUI WANG

Assistant Clinical Professor, Department of Clinical Sciences

Dr. Wen Hui Wang joined the MSU CVM faculty in September as an assistant clinical professor of anesthesiology. Dr. Wang received a Bachelor of Veterinary Medicine degree from National Chayi University in Taiwan in 2007 and a Master of Applied Science in wildlife health and population management from the University of Sydney in 2009. She received her veterinary education equivalence from Washington State University in 2015 and completed an anesthesia internship at North Carolina State University College of Veterinary Medicine in 2019, before beginning her anesthesia residency there and completing it in 2022.



DR. CHUN SHENG (JASON) LEE

Assistant Clinical Professor, Department of Clinical Sciences

Dr. Jason Lee joined the MSU CVM faculty in October as an assistant clinical professor of neurology. Dr. Lee received a Bachelor of Veterinary Medicine degree from Chun Hsing University in Taiwan in 1997 and a Master of Science from there in 2006. From 1999 to 2014, Dr. Lee completed internships and residencies in internal medicine, surgery, and neurology, before briefly joining the faculty at MSU CVM for one year. He completed a neurology fellowship at North Carolina State University in 2019 before returning to Taiwan from 2020-2022. He is a Diplomate of the American College of Veterinary Internal Medicine in the specialty of neurology.



DR. CAITLIN O'SHEA

Assistant Clinical Professor, Department of Pathobiology and Population Medicine

Dr. Caitlin O'Shea joined the MSU CVM faculty in December as an assistant clinical professor of large-animal surgery. Dr. O'Shea received her Bachelor of Science degree in biological sciences and animal science from Cornell University in 2005. She completed her Doctor of Veterinary Medicine at Western University of Health Sciences in 2009 and earned a Master of Science in biomedical veterinary sciences from Virginia-Marlyand College of Veterinary Medicine in 2014. She is a Diplomate of the American College of Veterinary Surgeons with a specialty in large-animal surgery and is a certified equine rehabilitation and performance veterinarian through the Integrative Veterinary Medical Institute. Dr. O'Shea comes to MSU CVM from Western University College of Veterinary Medicine, where she served as an assistant professor from 2020 to 2022.



DR. KAYLIN MCNULTY

Assistant Clinical Professor, Department of Pathobiology and Population Medicine

Dr. Kaylin McNulty joined the MSU CVM faculty in September as an assistant clinical professor of anatomic pathology. Dr. McNulty received her Bachelor of Science degree in biochemistry from Mississippi State University in 2015. She completed her doctor of veterinary medicine at MSU CVM in 2019 and completed an anatomic pathology residency at MSU CVM in 2022. She is a Diplomate of the American College of Veterinary Pathologists.

STAFF SPOTLIGHT

EMPLOYEES RECOGNIZED FOR JOBS WELL DONE



LINDSEY DOSS serves as a pharmacy technician in the Animal Health Center. On a typical day, Doss can be found ordering medicines and prescription diets, filling prescriptions, and stocking and monitoring inventory of the Cubex for overnight and weekend animal hospital shifts. Prior to joining the MSU CVM family and the AHC pharmacy team in 2013, Doss worked as a pharmacy technician at Walgreens.

Doss says she enjoys the day-to-day responsibilities of her work but that the people in the pharmacy are why she truly loves her job.

“The AHC pharmacy staff is by far the best I’ve ever worked with,” said Doss. “They are hardworking and fun on a daily basis. And, of course, it doesn’t hurt that I get to pet all of the cute patients as they come by to pick up their medications!”



JENNEL AYCOCK serves as the business manager for the Mississippi Veterinary Research and Diagnostic Laboratory in Pearl, Miss. In addition to coordinating bill payments, ordering supplies, and matching up invoices and credit card statements, she also works as a sample receiving tech on a daily basis, entering submissions into VetView®, labeling samples, and scanning paperwork.

Before joining the MSU CVM family and the MVRDL team in Pearl in 2006, Aycock worked in retail.

“I really enjoy the interactions I have with clients and the fact that this job is not the exact same every day,” Aycock said. “The process may be the same, but the samples, stories, and workload keep it interesting.”



RIBBON CUT for Turner A. Wingo Dean's Suite

A recently completed renovation has elevated the MSU CVM dean's suite to reflect the world-class research, outstanding learning experiences, and advanced animal care for which the College has long been known.



Made possible by a generous \$500,000 gift from MSU alumnus Turner A. Wingo, the impressive new suite, located adjacent to the Wise Center's main entrance, has been named in Wingo's honor.

"The entrance to the dean's suite is one of the very first things you see when you walk through the front door at the MSU College of Veterinary Medicine," CVM Development Director Jimmy

Kight said. "And, other than a few minor cosmetic touches like paint and carpet, the area hadn't been updated since the Wise Center was completed in 1981. We were long past due for improvements!"

The new suite not only houses Dean Kent Hoblet's office, but also a number of other important offices and functions of the College, including the office of the associate dean for administration, CVM financial manager, business manager, and

outreach director. It is a much-improved space for those who work in these areas, those who utilize their services, and guests and potential students visiting the College.

"In addition to its beautiful new look, the functionality of the suite was also greatly improved," Kight said. "The offices are now appropriately sized for today's business environment, which freed up space direly needed for conference/meeting areas, as well as a kitchen, copier/workroom, and adequate storage space."

There's a beautiful, well-appointed conference room that is used on a regular basis for dean's cabinet meetings, recruitment and admissions committee meetings, interviews for prospective students, and numerous other such purposes. In addition, a much-needed smaller conference room was added and has proven to be in high demand, as it is ideal for small group meetings and video conference calls.

The College's office of admissions is also housed in the new area, including offices for the director and her team, who have embraced the opportunity to welcome prospective students and their families into the modernized area that is most certainly beneficial to their efforts.

"The Turner A. Wingo Dean's Suite has transformed the front entrance to the College and will clearly enhance our recruitment

and outreach efforts,” Dean Hoblet said. “It’s important to make a good first impression and for our offices to reflect the outstanding learning, research, and animal care we provide. Mr. Wingo’s gift has done just that.”

A long-time supporter of the university, Wingo, who loves dogs, reached out to Kight regarding his interest in making a donation to MSU CVM and, following a tour of the College, chose to designate his gift specifically for the dean’s suite.

“When he visited the Wise Center and saw all the improvements that had been made to our clinical facilities and classrooms, as well as the investments that had been made in technology and medical equipment, I was surprised to see that the dean’s suite was outdated and didn’t parallel these other areas. He knew he wanted his gift to address this discrepancy,” Kight said.

“I just felt like by improving this area of the College that my donation would have the most impact,” Wingo said. “MSU CVM has so much going for it, and an up-to-date dean’s suite is important for its continued success.”

“I’ve been fortunate to be successful, and I’ve always felt it is important to give back,” Wingo continued. “I give to other things, too, but MSU is one of my passions. Giving is part of what I do.”

With the help of an architect and interior designer, \$400,000 of Wingo’s gift was used to renew the space and ensure it will serve the College well into the future. Maintenance and future updates to the area will be made possible through the interest earned from the remaining \$100,000, which was put into an endowment fund.

The nine-month project was completed last fall, and following official signage, artwork, and other details being finalized, the College hosted a ribbon-cutting and open house in February. MSU President Dr. Mark Keenum, Provost Dr. David Shaw, Vice-President for the Division of Agriculture, Forestry and Veterinary Medicine Dr. Keith Coble, CVM Administration, members of the CVM Dean’s Cabinet, and those with offices in the new suite greeted guests, and MSU CVM Student Envoys provided tours and served refreshments at the event.

According to Dr. Hoblet, the immediate and lasting impact of gifts like Wingo’s cannot be overestimated in terms of how they enable the College to advance among its peers.



A LASTING BULLDOG LEGACY: Reaffirming Three Generations of Bulldog Roots with Three Endowed Scholarships



High school and college sweethearts Rance and Tracie Gamblin grew up in Jackson, Miss., and attended Mississippi State University. They always planned to move back to the Southeast after his veterinary residency was completed at The Ohio State University. However, career opportunities and success in private specialty practice planted them firmly in

Akron, which has been their home for the past 25 years. Though the journey led them nearly 1,000 miles away from Starkville, the Gamblins maintained long-lasting ties in Mississippi, and their love and loyalty for MSU have never wavered! In fact, three generations of Gamblins have now earned degrees from MSU—a real testament to the family’s belief in the quality of education and personal experience that is woven into MSU’s academic programs and close-knit, family-like atmosphere.

Dr. Gamblin’s father was a Mississippi State graduate, and his brother attended Ole Miss, so growing up, they enjoyed the tradition of going to the Egg Bowl. The family also traveled to baseball and basketball games in Starkville. “Since my father was a Mississippi State graduate, MSU was always on my short list of schools to attend. As long as I can remember, I was fascinated with animals, and I have been around veterinarians since I was in elementary school,” Dr. Gamblin said. “I made up my mind about veterinary school when I was in middle school, and it was pretty much my singular focus from that time forward.”

Dr. Gamblin received a Bachelor of Science in biological sciences in 1988 and then entered the CVM’s DVM program the same year. In 1991, Tracie received a Bachelor of Science in home economics emphasizing apparels, textiles, and merchandising.

“I was incredibly fortunate to be offered a seat in the CVM’s first Early Entry Program class. It was the first program of its kind anywhere, and that pretty much cemented my decision to come to Starkville,” said Dr. Gamblin. The Early Entry Program allows very high-achieving high school seniors an opportunity to

gain provisional acceptance into CVM’s veterinary program and bypass much of the traditional admissions process provided they meet certain criteria during their undergraduate studies.

During his time as a veterinary student, Dr. Gamblin was impressed by the faculty, and the classes made him closely evaluate the type of veterinarian he hoped to become. “I had some great professors who made a big impression on me. Drs. Bell, McCoy, Jack, Harkness, Cooper, Woody, Nichols, McDonald, Groce, Grace, and a long list of others all had a bigger influence than they probably realize,” said Dr. Gamblin. “While in veterinary school, I always thought I would become a mixed animal practitioner. In my second year, I started to see the appeal of small-animal-exclusive practice, especially internal medicine and oncology, and I managed to structure my clinical rotations and senior-year electives to take advantage of as much exposure to oncology and related topics as possible.”

Dr. Gamblin and Tracie married the weekend his final clinics finished at MSU CVM in May 1992, then took a quick honeymoon and flew back to Starkville for his hooding ceremony and graduation. Dr. Gamblin was accepted into a rotating small-animal internship at Colorado State University, so the newlyweds moved to Fort Collins, Colo. Following his internship, Dr. Gamblin worked as a research associate in experimental radiation therapy at CSU before being accepted to a clinical oncology/hematology residency at The Ohio State University.

Dr. Gamblin completed his residency and became ACVIM board certified in oncology in 1997. Although the Gamblins had intentions of moving back to the Southeast, job availability was limited at that time, so he accepted a position in private practice in Akron, where they have made a happy home and he has built a successful career.

“Private specialty practice has been very good to me and my family. I went from an associate to a partner to owner in a rapidly growing multi-specialty hospital,” shared Dr. Gamblin. “I have learned a lot, not only about the practice of veterinary medicine and running a business, but most importantly, about people and the connection we share with each other and with our pets. The experience has been invaluable.”

The decision for their two daughters, Lauren Leigh Houston and Anna Elizabeth Gamblin, to attend MSU was an easy one. Growing up in Ohio, far from their grandparents, they spent

most vacations from school in Mississippi. The family made many trips to Starkville during those vacations, and the girls fell in love with MSU, which offered excellent programs in their areas of interest, as well as strong academic scholarships for students of their caliber. Both are now MSU graduates; Lauren has a degree in horticulture, and Anna has a degree in wildlife, fisheries, and aquaculture.

In tribute to their alma mater, Dr. Gamblin and Tracie have established three endowed scholarships at Mississippi State University: the Gamblin Family Endowed Scholarship for Horticulture within the College of Agriculture and Life Sciences; the Gamblin Family Endowed Scholarship in Wildlife, Fisheries, and Aquaculture within the College of Forest Resources; and the Gamblin Family Endowed Scholarship in the College of Veterinary Medicine.

“Mississippi State is the root of where all that we currently have started. We wanted to do something to give back to the place that means so much to us and hopefully help students in the majors that we studied,” said Dr. Gamblin. “The cost of education

has skyrocketed since we were students. Our hope is that these scholarships will help make the burden a little lighter, as well as offer a sense of accomplishment and pride for having the academic prowess to be chosen as a recipient.”

Candidates for the Gamblin Family Endowed Scholarship in CVM must be fourth-year students with an interest in small animal internal medicine or oncology and have a 3.5 GPA or higher. Preference is given to students from the state of Mississippi, and financial need is considered.

“It is truly inspiring to consider the profound reach that the Gamblin Family Endowments will have on so many students in multiple disciplines at MSU. Because these scholarships are endowed, they will continue to provide support in perpetuity,” MSU CVM Director of Development Jimmy Kight said. “Dr. Gamblin and his family are helping to carry on the important legacy of generosity and philanthropy that has moved the CVM forward for the past 40 years. Their gifts demonstrate their Bulldog spirit with unwavering loyalty and kindness to help change lives for the better.”

GAMBLIN HONORED AS MSU CVM ALUMNI FELLOW



“Certainly, when I look at my career, this is honestly one of the proudest personal achievements I have,” said Dr. Rance Gamblin regarding being named MSU CVM’s 2022 Alumni Fellow. “To be recognized by MSU and the College of Veterinary Medicine through the Alumni Fellows program makes me very proud to be a Bulldog. MSU is the place where it all started for me, my family, and my career—and a place I love dearly.”

Dr. Gamblin and his wife, Tracie, made the trek to Starkville from Akron, Ohio, for a weekend full of activities hosted by the MSU Alumni Association to honor this year’s Alumni Fellows from each academic college at MSU. On Thursday, November 3, the Gamblins kicked off the weekend at a cocktail reception and opening dinner for the program with their family, MSU CVM Dean Dr. Kent Hoblet, and MSU CVM Director of Development Jimmy Kight. Friday morning, Dr. Gamblin and Tracie were welcomed to the Wise Center to spend some time with faculty, staff, and students.

“The day I got to spend at CVM was SUCH a treat!” Gamblin said. “I was able to just sit down and converse with clinical faculty about MSU CVM and what it was like when I was there versus what it has amazingly transformed into. It was wonderful to put names with some faces for the first time, and I got the opportunity to have great discussions with Dean Hoblet about the current status of CVM and future directions, as well as our shared Ohio State experiences.”

However, Dr. Gamblin said the highlight of his day at the Wise Center was getting to address first- and second-year students in the auditorium. “It struck me when I was standing there, that the last time I was on that stage was at the hooding ceremony for the class of 1992. It made me feel a little old to recount my story in front of fresh-faced veterinary students, but I had a ball!”

During his presentation, Dr. Gamblin shared with students about his journey through veterinary school and his career. He spoke of the highs and lows of the veterinary curriculum and the advanced specialized training he received following graduation. He then went on to discuss how the training he received at MSU CVM has impacted the way he practices medicine—even 30 years later!

Dr. Gamblin noted that MSU and the College made him and his family members feel incredibly welcomed to be back on campus and that the overtime win against the Auburn Tigers at Saturday’s football game was just the icing on the cake of a wonderful trip to Starkville.

“The only regret I had all weekend was that my parents (especially my father, who graduated from MSU in 1954) were no longer alive to be there,” Dr. Gamblin said. “MSU has been a central part of my family’s lives for as long as I can remember, and they would have been SO proud to be there with us.”

CVM VET MED RESEARCH SCHOLARS GROUP PRESENTS RESEARCH AT NVSS



Twenty-five MSU CVM Vet Med Research Scholars (VMRS) presented posters at the National Veterinary Scholars Symposium at the University of Minnesota in August. The VMRS program is a 12-week investigative program designed to provide veterinary students with training in biomedical research. The program is funded by both the National Institutes of Health (NIH) and Boehringer-Ingelheim (BI) and is open to any veterinary student who is enrolled and has completed their first year of veterinary school in good academic standing.

MSU CVM students participating in VMRS included Jessica Barber, Sarah-Ashlyn Barber, Karis Blankenship, Jenna Bordages, Hayden Brines, Caitlyn Burke, Julia DiFiore, Catherine DiNicola, Martin Holsinger, Matthew Harjes, Shelby Ladner, Dania Linares, Kayla Mercer, Matthew Mitsch, Nicholas Mosby, Ashley Nicaise, Kathryn Rapp, Hannah Renfroe, Emily Sherman, Sabrina Swistek, Julia Tate, Nicholas Wheeler, and Caitlin Wonnacott.

Students Kayla Mercer and Sabrina Swistek worked in USDA labs during the VMRS program and presented their findings

from those experiences. Program participation for nine trainees was covered by the NIH, and participation for four trainees was paid for by BI. The other 12 trainees received scholarships for the program from MSU CVM.

Two projects were selected and submitted for the veterinary student research award: Wheeler's study, "Biomechanical evaluation of orthopedic cable compared to standard cerclage wire in a canine fracture model," conducted with CVM Associate Professor and Small-Animal Surgery Chief Dr. Michael Jaffe, and Ladner's study, "Interplay between environmental exposures and Staphylococcus aureus infections in diabetic wound healing," conducted with CVM Associate Professor Dr. Trey Howell.

"It was really cool to have so many students learning about research over the summer," said VMRS Program Director and Associate Professor Dr. Barbara Kaplan. "It was great to see so many MSU students at the symposium, as well. We had a really good time and learned a lot!"



BROOKSHIRE SELECTED TO MCCTR SCHOLARS PROGRAM

Dr. Cooper Brookshire, assistant clinical professor in the CVM Department of Clinical Sciences, has been selected to participate in the NIH-funded Clinical and Translational Research Scholars Program offered through the Mississippi Center for Clinical and Translational Research (MCCTR) at the University of Mississippi School of Medicine. This prestigious, three-year program provides structured mentorship, protected time, and research support to promote the development of junior faculty to establish independent careers in clinical, translational, and population-based research on all major diseases that impact Mississippians.

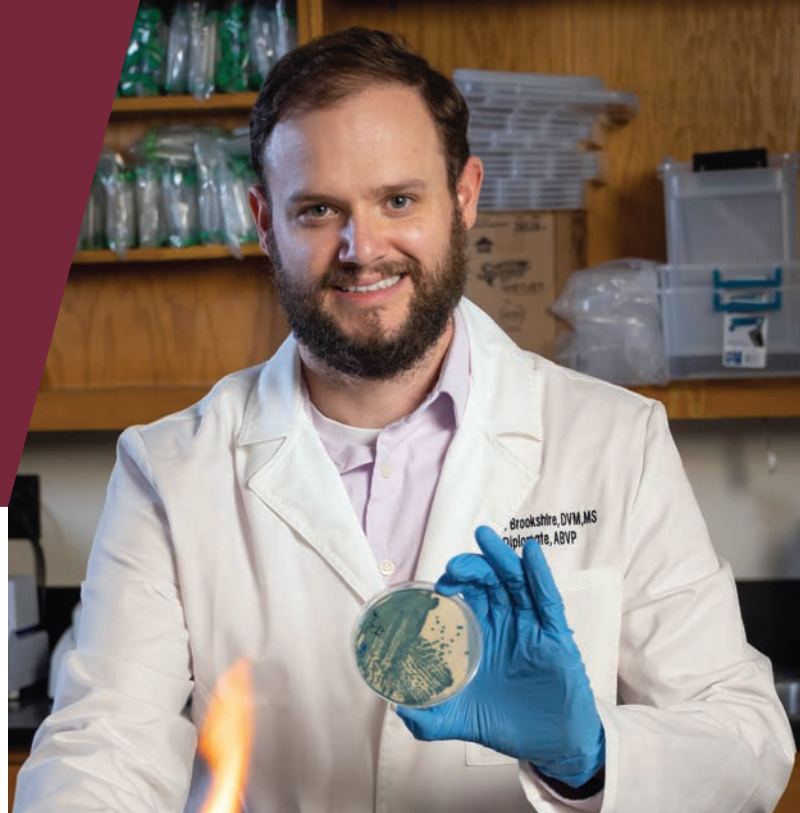
Dr. Brookshire's specific research interest is to improve antibiotic stewardship through an increased understanding of antibiotic resistance, especially in bacteria that are shared between humans and their pet dogs and cats. His project, "One Health Analysis of Antimicrobial Resistant *Klebsiella pneumoniae*," will involve surveying dogs, cats, and their owners to determine how often potentially pathogenic antibiotic resistant bacteria are shared between human-animal pairs.

"My ultimate goal is to give healthcare providers information that leads to improved use of antibiotics in clinical settings as well as improved infection-control practices. We know many pathogens are shared between humans and their pets, but there is very little scientific understanding of this phenomenon," Dr. Brookshire said.

A diplomate of the American College of Veterinary Preventive Medicine—epidemiology specialty and the American Board

“We know many pathogens are shared between humans and their pets, but there is very little scientific understanding of this phenomenon.”

DR. COOPER BROOKSHIRE,
ASSISTANT CLINICAL PROFESSOR



of Veterinary Practitioners—canine and feline practice, Dr. Brookshire has worked alongside his mentor and collaborator, CVM Associate Professor Dr. Keun Seok Seo of the Department of Comparative and Biomedical Sciences, over the past several years. Their preliminary research has generated pilot data which ultimately led to a successful MCCTR Pilot Project application, as well as selection for the CTRS Program.

"I've worked with Dr. Brookshire on various research projects, including hospital biosecurity and antibiotic resistance studies. Our pilot data has shown a clear need to improve our understanding of bacterial sharing between people and their pets," said Dr. Seo, who will serve as Dr. Brookshire's primary mentor for the project, providing support in all phases of the project, as well as for the development of future studies.

Antibiotic resistance is a major problem in both veterinary and human healthcare, but there is currently a limited understanding of the role bacterial sharing between people and their companion animals plays in this urgent healthcare issue.

"To address the urgent public health threat of Carbapenem-resistant *Klebsiella pneumoniae*, a One Health approach is essential, since these bacteria occur in the environment, in veterinary species, and in humans," Dr. Brookshire said, explaining that One Health is a concept that takes human health, veterinary health, and environmental health into consideration when solving large scale health issues, such as antibiotic resistance.

"I'm excited about Dr. Brookshire's involvement with MCCTR," Dr. Seo said. "This project will be the first study to evaluate the complex epidemiology of this high-level public health threat from a One Health perspective focusing on dogs and cats, and it will ultimately lead to improved health for both humans and animals."

CVM FACULTY MEMBERS HONORED BY DAFVM



The MSU Division of Agriculture, Forestry, and Veterinary Medicine honored two CVM faculty members at the division's annual awards celebration in August.

DR. SKIP JACK, a professor in the College's Department of Pathobiology and Population Medicine, received the Regions Bank-DAFVM Superior Faculty Award for Service. Dr. Jack, who earned his DVM from The Ohio State University in 1982, an MS in animal science from the University of Maryland in 1983, and his PhD in veterinary pathology from Purdue University in 1989, joined the MSU CVM faculty in 1989.

Dr. Jack was recognized for his faithful service and willingness to do whatever asked for the benefit of the College and its students. When the College expanded class sizes, he stepped forward to carry the extra load for the Anatomy course. He's served on the Admissions Committee—and even maintained this time-consuming, critical role on that committee during staffing changes in the Office of Admissions. He is club advisor for CVM's Christian Veterinary Fellowship and regularly takes students on mission trips to other countries. He even invites students into his home for meals and to celebrate the holidays!

"Dr. Jack is an outstanding role model for us all—students and faculty," said MSU CVM Pathobiology and Population Medicine Department Head Dr. Bill Epperson. "He goes about each of his duties cheerfully and is always uplifting the spirit of others. We are fortunate to have him as part of our team."

Outside of the Wise Center, Dr. Jack is very involved in his church, prison ministry, and the community. He truly is a wonderful example of how to "give back," and MSU CVM is thankful to have him as part of the family.

DR. MARGARET KHAITSA, a professor in the College's Department of Pathobiology and Population Medicine, received the Regions Bank-DAFVM Superior Faculty Award for International Contributions. Dr. Khaitsa received her BS in veterinary medicine from Makerere University in 1982, an MS in veterinary medicine from the University of Edinburgh in 1987, and a PhD in veterinary preventive medicine from The Ohio State University in 1999. She joined the MSU CVM faculty in 2013 as a tenured full professor of veterinary preventive medicine and epidemiology.

Dr. Khaitsa is recognized at the highest levels of international organizations as a world expert in One Health and is incredibly well-recognized in Uganda and east Africa, where her efforts have focused on conducting applied research and outreach related to empowering women in community and agricultural leadership. In 2021, she was one of only 26 people selected from throughout the world to serve on the Global One Health High Level Expert Panel. This international panel focuses on ways humans, animals, and the environment interact to impact global health. Dr. Khaitsa is the only panel member currently on the faculty of a US university.

"Dr. Khaitsa has a remarkable record of distinguished achievement in international work focused on One Health and addressing important societal inequalities," Dr. Epperson said. "Her work promoting higher education development will provide a lasting impact on international scholarship and public welfare. Her participation in the One Health High Level Expert Panel is indicative of her extraordinary status in the international One Health community."

Congratulations to these two outstanding MSU CVM faculty members. We are so proud of you!



NATIONAL VET TECH WEEK CELEBRATED

National Veterinary Medical Technician Week takes place the third week of October each year to recognize the varied and vital work that VMTs do while working alongside veterinarians to provide animals—and their owners—a level of care and comfort that wouldn't be possible without their help.

Those affiliated with MSU CVM's veterinary medical technology program look forward to this week each year, and they put much effort into celebrating both VMT students and the VMT staff who work in the Animal Health Center.

This year's activities included guest speakers, fundraising efforts, an ice cream social, and several giveaways. Dr. Matt Durham and Ali Anderson with Platinum Performance spoke to the VMT students about what employers in the veterinary industry are looking for in potential hires, and Katie Burdick, a certified veterinary technician (CVT) with Alliance Animal Health, hosted a VTNE bingo to help students prepare for state boards as well as licensing and credentialing purposes.

"Alexis King and Baylee Cooper coordinated all events for our celebration this year," said assistant clinical professor Dr. Mandy Kohler. "They collected donations from local veterinary clinics and businesses for the raffles, as well. Funds from those raffle tickets went toward VTNE fees for seniors in the spring and funding future class projects and fundraisers for the juniors."

The week would not have been possible without the generosity of several sponsors—including Hill's Pet Nutrition, Alliance Animal Health, Platinum Performance, Animal Medical Center, Village Animal Hospital, Harvey's, Petsense, Shaggy Hound, Mugshots, Starkville Nutrition, Two Brothers Smoked Meats, and Maroon & Co. Raffle winners for various prizes from these sponsors were announced at the ice cream social to conclude the week-long celebration.

Perhaps the most exciting portion of the week came in the form of a scholarship announcement for two senior VMT students. Samantha Gailey and Asia Aron are the inaugural recipients of the Tuition for Vet Techs Scholarship from the National Association of Veterinary Technicians in America (NAVTA) and Boehringer Ingelheim Animal Health USA. The senior students were two of 20 from around the nation awarded \$2,500 in tuition assistance.

VMT Program Director Dr. Maralyn Jackson said that the demand for well-trained VMTs has increased significantly in the last few years. "We pride ourselves in offering a collaborative learning environment that puts our VMT students right alongside the DVM students in our teaching hospital. Now more than ever, our graduates can secure jobs in whatever field of veterinary medicine they choose—whether it be in a clinic, a laboratory, or an operating room!"



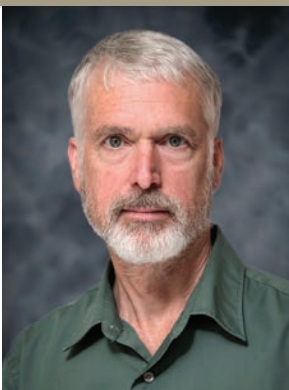
WILLS RETIRES



Dr. Robert Wills, professor and head of the Department of Comparative Biomedical Sciences (DCBS), has retired after 21 years of service to the College. Dr. Wills came to MSU CVM in 2001 after working as an Extension swine veterinarian for the University of Nebraska-Lincoln Department of Veterinary and Biomedical Sciences. During his tenure at MSU CVM, he served as associate

professor of veterinary epidemiology, interim head of the Department of Pathobiology and Population Medicine, and professor of veterinary epidemiology before being named head of DCBS. He has served as a mentor to many DVM and graduate students, as well as other faculty members. MSU CVM greatly appreciates Dr. Will's many years of dedicated service and wishes him the very best in the years to come!

HANSON NAMED INTERIM DEPARTMENT HEAD



Dr. Larry Hanson was named interim department head for the MSU CVM Department of Comparative Biomedical Sciences in October, following the retirement of Dr. Robert Wills. Dr. Hanson holds a BS and MS in fisheries science from Auburn University and a PhD in veterinary medical science from Louisiana State University. He joined the CVM faculty as an assistant research professor in 1990 and was promoted to professor in 2002.

Dr. Hanson has served as director of CVM's Aquatic Animal Diagnostic Laboratory since 2008 and also serves as graduate coordinator for the College's veterinary medical sciences graduate program. He is a PI on a USAID project on aquaculture biosecurity in Nigeria. His research focus is the detection and prevention of economically important fish diseases.

Dr. Hanson will serve until the new DCBS head is named later this year.

BETBEZE ELECTED TO ACVO BOARD OF REGENTS



MSU CVM Associate Clinical Professor Dr. Caroline Betbeze has been elected to the Board of Regents of the American College of Veterinary Ophthalmologists (ACVO) through a simple majority vote of the general membership.

The ACVO is an organization that has established certifying criteria for Diplomates of the ACVO and residents in training to become

Diplomates. It is the AVMA-recognized veterinary specialty organization for the certification of veterinarians in the field of ophthalmology.

A board-certified veterinary ophthalmologist who earned her DVM from MSU CVM in 2002, Dr. Betbeze completed a residency in comparative veterinary ophthalmology and a Master of Science degree at Purdue University in 2006. She received Diplomate

status in 2006. Dr. Betbeze then practiced at the Veterinary Specialty Center of Tucson from 2007 until 2013, before returning to MSU CVM to pioneer the College's ophthalmology program.

"I have been fortunate to serve the ACVO in several roles, including as chair of the Governance Committee and member of the Exam (ABVO), Genetics, and Membership Promotion and Outreach Committees," Betbeze said. "Currently, I am acting as the liaison for the ACVO to the Veterinary Specialty Organizations Committee (VSOC) of the AVMA but will step down from this role in order to serve as Regent."

The ACVO Board of Regents is the governing body of the organization and establishes ACVO policy, working closely with the executive director and employed staff. Dr. Betbeze will serve a three-year term as a general Regent before becoming an officer.

"I feel honored to have been voted into this position by my ophthalmology colleagues, and I look forward to continuing to serve the ACVO and its members," she said.

EDDY SELECTED FOR ACVS RESIDENT CREDENTIALING COMMITTEE



MSU CVM Associate Clinical Professor Dr. Alison Eddy has been selected to serve on the Resident Credentialing Committee for the American College of Veterinary Surgeons. The ACVS is the specialty board that sets the standards for advanced professionalism in veterinary surgery and is the American Veterinary Medical Association-recognized veterinary

specialty organization for certification of veterinarians in large-animal and small-animal surgery.

The Resident Credentialing Committee works under the direction of the Board of Regents (BOR) and is charged with providing support and guidance to residents, residency program directors, and resident advisors according to standards and procedures adopted by the ACVS. The

committee evaluates all applications for ACVS membership credentials and recommends qualified candidates to the BOR.

A board-certified equine surgeon in the CVM Department of Pathobiology and Population Medicine, Dr. Eddy earned her DVM from Virginia Polytechnic Institute and State University in 1998 and completed her residency in 2002 at the University of California, Davis. She joined MSU CVM in 2007, following a two-year stint at Virginia-Maryland College of Veterinary Medicine as an assistant clinical professor and after three years in private practice in Colorado.

“The ACVS requires rigorous training for its residents. RCC members review training logs twice a year to help residents stay on track to complete their requirements,” Dr. Eddy said. “The RCC also meets yearly to revise rules for resident training. It is an honor to be entrusted with this vital role.”

Dr. Eddy began her term November 1 and will serve until October 2025.

DCBS PHD STUDENT RECOGNIZED



MSU CVM doctoral student Dr. Monzur Kader Chowdhury, who is pursuing his PhD in infectious diseases with a veterinary and biomedical sciences concentration through the CVM Comparative Biomedical Sciences Department, was recognized by the American Society for Microbiology (ASM) and the Mississippi Academy of Sciences (MAS) last year.

Dr. Chowdhury is currently working under the supervision of CVM scientists Dr. Hossam Abdelhamed and Dr. Mark Lawrence. His research is aimed at understanding a novel mechanism of the food-borne pathogen *Listeria monocytogenes* to survive and grow at refrigerator temperature and make the infection to host, which may provide insight into the development and

application of antimicrobial agents. Dr. Chowdhury received the best poster award (2nd position) in the PhD division at the Fourth Annual MAS Summer Science and Engineering Research Symposium for his work on this project.

Dr. Chowdhury was also honored by the ASM as a Young Ambassador to Mississippi and is representing Mississippi in a growing network of over 200 ambassadors around the world who are passionate about advancing microbial sciences in their local communities. This summer, through an ASM travel award, he will attend the Young Ambassador of Science Retreat and ASM Microbe Meeting in Houston, Texas.

Before joining MSU CVM, Dr. Chowdhury earned his DVM and MS in veterinary medicine from Sylhet Agricultural University in Bangladesh and an MS in dairy science from Kiel University in Germany. He previously co-owned a veterinary clinic and worked as a veterinary consultant for the Wildlife Conservation Centre in Sylhet.

TURNER RECEIVES ACVP INSKEEP AWARD



Skyler Turner, a third-year MSU CVM DVM student, was presented with one of two 2022 Inskeep Awards at the American College of Veterinary Pathologists (ACVP) Annual Meeting.

The William Inskeep II Scholarship Award was established by the ACVP to recognize veterinary students who have an interest in pursuing a career in veterinary pathology. The award is presented annually to one member of the Colorado State University Student Chapter of ACVP and one member of any other student chapter of ACVP who demonstrates the highest standards of scholarship and leadership in pursuit of a career in veterinary pathology.

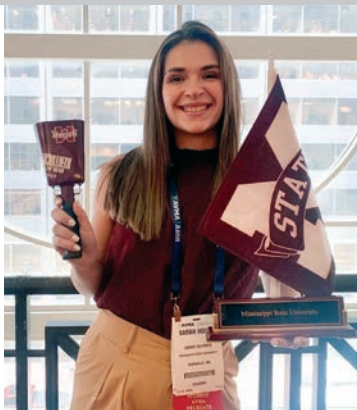
Turner, a Pontotoc, Miss., native, says that his interest in veterinary pathology was sparked because of his strong interest in anatomy. “When I started shadowing in necropsy during undergrad, I was able to dissect and study anatomy that

I had only been able to see in books before, and I was even able to appreciate the visible and palpable changes created by or in response to disease,” Turner said. “Later in this experience, and as I started vet school, I began to understand these changes on a tissue and cellular level—both conceptually and under the microscope. This is what pathology really means, and the more I learn about it, the more my initial interest in gross anatomy transforms into an even stronger interest in histopathology and pathophysiology.”

Turner says that the Inskeep Scholarship is a great honor for him and reminds him of the wonderful mentorship he’s received from pathologists, research scientists, and colleagues from MSU CVM, Texas A&M College of Veterinary Medicine and Biomedical Sciences, Mississippi Veterinary Research and Diagnostic Laboratory, and elsewhere.

“I am grateful to the people at all of these places for their support and the opportunities they have provided me—including, and perhaps most of all, that first invitation to spend an afternoon on the necropsy floor!”

HOUPT ELECTED TO NATIONAL SAVMA BOARD



Sarah Houpt, a second-year MSU CVM DVM student, has been selected to serve on the national executive board of the Student American Veterinary Medical Association (SAVMA). Houpt has served as the junior delegate for SAVMA at MSU CVM for the past year.

Houpt will serve as secretary-elect until March, at which point she will transition to the role

of secretary at the annual SAVMA Symposium. As secretary, she will handle the minutes for monthly meetings, organize and compile official and unofficial SAVMA documents, and document discussions and results of any motions or changes made. She’ll also serve on the Government Affairs Committee as the liaison between the committee and the executive board.

“When I became delegate, I was surprised so many doors would open for me. I was also honestly surprised with myself when I decided to run for secretary of the national executive board,” Houpt said. “So far, this has been an amazing experience with so many incredible people! I am truly honored to be in this position, and I am very excited to see where it takes me.”

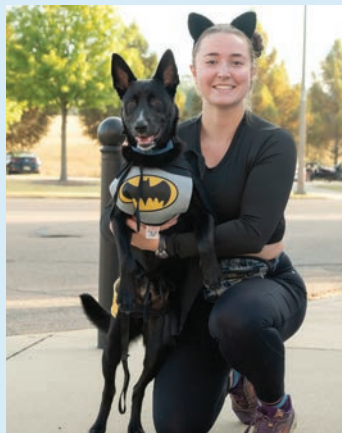
HILL'S HALLOWEEN DOG JOG 5K

The Annual Hill's Pet Nutrition 5K Halloween Dog Jog was held on Saturday, October 22. The event is a fundraising effort for the Homeward Bound Project of Mississippi and has quickly grown into a much-anticipated activity for CVM faculty, students, and staff, as well as members of the Starkville community and others—along with their furry friends! As always, runners, pets, and spectators dressed for the occasion in their best Halloween costumes, bringing many smiles along the race route. This year, the race had a record high of more than 200 registered participants and raised over \$5,500 in support of Homeward Bound!

Second-year MSU CVM DVM student Kasey Forton is the primary Hill's Pet Nutrition Student Representative at the College and said this year's events brought in the highest profit the race has ever seen. "I was blown away by the number of people that came out to support our cause," Forton said. "I am immensely grateful for all of the help and support, and I cannot wait to see how this event grows over the coming years!"



The Homeward Bound Project of Mississippi is a 501(c)(3), non-profit run entirely by volunteers, most of whom are attending or working at MSU CVM. The Project takes adoptable puppies and young adult dogs (and sometimes cats) from overcrowded shelters in the South and transports them to adoption-guaranteed shelters in the Northeast, where there is a high demand for adoptable dogs, thus providing the animals a chance for a better life. Through the program, animals to be transported are spayed or neutered, receive age-appropriate vaccinations, are screened for diseases, and spend their last 14 days in Mississippi homes in foster care. They are also tested for heartworms and started on heartworm and flea/tick preventatives prior to being sent on their way to their new homes. For more information, visit vetmed.msstate.edu and click on the Outreach tab.



VET ASPIRE

COLLEGE OF VETERINARY MEDICINE

MSU CVM is committed to inspiring future generations to pursue careers in the field of veterinary medicine, and our doors are always open to those with an interest in learning more about becoming a veterinarian or veterinary technician. We created our VetAspire program to provide students, regardless of means or resources, the chance to visit our college and interact with veterinary professionals.

According to MSU CVM Admissions Outreach Manager Meredith Nagel, who oversees VetAspire, this exciting program enables a select group of high school and undergraduate students to spend a day at MSU CVM and become veterinary students for the day.

“On several occasions throughout the academic year, five to 10 students are selected to participate in the program, giving them the opportunity to experience the field of veterinary medicine first-hand,” Nagel said. “VetAspire is specifically for students who are high school sophomores and above to college seniors and are educationally, economically and/or socially disadvantaged. All students who apply are considered, but priority is given to those who meet the program criteria.”

Those attending VetAspire participate in clinics, lectures, and hands-on activities led by actual CVM professors with the assistance of current veterinary students. The program is hosted in the Wise Center, home to the MSU CVM.

“VetAspire participants receive an authentic ‘vet student’ experience, including exposure to key components of the overall profession of veterinary medicine; different career avenues for those in the field of veterinary medicine; veterinary curriculum and classroom instruction; hands-on learning opportunities in the laboratory, field, and clinic; and interaction with multiple species of animals,” Nagel said. “It is our hope that by exposing these students to the veterinary field, their interest in it will grow, and they will ultimately choose veterinary medicine as a career path.”

Participants also gain an understanding of the real-world impact of math, science, and communications training and establish relationships with veterinary professionals and fellow students from across the state.

Additional information about the VetAspire program is available through Facebook (Mississippi State Vet Aspirations), Instagram (MS State VetAspirations), or email at vetaspire@cvm.msstate.edu. Program applications can be found at vetmed.msstate.edu under the Outreach tab.



“I have always known that I wanted to be a vet and VetAspire gave me a firsthand experience in the vet school world. All of the labs I got to participate in were so fun and interesting! I did not know how much everyone who works at MSU CVM loves their job; that made me more excited and interested in attending vet school here.”



“I job shadow at a vet clinic, and they let me look at patient x-rays. So, I really enjoyed the lab at VetAspire where we were able to view images and learned about interpreting them.”



“I attended VetAspire mostly to get a look into MSU, because from what I had read, the college differs from other DVM schools. I learned so much, including about horse anatomy, how pathology plays a role in the preservation of livestock, and most of all that vet school might be my calling!”



“I already did [MSU CVM] Vet Camp, and I wanted to come back to the school to do VetAspire. I really want to be a vet, and I think this is a good way to make those connections. I really enjoyed watching the necropsy presentations; that lab was very informative and interesting!”

“I aspire to be a veterinarian, so VetAspire was a great experience to learn how things at the college work. My favorite lab was the one where we learned how to insert a catheter using a model of a dog’s leg in the CVM skills lab.”



FISH INNOVATION LAB REACHES FIFTH YEAR OF CONTRIBUTING TO GLOBAL FOOD SECURITY

The Feed the Future Innovation Lab for Fish, housed in the Mississippi State University Global Center for Aquatic Health and Food Security and under the direction of MSU William T. Giles Distinguished Professor Dr. Mark Lawrence, a veterinary microbiologist at MSU College of Veterinary Medicine, is in its fifth year of implementation. To date, the Fish Innovation Lab has completed five activities and has 19 ongoing activities in 10 countries: Bangladesh, Cambodia, Ghana, Kenya, Madagascar, Nigeria, the Pacific Islands, Peru, the Philippines, and Zambia.

Through workshops, stakeholder meetings, and introducing a new deputy director, the Fish Innovation Lab has been hard at work to share the results of its existing activities to continue to benefit local communities in Africa and Asia.

ON-THE-GROUND WORKSHOPS

In 2022, the Fish Innovation Lab dove headfirst into on-the-ground research activities. Several US implementing partners were able to travel to their research country for hands-on training workshops, seminars, and research analysis.

One such team, engaged in a fisheries activity in Cambodia, improved resilience for Cambodian fishery communities by holding fisheries management workshops in the Koh Kong (Sre Ambel River) and Pursat provinces with fishers and members of the community fisheries councils. Dr. Wes Neal, a US co-principal investigator from MSU's Extension Service, along with the principal investigator (PI) from MSU's Department of Wildlife, Fisheries, and Aquaculture, Dr.



Gathering of Audience at Bangladesh Stakeholder Meeting - Technical and Stakeholder Consultation Session BAU Mymensingh. Photo by M. Gulam Hussain.



Betty Muleya during the nutrition training in Siavonga. Photo by Agness Chileya.

Sandra Correa, traveled from Mississippi to Cambodia to support the workshops. These events are an important part of providing Cambodians with the means to continue managing their fishery even after the conclusion of the Fish Innovation Lab activity.

A Zambia activity under the leadership of US PI Dr. Kathleen Ragsdale and US Co-PI Dr. Mary Read-Wahidi, both from the MSU Social Science Research Center, provided nutrition training, conducted cooking demonstrations, and implemented sensory panels to evaluate the acceptability of four traditional Zambian dishes fortified with Complementary Food for Africa+Dried Fish Powder. This powder is a nutritional supplement made primarily from locally sourced small pelagic fish, which are dried and ground into a fine powder. The supplement also includes locally sourced staples such as groundnut powder, orange-fleshed sweet potato powder, and fresh or dried pumpkin leaves. During the training, mothers learned about child malnutrition, the importance of a diverse diet of nutrient-rich foods, and recommended amounts of food to offer young children transitioning from exclusive breastfeeding to complementary feeding.

FISH INNOVATION LAB STAKEHOLDER MEETINGS

Additionally, the Fish Innovation Lab held two in-person sector meetings with stakeholders in Bangladesh and Nigeria in 2022. The purpose of these meetings was to disseminate results from Fish Innovation Lab activities in each country to promote adoption of research findings and technologies as well as to receive feedback and recommendations from stakeholders.

"These meetings are a great way for MSU researchers to further the impact of their work in local communities," said Dr. Lawrence. "In addition to helping communities improve, these

“...we are looking forward to continuing to grow as we enrich more lives.”

DR. STEPHEN REICHLEY,
DEPUTY DIRECTOR OF FIL

meetings provide a forum for MSU researchers to interact with local community members as well as government and NGO stakeholders.”

NEW DEPUTY DIRECTOR

Dr. Stephen Reichley, associate director of MSU’s Global Center for Aquatic Health and Food Security and an assistant professor in the CVM Department of Pathobiology and Population Medicine, was named the Fish Innovation Lab’s Deputy Director last fall.

“Dr. Reichley’s experience in aquatic animal health and collaborations with global research partners make him an asset to the Fish Innovation Lab management entity,” Dr. Lawrence said. “We’re delighted to have him serve in this role as our team works to help alleviate poverty and improve nutrition through nutrient-rich fish.”

“The Fish Innovation Lab has made tremendous impact over the past five years, and we are looking forward to continuing to grow as we enrich more lives,” he continued. “We are proud to have faculty from six MSU departments involved as we work to alleviate poverty and improve nutrition through the inclusion of fish and fish products in developing countries.”



Stephen Reichley, Shauncey Hill, and Rohana Subasinghe at the Nigeria Stakeholder meeting. Photo provided by Stephen Reichley.



Cambodian fish farmer harvested fish from his pond at Sre Abmel Koh Kong Province Cambodia. Photo by M. Gulam Hussain.



Lay Bunthoeun (fisher) checking his gillnet during the morning. Photo by Thorn Phun Wildlife Conservation Society.

MSU GAINS RECOGNITION AS FAO REFERENCE CENTER

Mississippi State University has been designated a United Nations Food and Agriculture Organization (FAO) Reference Center on Antimicrobial Resistance and Aquaculture Biosecurity, to be managed by the Global Center for Aquatic Health and Food Security (GCAHFS) through the MSU College of Veterinary Medicine.

MSU GCAHFS, under the direction of MSU William T. Giles Distinguished Professor and veterinary microbiologist Dr. Mark Lawrence, attained this recognition after FAO's careful evaluation of the mandate, main activities, and competencies of MSU and GCAHFS. FAO and GCAHFS have collaborated since 2013 to exchange resources, expertise, experience, and knowledge to improve aquatic health and biosecurity, food and nutrition security, and to alleviate poverty through sustainable aquaculture development efforts.

"We are honored to receive this designation by FAO, building on their previous recognition of MSU as an FAO Center for Knowledge for Aquatic Health. The relationship between FAO and MSU is long-standing and deep, and this designation further indicates the strength of our partnership as well as



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GLOBAL CENTER FOR AQUATIC HEALTH AND FOOD SECURITY

Mississippi State's international leadership in this critical area," said MSU Provost and Executive Vice President Dr. David Shaw. "We at MSU are eager to take on the responsibilities associated with the Reference Center and provide service to the global aquaculture community by helping address critical food safety and security needs."

The FAO Reference Center provides technical and scientific advice and supports FAO's mandate for agricultural and aquacultural development and food security. The designation of MSU as an FAO Reference Center recognizes the University's expertise and global leadership in antimicrobial resistance and aquaculture biosecurity. Currently, MSU is one of four such reference centers in the world; two are in China and the other is in Asia.

"MSU and MSU GCAHFS are committed to supporting and serving the needs of the Mississippi aquaculture industry," said GCAHFS Associate Director Dr. Stephen Reichley, who has been designated head of the FAO Reference Center. "Our recognition as an FAO reference center will enable our experts to address the global issues of antimicrobial resistance, reducing the burden of disease in aquaculture."



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MARINE MAMMAL AND TURTLE PROGRAM ADVANCING SCIENCE AND VETERINARY MEDICINE ON GULF COAST

Funding secured by the MSU Global Center for Aquatic Health and Food Security (GCAHFS) has not only helped alleviate poverty and improve nutrition in vulnerable populations in 10 countries through the Feed the Future Innovation Lab for Fish program, but it has also improved the health of marine animals on the Mississippi Gulf Coast through the Marine Mammal and Turtle Conservation, Recovery, and Monitoring Program.

“The MSU College of Veterinary Medicine has one of the strongest aquatic health programs in the nation, so we were able to leverage that to expand our reach to endangered and protected marine animals such as sea turtles and dolphins,” said Dr. Stephen Reichley, GCAHFS associate director and assistant professor in CVM Department of Pathobiology and Population Medicine.

The marine program has procured a new grant from the Mississippi Department of Marine Resources through the Gulf of Mexico Energy Security Act as well as gained additional funding from the Mississippi Department of Environmental Quality through the National Fish and Wildlife Foundation. The funding is helping continue the ongoing work with marine mammals and turtles as well as further help researchers evaluate and monitor marine mammal and sea turtle abundance, population health, habitat delineation, and restoration, resulting from the opening of the Bonnet Carré Spillway.

“The projects we have thanks to these grants and the activities they fund also provide opportunities to our CVM veterinary, veterinary medical technology, and graduate students,” Dr. Reichley said. “Through the marine program activities, students are able to broaden their knowledge and experience to apply what they know about terrestrial animals to aquatic animals.”

Because the marine program investigates the deaths of marine animals that wash up on shore, CVM students are able to



gain exposure to aquatic animals in the clinical environment through a diagnostic and cause-of-death investigation setting. The College is also partnered with the Sea Turtle Stranding Network, providing students and faculty at MSU CVM with additional ways to help these animals while increasing their knowledge and experience in aquatic health.

“For graduate students, the grants provide an opportunity to be involved with research projects that are helping look at big-picture issues facing the environment and the animals and help provide information to agencies to better take care of these species, especially dolphins and endangered sea turtles,” Dr. Reichley said.

As the marine program has grown, so has the staff. A new office in Gulfport, Miss., opened in 2022, and the team welcomed Dr. Nelmarie Landrau Giovannetti, a postdoctoral associate in the Department of Pathobiology and Population Medicine, who brings expertise in marine mammal stranding and infectious disease research. She also brings with her access to an extensive network of researchers around the world.

Dr. Giovannetti has joined forces with Department of Pathobiology and Population Medicine faculty members Dr. Debra Moore, assistant clinical professor, and Dr. Christa Barrett, clinical instructor, who are stationed in Gulfport, to bolster the capacity of the program to effectively perform health and mortality assessments of aquatic animals, as well as rehabilitate and release injured sea turtles in the Mississippi Sound.

“GCAHFS is fortunate to be affiliated with CVM and work closely with CVM faculty, staff, and students on these projects on the Gulf Coast,” Dr. Reichley said. “Together, our resources and strengths are advancing science and veterinary medicine while benefiting our state and the animals that live in the Mississippi Sound.”



MSU CVM ACTIVELY INVOLVED WITH ISAAH 9 IN CHILE



Numerous faculty members and graduate students from MSU CVM participated in the 9th International Symposium of Aquatic Animal Health (ISAAH) in Santiago, Chile, this past September. Held

every four years, this year's meeting was co-organized by the Fish Health Section of the American Fisheries Society and Pontificia Universidad Católica de Chile and had a theme of "Enhancing Aquatic Animal Health Towards One Health."

Dr. Matt Griffin, MSU CVM research professor in the Department of Pathobiology and Population Medicine (PPM), was a member of the Organizing Committee and served as chair of the Scientific Committee, overseeing all scientific content of the meeting. MSU CVM Assistant Research Professor Dr. Graham Rosser, from the Department of Comparative Biomedical Sciences (DCBS), served as the graduate student judge coordinator at the meeting.

Also attending and presenting at the conference were Dr. Stephen Reichley, associate director of the MSU Global Center for Aquatic Health and Food Security, deputy director of the Feed the Future Innovation Lab for Fish, and assistant professor in PPM; Dr. Larry Hanson, professor in the DCBS; Dr. Lora Petrie-Hanson, associate professor in the DCBS; Dr. Hasan Tekedar, assistant research professor in the DCBS; Dr. Justin Stilwell, assistant clinical professor in PPM; Dr. Beth Peterman, assistant clinical professor in PPM; and veterinary medical sciences graduate students Ethan Woodyard, Arun Venugopalan, Celene Slifka, and Divya Rose, as well as undergraduate student Jonah Ngyuyen from Dr. Rosser's lab.

MSU CVM graduate students Arun Venugopalan and Celene Slifka were awarded the Snieszko Student Travel Award by the AFS Fish Health Section, and Divya Rose was awarded the Sullivan Student Travel Award by the AFS International Fisheries Section.

The AFS Fish Health Section awarded six Best Student

Presentation awards at the meeting. Three of these awards were given to CVM students/collaborators. Divya Rosa, advised by Dr. Griffin and Dr. Rosser, was awarded for her work on bacteria derived from catfish and ornamental fish species. Arun Venugopalan, who presented virtually at the conference and is advised by Dr. Hanson and Dr. Griffin, was honored for his work investigating an important virus affecting catfish. Similarly, Dr. Abigail Armwood, a PhD student at the University of Georgia who is co-advised by Dr. Griffin, was recognized for her work investigating variation in immune responses of channel and hybrid catfish vaccinated against important bacterial pathogens.

MSU CVM is proud to have been one of only two colleges of veterinary medicine noted as a contributing partner for the ISAAH conference, which is recognized as one of the preeminent fish health conferences in the world and a valuable forum for the exchange of ideas and technology transfer to the global aquatic animal health community.

Held in conjunction with ISAAH9 was the workshop, "Food Security: managing risks in a connected world," sponsored by the International Organization for Economic Co-operation and Development. Dr. Reichley was an invited speaker for this workshop. He discussed utilizing biosecurity practices to increase resilience in aquaculture production. The workshop brought participants from around the world together to address the pressing issues related to global food security.



RESEARCHERS HONORED WITH PUBLICATION AWARD

MSU CVM researchers Dr. Graham Rosser and Dr. Matt Griffin, along with MAFES colleagues Dr. David Wise, Dr. Chuck Mischke, Ambika Tiwari, and members of the National Center for Natural Products Research at the University of Mississippi, were selected to receive a 2021 Publication Award from the American Fisheries Society. Each year, one outstanding paper is selected from each of the society's journals to receive this award.

The paper, "Effects of multiple, low-dose copper sulfate treatments on the marsh rams-horn snail," was selected as the best publication for 2021 in the *North American Journal of Aquaculture*. The award was officially presented at the 2022 American Fisheries Society Annual Meeting in Spokane, Wash., on August 24.

Marsh rams-horn snails transmit several parasites that cause significant economic losses in Mississippi catfish aquaculture. Dr. Rosser is a parasitologist and assistant research professor in the Department of Comparative Biomedical Sciences, while Dr. Griffin is a research professor in the Department of Pathobiology and Population Medicine stationed at the Thad Cochran National Warmwater Aquaculture Center. Drs.



Rosser and Griffin teamed with their MAFES and University of Mississippi colleagues to develop optimized pond treatments that are effective in controlling rams-horn snails while posing minimal risk to beneficial algal blooms or catfish. These findings are important to the success of the nation's commercial catfish industry, and especially the state of Mississippi, which ranks at the top of the US's farm-raised-catfish production, producing more than 65 percent of the nation's farm raised catfish.

PETERMAN EARNS CERTIFICATION FROM AFS FISH HEALTH SECTION



MSU CVM Assistant Clinical Professor Dr. Beth Peterman of the Department of Pathobiology and Population Medicine was recently designated a certified fish pathologist by the American Fisheries Society Fish Health Section.

According to the AFS, this certification confirms Dr. Peterman's thorough understanding of the fish, its environment, infectious and non-infectious diseases, and the interrelationships involved, and her specialization in the causes, nature, and control of the diseases of non-mammalian aquatic animals.

"As a certified fish pathologist, Dr. Peterman is qualified to utilize various disciplines, including fisheries biology, water quality, microbiology, parasitology, toxicology, pharmacology, and histopathology to provide an accurate evaluation of fish health problems," MSU CVM Assistant Professor and Global Center for Aquatic Health and Food Security Associate Director Dr. Stephen Reichley said. "Along with this certification, Dr. Peterman's technical skills, experience, and high ethical standards enable

her to provide thorough fish health evaluations and recommend responsible disease prevention and control measures. Dr. Peterman is one of five diagnosticians in the MSU CVM Aquatic Health Lab, serving Mississippi catfish producers as well as our many other clients. She is a tremendous asset to our team, and we are proud of her work to achieve this certification."

Dr. Peterman, who has 25 years of aquatic animal health experience, joined the MSU CVM faculty in October 2022. She holds a BS in aquaculture and an MS and PhD in veterinary medical science with emphasis in fish immunology and pathology from MSU.

One of over 20 members in the College's quickly growing and nationally recognized aquatic animal health program, Dr. Peterman works with several of the aquatic programs. She is project manager of the MSU GCAHFS Marine Mammal and Sea Turtle Conservation, Population Health, and Monitoring Program. She helps manage this large program of faculty and staff across numerous MSU colleges and departments to help protect these important species and advance our knowledge of the animals and the environment. She is also a diagnostician in the MSU CVM Aquatic Health Laboratory in Starkville, providing diagnostic services to Mississippi catfish producers as well as clients across the nation.



“SKEWERED” SHIH TZU Puts a Damper on Dinner

A brush with death has a way of changing things. Such is the case at the home of Jimmy and Tina Donahoo of Belzoni, Miss., where gourmet sandwiches and other foods involving toothpicks or skewers are no longer consumed without exerting extreme caution!

One evening last fall, the Donahoos picked up a couple of specialty sandwiches on their way home. Little did they know their newest family pet, then eight-month-old Shih Tzu, Rip, helped himself to one of the fancy toothpicks that had unknowingly fallen to the floor during their meal.

“About a week later, I noticed that Rip would whimper whenever I picked him up. While looking him over, I found a knot to the right of his spine, and it was very tender,” Tina Donahoo said. “I thought he might have an abscess. He also looked like he had lost some weight, so I made an appointment with our local veterinarian, Dr. Corey Jones in Yazoo City.”

Unfortunately, the news from Dr. Jones was not good. That knot near Rip’s spine was indeed an abscess; however, when Dr. Jones aspirated the mass and found pus, he felt something hard in the swelling. Therefore, he sedated Rip, made an incision into the knot, and that’s when he found the skewer.

Dr. Jones removed the almost five-inch wooden spear but feared that Rip could have a septic abdomen as a result of organ perforation.

“Rip was really sick. Dr. Jones said if he had peritonitis, he might not make it,” Jimmy Donahoo said. “My wife is crazy about that little dog—and I’m kind of partial to him, too. We knew what we needed to do, so we loaded him up and headed to MSU!”

Upon arrival at the CVM Animal Health Center, the Donahoos were greeted by members of the AHC emergency team, who conducted a thorough evaluation of Rip.

“When Rip presented, he clearly didn’t feel well. We cleaned and cultured the wound, then bandaged it while also treating him with IV fluids, pain medications, and antibiotics,” MSU CVM Emergency Services Veterinarian Dr. Rebecca Watkins said. “There was no evidence of a septic abdomen at that time, but due to the circumstances and Rip having a fever, we transferred him to the surgery service the next morning for a CT scan and probable surgical intervention.”

The CT showed a tract with surrounding abscess and inflammation running from the inner lining of Rip’s stomach

out through the back muscles and under the skin. Rip would definitely need surgery. CVM Small Animal Surgeon and Associate Professor Dr. Elizabeth Swanson supervised CVM surgical resident Dr. Blair Bennett, surgical intern Dr. Joanne Yi, and third-year DVM student Thomas Faulkenberry, who were assigned Rip's case.

"The radiologist determined this tract formed after migration of a stomach foreign body, meaning Rip had swallowed the skewer, and it made it all the way down to his stomach. Once in his stomach, it skewered through the stomach wall and continued to travel through his back muscles until it reached the skin and caused the lump his owners found," Dr. Swanson said. "No wonder the little guy didn't feel well! Fortunately, the infection was all walled off and hadn't yet spread to the rest of his abdominal cavity."

The team took Rip in for surgery the following day. During the procedure, they quickly realized the left side of his stomach was adhered to his back muscles.

"We removed the scar tissue between the stomach wall and the muscles. There was a hole in the stomach wall that we cleaned and closed. Then we cleaned and closed the hole in the muscles from inside the abdomen," Dr. Swanson said. "Once we closed his abdomen, we turned him over to clean up the abscess and wound on his back and then got that closed up."

Rip woke up in the ICU on fluids, pain medications, and antibiotics. He remained there for a couple of days to make sure the pain medication kept him comfortable and there was no sign of continued infection.

Within 48 hours, Rip was feeling much better and more like himself, so he was ready to go home.

"This was a really interesting case. While we do frequently see gut perforations from swallowed foreign objects, this presentation where the object passed from the stomach and



exited through the body wall is less common," Dr. Swanson said. "Rip was extremely lucky that the skewer didn't pass through farther up—like in his neck or chest—and that the scar tissue from its migratory tract essentially 'sealed off' the area so there was no leakage of the stomach contents into his abdomen; that would have made him much sicker!"

"Caring for Rip was a good learning opportunity for me. I learned a lot about septic peritonitis and the many different causes of septicemia in dogs from his case. I had never seen anything quite like it," Faulkenberry said. "Rip is a very good, loving dog, and I really enjoyed taking care of him. The Donhaos were very understanding and compassionate owners. They clearly love and care for him very much. I'm really glad everything went so well and that he's back to himself!"

"Rip is thriving; he's a bundle of energy. He loves being outdoors, playing, and roughhousing with his three much-larger doggie siblings," Tina Donahoo said. "He's a great eater and now weighs a whopping seven pounds. He occasionally enjoys a table food treat such as a bite of cheese or sausage and biscuit—but nothing that has been anywhere near a toothpick or skewer!"

"I just adore him; he's super protective of me," she continued. "Jimmy and I are so thankful for the wonderful care he received at the vet school; we know those folks saved his life."

I learned a lot about septic peritonitis and the many different causes of septicemia in dogs from his case. I had never seen anything quite like it.

THOMAS FAULKENBERRY,
THIRD-YEAR DVM STUDENT

CVM FACULTY HONORED AT ANNUAL RESEARCH CELEBRATION



Mississippi State University celebrated its 2022 research achievements and honored distinguished faculty and staff at its annual research celebration on November 28. Co-sponsored by the MSU Office for Research and Economic Development and the Division of Agriculture, Forestry, and Veterinary Medicine, awards presented at the celebration recognize faculty, staff, and students from each of MSU's academic colleges along with the university's research administration, centers, and institutes. CVM had four honorees this year.

DR. OZAN OZDEMIR, a research associate in the Department of Comparative Biomedical Sciences, was awarded the Research Professional Award. The recipient of this award must have at least three years of consecutive service directly involved in performing research at Mississippi State University. Criteria to be chosen include impactful research, outreach, and communication, as well as service to the community. Dr. Ozdemir's research is primarily focused on development of live

attenuated vaccines against bacterial catfish diseases. Currently, he is developing live attenuated vaccines against *Edwardsiella piscicida*, a significant pathogen of hybrid catfish.

In addition to Dr. Ozdemir, three other CVM scientists were recognized for their accomplishments at this year's event, having been awarded patents in 2022.

DR. ATTILA KARSI (left), a professor in the Department of Comparative Biomedical Sciences; **DR. MARK LAWRENCE** (center), a professor in the Department of Comparative Biomedical Sciences and the Director of the USAID Feed the Future Innovation Lab for Fish; and **DR. HOSSAM ABDELHAMED** (right), an assistant professor in the Department of Comparative Biomedical Sciences were jointly awarded two patents for their work in aquaculture, "Live Attenuated *Edwardsiella ictaluri* Vaccine and Method of Delivery" and "Recombinant Fimbrial Protein of *Aeromonas hydrophila* as Vaccine in Catfish."



SAVMA HOSTS SUCCESSFUL INAUGURAL LEADERSHIP AND WELLNESS CONFERENCE



The College's student chapter of the American Veterinary Medical Association (SAVMA) hosted a two-day veterinary leadership and wellness conference last September. The event was a huge success, and the club plans for it to become an annual project.

"We modeled this event after the one organized by the 2005 chapter led by then president and now alum Dr. Lloyd Reitz," current president and second-year DVM student Casey Lavender said. "There is increased awareness about the importance of maintaining good health and managing well-being within the veterinary profession, and MSU CVM has invested in personnel and resources to address the professional and wellness needs of its faculty clinicians as well as the students studying to become veterinarians and veterinary medical technologists. This conference was based on those principles and provided several opportunities for personal growth and development."

More than 100 veterinary students, faculty, and staff attended the conference and had the opportunity to hear presentations by veterinarians and mental health professionals focusing on topics such as overcoming adversity, taming perfectionism and imposter syndrome, and emotional intelligence and servant leadership. Post-event comments from participants included:

- This was amazing... Leadership is such an important skill in veterinary medicine...This weekend...definitely gave me a lot to think about moving forward in my career!
- The overall experience was very eye-opening and wonderful; it was filled with such positive energy.
- I was so impressed by the conference. It was so well organized and the speakers were so good! I was not expecting to feel this impacted afterward.
- I definitely felt that this conference was beneficial, and I hope that it becomes an annual event at MSU CVM.

Almost \$8,000 in sponsorships were secured to fund the event, which was offered free of charge and included dinner on Friday evening and lunch on Saturday for all participants as well as a variety of valuable door prizes.

Gold-level sponsors included National Veterinary Associates, Hills Pet Nutrition, Alliance Animal Health, and AVMA ALL for Students. Silver-level sponsors included EverVet Partners, Merck Animal Health, and Southern Veterinary Partners. Craig Road Animal Hospital, AVMA Life, and AVMA PLIT were bronze-level sponsors. Dr. Lloyd Reitz was a gold donor for the event.

"Savannah Lavallee and I cannot fully express our gratitude for all who helped make this conference a reality," Lavender said. "From the sponsors and speakers to the MSU SAVMA Board and CVM administration, faculty, and staff, this was truly a team effort! We are so pleased with the event's success and for the positive impact it had on so many people."



SAVMA exists to support, empower, and inspire all veterinary students in improving their lives, education, and career, along with securing a better future for the profession through collaboration with its parent organization, the AVMA. For more information about MSU SAVMA, CVM's wellness program, or this event, visit msstatesavma.org or vetmed.msstate.edu.





2022 ALL COLLEGE AWARDS DAY

PRESIDENT'S PEGASUS AWARD

Dr. Mac Huddleston

ZOETIS AWARD FOR VETERINARY RESEARCH EXCELLENCE

Dr. Graham Rosser

VICE PRESIDENT'S PEGASUS AWARD

Dr. Joe Duncan

E. WYNN JONES AWARD

Cindy Ratcliff

DEAN'S PEGASUS AWARD

Dr. John Thomason

Dr. Heath King

Dr. Christine Bryan

STAFF AWARDS

Verleen Gray

Blake Haney

Lisa Minyard

PEGASUS FACULTY AWARDS

Dr. Marc Seitz | Award for Teaching

Dr. Barbara Kaplan | Award for Research

Dr. Diana Eubanks | Award for Service

PRESIDENT'S PEGASUS AWARD



Presented by MSU President Dr. Mark Keenum

Each year the President's Pegasus Award is presented to an individual who has demonstrated outstanding contributions to the various missions of the MSU College of Veterinary Medicine, the university, and the veterinary medical profession.

Mississippi State University and the MSU College of Veterinary Medicine are fortunate to have the support of individuals in a variety of leadership positions across our great state and country, and **DR. MAC HUDDLESTON** is certainly one of them. Representative Huddleston has been a member of the Mississippi Legislature since 2008 and a loyal and valued friend of the MSU and CVM for many, many years. He currently serves as chair of both the House Ethics and Universities and Colleges committees and is a member of the House Agriculture, Appropriations, Education, Military Affairs, and Rules committees.

A Pontotoc resident, Representative Huddleston serves District 15. He holds a Bachelor of Science from MSU and earned his Doctor of Veterinary Medicine from Auburn University in 1973. Dr. Huddleston is also a Mississippi Department of Public Safety-certified criminal investigator. He served with the US Army's 9th Division as a lieutenant in the Mekong River Delta during the Vietnam War, where he flew Huey helicopters. His military service is recognized by a helicopter exhibit named in his honor at the Mississippi Armed Services Museum at Camp Shelby in Hattiesburg.

Dr. Huddleston served on the MSU College of Veterinary Medicine faculty from 1981-1989 and has practiced veterinary medicine in North Mississippi. He received the MSU CVM Vice President's Pegasus Award in 2010.

Representative Huddleston is held in high esteem by his colleagues in the legislature and is recognized for his fairness and ability to see the larger picture as it may impact all Mississippians. He is often the “go-to” person for leaders in both parties. Dr. Huddleston has been a great friend to MSU CVM for many years, having played an important role in several key pieces of legislation impacting education at the university level and at the CVM, as well as animal welfare.

An active member of the inaugural CVM Dean’s Council, he also assists the dean with promotion, growth, and sustainability of the College. In this important role, he works with a team of

extraordinary people to provide strategic advice regarding vision, direction, and long-term planning of the College, as well as to assist with acquiring resources from private, corporate, state, and federal levels and assisting with the College’s student recruitment efforts.

The MSU College of Veterinary Medicine and the students, clients, and animals it serves are the beneficiaries of Dr. Huddleston’s service and commitment, and we are honored to recognize him with the 2022 MSU CVM President’s Pegasus Award.

VICE PRESIDENT'S PEGASUS AWARD



Presented by MSU DAFVM Vice President Dr. Keith Coble

The Vice President’s Award is given to a person not currently employed by Mississippi State University who has made significant contributions to the veterinary medical profession and has benefited the MSU College of Veterinary Medicine.

The 2022 Vice President’s Pegasus Award was presented to **DR. JOE DUNCAN**. A native of the Memphis, Tenn., area, Dr. Duncan earned a Bachelor of Science in biology from MSU in 1975 and began his veterinary studies at the University of Tennessee College of Veterinary Medicine in Knoxville in 1976, while MSU’s veterinary college was under construction. He was a member of the first UT CVM DVM class, which consisted of only 40 students who were all Tennessee residents. In 1979, following completion of a three-year, year-round veterinary curriculum, Dr. Duncan received his DVM degree and, despite growing up in Memphis, elected to return to Mississippi to

establish his practice, Duncan Veterinary Clinic, in Eupora, where he provided preventive, medical, surgical, dental, hospitalization, and emergency care for 43 years before retiring earlier this year. During this time, he earned the unrestricted respect of those in Eupora and Webster County. Dr. Duncan was the quintessential model of what it means to be a general veterinary practitioner in a rural community and, as such, serves as an outstanding role model for today’s veterinary students.

Dr. Duncan was actively involved with the Mississippi Veterinary Medical Association, serving terms on the Executive Committee and as secretary-treasurer, as well as on the Board during the challenges presented in the aftermath of the Great Recession. His input and guidance proved invaluable to our College as we worked to expand our outreach and spay-neuter services provided through the CVM Shelter Medicine Program.

In 2021, Dr. Duncan and his wife Beth, who earned a PhD from MSU in agricultural and extension education and served on the MSU faculty for 33 years, established two scholarships at MSU CVM. The Duncans were compelled to do so as a result of the working relationship between his veterinary practice and the College’s clinical pathology service, which Dr. Duncan said played a vital role in the diagnosis and treatment of scores of his clinic patients. The Drs. Beth T. and Joe L. Duncan Endowed Scholarship and Drs. Beth T. and Joe L. Duncan Annual Scholarship are the first scholarships specifically for CVM students interested in pathology.

MSU CVM is very grateful for the Duncan’s generosity as well as for the guidance and support Dr. Duncan has provided the College through the years. It is a pleasure to honor him with the 2022 Vice President’s Pegasus Award.

DEAN'S PEGASUS AWARD



Presented by Dean Hoblet

The Dean's Pegasus Award is presented by the dean to a person or persons who have demonstrated outstanding achievements in teaching, research, and/or service on behalf of the university and veterinary medicine.

A college of veterinary medicine must undergo a mandatory accreditation review, which includes preparation of a self-study and site visit, every seven years. To receive accreditation by the AVMA Council on Education, a CVM must successfully meet all 11 standards. All are important, but several are typically more involved, more difficult to meet—and cause more angst to correct if deficiencies are found. Standard nine addressing curriculum and standard 11 addressing outcomes assessment are two of these. If deficiencies are found, it often takes several years to correct them. MSU CVM did extremely well on these and the other standards set forth by COE during the recent accreditation site visit.

In 2017, the College began a curricular visionary effort, followed by an implementation task force in 2018, which was finally

completed in phase one in fall 2020. The implementation in phase two (the clinical years) will be finalized in May 2023. When this effort first began, three positions—co-directors of clinical education—were created to focus on externships, outcomes assessment, and implementation of curricular changes.

DRS. JOHN THOMASON, HEATH KING, and CHRISTINE BRYAN were selected for these roles and embarked upon the daunting task of formulating an updated CVM DVM curriculum. After many long months of laborious efforts exploring options, evaluating their pros and cons, working through feedback provided by peers, and making tweaks to allow for the best possible plan, this extremely dedicated and hard-working team came up with a proposal that was approved by CVM faculty and cabinet. This was certainly no easy task, and they deserve to be commended for their efforts—the outcome of which will without a doubt have a positive and lasting impact on the veterinary medical profession in the years to come.

These three CVM faculty members are much more than just veterinarians, researchers, and teachers. They are exceptional members of the CVM family who are truly committed to our College and to the students we serve. At MSU CVM, our goal is to produce the most knowledgeable and well-prepared veterinarians possible; thanks to their dedication and service, we offer a curriculum that accomplishes that!

MSU CVM is pleased to honor Dr. John Thomason, Dr. Heath King, and Dr. Christine Bryan with the 2022 Dean's Pegasus Award. The College is indebted to them for their successful efforts to advance our academic endeavors.

DEAN'S PEGASUS AWARD FOR TEACHING



Presented by Dr. Andrew Mackin

The recipient of the 2022 Pegasus Award for Teaching received nominations from his peers, residents, and service chief. He was cited for stepping up to serve his department during a critical period of transition as well as for the phenomenal job he routinely does

as an instructor across multiple disciplines to undergrad, veterinary, and graduate students.

A board-certified faculty member in the CVM radiology service, **DR. MARC SEITZ** began his faculty career in the emergency and critical care service before joining the radiology service as a non-traditional resident. Despite the amount of time

required to master the material necessary to achieve board certification, Dr. Seitz continued to serve in a vital faculty role while completing the residency program, and he has continued to lead by example. In the fall of 2019, he became entirely responsible for the radiology service, third-year radiology rotation, and second-year radiology course when one of the two board-certified faculty members resigned while the other was on maternity leave, leaving him the sole faculty member in the service. Dr. Seitz not only met this challenge but far exceeded expectations, restructuring both the rotation and didactic course to improve the student experience.

In the third-year core radiology rotation, Dr. Seitz completely transformed the student rounds experience. His updates and improvements allow students to see more cases and spend more time with radiologists and house officers as well as become more prepared for the NAVLE by incorporating digital images rather than film and a final exam that more closely mirrors the actual NAVLE format.

Dr. Seitz also took on the role of course coordinator for the service's second-year didactic class and did an outstanding job with it, too. He assumed and revised a total of 17 lectures, as well as reorganized the material and added much-needed and often-requested ultrasound material to the curriculum.

In addition to the significant changes he made to the radiology curriculum, Dr. Seitz continues to provide high-quality instruction across multiple disciplines, delivering 21 separate lectures to students across eight different veterinary didactic courses and serving as a graduate instructor.

Whether in the classroom or in the clinic, Dr. Seitz consistently provides outstanding teaching and learning opportunities.

He also constantly offers informal teaching to students. He is extremely approachable and is frequently called upon by trainees due to his expertise, comprehensive body of knowledge, and ability to instruct clearly and efficiently. His passion for teaching is obvious. His reviews are almost universally excellent, and he is very well-respected and well-liked by students of all levels and his colleagues.

Dr. Marc Seitz has made—and continues to make—many important contributions to the MSU College of Veterinary Medicine. He is a tremendous asset to the College, our students, and the patients and clients the College serves. He is most deserving of this award, and we are honored to present him with the 2022 Pegasus Award for Teaching.

DEAN'S PEGASUS AWARD FOR RESEARCH



Presented by Dr. Larry Hanson

DR. BARBARA KAPLAN, the recipient of this year's Dean's Pegasus Award for Research, joined the CVM family in 2013 and currently serves as an associate professor in the Department of Comparative Biomedical Sciences.

Over the course of her tenure here, Dr. Kaplan has accomplished a great deal as a researcher, and her accomplishments in the last year have been outstanding.

Dr. Kaplan's NIH R15 grant examining the role of the potent environmental toxicant dioxin in the development of autoimmune disease was renewed this year. She was also the driving force behind the renewal this year of the NIH T35 grant which enables first-year veterinary students to obtain vital research experience. As part of her leadership efforts with this program, Dr. Kaplan accompanied more than 20 students to the National Veterinary Scholars Symposium in Minneapolis-St. Paul, where they excelled when presenting

their research findings. Dr. Kaplan is also a co-PI with MSU CVM professor of molecular toxicology Dr. Matt Ross on an NHLBI R15 grant awarded this year. And, her work addressing the etiological factors that contribute to chronic human diseases continues to be a tremendous asset to the College's Center for Environmental Health Sciences.

In addition to her success in obtaining extramural funding, Dr. Kaplan consistently publishes impactful work in top journals such as *Environmental Health Perspectives* and *Applied Pharmacology*. She is also actively involved with the Society of Toxicology, having served as chair of the Education Committee and as a counselor to its leadership team.

Dr. Kaplan has a passion for teaching and mentoring students, and she spends countless hours doing so. She encourages young scientists and helps them to give their best efforts in the lab, preparing manuscripts and making presentations.

Accomplishments in obtaining competitive NIH grants, a strong publication record, and outstanding leadership and mentoring efforts make Dr. Barbara Kaplan an outstanding investigator and researcher, and they have led to many benefits and positive exposure for MSU and the CVM. She is highly deserving, and the College is pleased to present her with the 2022 Pegasus Award for Research.

DEAN'S PEGASUS AWARD FOR SERVICE



Presented by Dr. Andrew Mackin

The faculty member being honored with the Pegasus Award for Service this year was nominated in recognition of not only her excellence in clinical service but also her faithful service and willingness to do whatever asked for the benefit of the College and its students.

DR. DIANA EUBANKS has served MSU CVM for more than 20 years and is a dedicated leader and outstanding clinician. She has been described as a consummate colleague; despite the load she bears as the only

faculty member and practitioner for her area of service, she always steps forward to help however needed. For instance, when the Anatomy class was short of teaching faculty due to the expansion of class sizes, Dr. Eubanks readily volunteered to help carry the load. She was also one of only two faculty members who volunteered to help Dr. Sharon Grace develop a pilot project for the College's NAVLE prep course last year. Dr. Eubanks served as the Animal Health Center community veterinary services service chief for many years.

In addition, Dr. Eubanks has served on a variety of committees with graduate students, faculty, and those that serve the entire College. Perhaps most noteworthy is her service on the CVM Admissions Committee. This is one of the College's "heavy-lifting" committees, and most faculty members are counting down their years to completion of service due to the time commitment. In contrast, Dr. Eubanks has rotated off and quickly volunteered to serve another three-year term in this time-consuming, but critical, role.

As CVM's only dental specialist, Dr. Eubanks provides a huge service to the College, our students, and our state. Her calm, friendly demeanor is appreciated in the classroom and clinic, and her exceptional teaching skills are a huge asset to our students.

Dr. Diana Eubanks is always approachable and helpful. She is a loyal team member. Recognition for her dedication and service to MSU CVM is past due. The College is fortunate to have her and is pleased to present her with the 2022 Pegasus Award for Service.

ZOETIS AWARD FOR RESEARCH EXCELLENCE



Presented by Dr. Dave Smith

The Zoetis Award for Research Excellence is awarded annually to a faculty member of the College of Veterinary Medicine by nomination from their peers. The nominees must be the principal investigator on research that has attained or is likely to attain national or international recognition.

This research must have been

conducted within the past three years. The award consists of a congratulatory letter, an engraved plaque, and a cash award of \$1,000.

This year's recipient of the Zoetis Award for Research is **DR. GRAHAM ROSSER**, an exceptional researcher, teacher, and faculty member. He inspires and motivates colleagues and

students through his passion for parasitology and fish health research. His research work ethic as a young scientist has been extraordinary. In the past five years, Dr. Rosser has maintained consistent external research funding. He is an author of 59 manuscripts, with 42 publications in the last five years. He maintains research collaborations with parasitologists in Brazil, the Czech Republic, and Grenada.

Dr. Rosser is highly regarded as an excellent teacher and a mentor to graduate students and veterinary students participating in the College's summer research experience program and study abroad program. He has also played a vital role in setting up the virtual meeting program for CVM Research Day oral presentations.

Dr. Graham Rosser is an outstanding member of the MSU CVM faculty, and he is most deserving of the 2022 Zoetis Award for Research Excellence.

E. WYNN JONES AWARD FOR EXCEPTIONAL SERVICE



Presented by Dean Hoblet

The Dr. E. Wynn Jones Award for Exceptional Service recognizes individuals who have provided exceptional service to the MSU College of Veterinary Medicine. Dr. Wynn Jones was among the first faculty at MSU CVM, and even after he retired, he worked tirelessly on behalf of the College. Dr. Jones passed

away in 2016 but left a lasting legacy and example for all in the CVM family.

The 2022 E. Wynn Jones Award was presented to MSU CVM Administrative Assistant **CINDY RATCLIFF**, who joined the CVM family in 2012 and quickly established herself as a vital member of the team. Most anyone at CVM can tell you just how very important Ratcliff is in the day-to-day operations of the College. The following are just a few such comments:

- The value of Cindy's contributions to the CVM cannot be overstated. For many years, she has efficiently and effectively managed the numerous visitors, phone calls, and emails that flood into the dean's office each day to ensure that the College is organized and moving forward. She capably arranges and manages important meetings, simultaneously

juggles numerous schedules, and somehow keeps everything functioning on time. Cindy also serves as an important "point of contact" for our College's stakeholders, ensuring that each gets the information they need and their questions are answered. And, amazingly, she does all of this with a friendly smile and a kind word for everyone.

- Cindy is always positive and extremely helpful. She navigates urgent matters in a very busy office and does so with a pleasant attitude and attention to detail. Dr. Jones would be pleased with her receiving this award.
- Cindy's positive, calm, encouraging personality is contagious and such an asset to the College. She's always happy to help in any way. I wish we could clone her!
- When one thinks of all the abilities needed to manage a dean's administrative office, qualities such as a pleasant demeanor, organization, multitasking, impeccable hostess skills, and ability to serve as the "face" of the College immediately come to mind. Cindy not only embodies each of these traits but does so with dignity and grace. I can think of no one that personifies the E. Wynn Jones award better!

Ratcliff has been a loyal and dedicated administrative assistant in the CVM dean's office for the last 10 years. She has remained steadfast in the good times and through the challenging ones.

She readily accepts any task she's given and is always willing to do more than her part. She is kind, considerate, honest, helpful, dependable, and hard-working. Her commitment to her work in the dean's office and to the overall College is key to the CVM's success.

MSU CVM Administrative Assistant Cindy Ratcliff is the epitome of all that the Dr. E. Wynn Jones award represents, and the College is pleased to honor her with this award.

DISTINGUISHED STAFF AWARDS

VERLEEN GRAY – Office Associate

For many people, their first interaction with MSU CVM is the operator's desk when they call seeking guidance for their beloved pets or with a concern for their livestock. Those in our building with facilities issues visit that same desk for help, and students, vendors, and wandering visitors go there for directions to their destinations. Fortunately, for all these people, Verleen Gray—a longtime CVM employee who can be given credit for establishing the professional and welcoming presence that exists at the operator's desk today—is there to help. Gray is admired for her keen ability to quickly change gears, going from itemizing purchase requests to answering and transferring phone calls to assisting those who appear at her desk in need of information. She is professional, knowledgeable, welcoming, and helpful. She prides herself on giving the very best customer service and is a true asset and extremely valuable member of the CVM family. Congratulations to MSU CVM Office Associate Verleen Gray for being selected as a 2022 CVM Distinguished Staff Award recipient.

BLAKE HANEY – Senior ITS Consultant

When faculty, staff, or students call the CVM Information Technology Services department with computer troubles, they are often greeted by Blake Haney who readily comes to their rescue. Haney is dedicated to all he serves in the College and works hard to solve any problem he encounters. He definitely "knows his stuff" and is never dismissive or demeaning when others are frustrated by technology. From assisting with microphone issues in the auditorium and classrooms

to addressing desktop or laptop computer problems to guiding folks through new software, Haney is always helpful, competent, and supportive. And, if someone finds themselves in an urgent technology bind, he drops everything to address and solve the problem as quickly as possible. Since beginning his career at the College, the CVM family has seen Haney grow from a new-graduate hire to the knowledgeable and dependable senior consultant he is today. Congratulations to MSU CVM Senior ITS Consultant Blake Haney for being selected as a 2022 CVM Distinguished Staff Award recipient.

LISA MINYARD – VSC Clinical Admissions Assistant

As a clinical admissions assistant at CVM's Veterinary Specialty Center, Lisa Minyard manages the VSC schedule and is often the first person clients speak with when making appointments for their pets. She also facilitates relationships with referring veterinarians and staff, fielding calls, and determining which need to be routed to a clinician immediately and which can wait for a call back. She even reminds busy doctors when they have a client or referring veterinarian waiting to be called. In addition to scheduling patients and checking them in, Minyard also handles payments and frequently finds herself entertaining and comforting pet owners while they are waiting on their pets' imaging studies to be completed. Clients often comment that she was "just so helpful" and gave them such "peace of mind" during the scheduling process as well as during their visit to the clinic. Minyard excels in all her duties and does them with a smile on her face! Congratulations to VSC Clinical Admissions Assistant Lisa Minyard for being selected as a 2022 Distinguished Staff Award recipient.



Lisa Minyard, Blake Haney, and Verleen Gray with Dr. Ron McLaughlin

COLLEGE HOSTS FIRST CONFERENCE ADDRESSING HEALTH AND WELL-BEING OF VETERINARY PROFESSIONALS



MSU CVM Clinical Psychologist Dr. Pauline Prince

Last December, the College hosted our first Caring for Those Who Care for Our Animals Professional Development Conference. This educational opportunity was sponsored by Boehringer Ingelheim Animal Health and Banfield Pet Hospitals and was specifically designed to provide community mental health providers with insight into the mental health needs of the veterinary profession. This professional development day offered six hours of continuing education units for licensed mental health professionals and provided information about evidenced-based practices through interactive experiences. Topics included:

- A Day in the Life of a Veterinarian
- Creating Effective Teams
- Imposter Syndrome
- Diversity in Veterinary Medicine
- Caring for the People Who Care for our Animals
- Ethical Issues in Suicide Prevention

This specially designed training experience was intended to help grow a pool of community mental health professionals who are better prepared to meet the therapeutic needs of veterinarians and veterinary technicians. While many of the skills taught are easily transferable to the needs of other high-stress professions (i.e., law enforcement, physicians, dentists, and others), the specific goals of this event were to increase awareness of the mental health needs of veterinarians and to grow professional resources to meet those needs. Less than one-third of veterinarians will seek therapeutic treatment, despite knowing they need professional assistance, in part due to the lack of available resources and trained professionals who are aware of their unique job-related stressors.

More than a dozen psychologists, licensed professional counselors, social workers, and other mental health professionals attended the event, spending the day with veterinarians, MSU CVM counseling services interns Dr. Kristin Tew and Karen Kelley, and myself. Post-event surveys indicated participants found the creative, interactive activities, as well as the opportunities to hear personal stories from veterinarians, both informative and beneficial. Participants were also in overwhelming agreement they would be interested in future sessions related to this topic.

My team and I are grateful to Boehringer Ingelheim and Banfield for their sponsorship and support, and I, personally, am most appreciative of Dr. Tew, whose hard work and attention to detail made for an amazingly smooth day and super successful event!

Pauline Prince, Ph.D., ABN

Dr. Pauline Prince
MSU CVM CLINICAL PSYCHOLOGIST



ANNUAL RESEARCH DAY 2022

MSU CVM hosted its Annual Research Day on August 25 in the Wise Center.

As always, the event provided an opportunity for veterinary students, graduate students, and faculty to showcase their research accomplishments for the year through presentations to their professors and peers. Contributions from Nutramax Laboratories make the event possible each year.

“During Research Day, we remind ourselves about where new knowledge comes from as we celebrate the research work being conducted by our veterinary and graduate students,” said MSU CVM Associate Dean for Research and Graduate Studies Dr. David Smith. “Our intent is for our students to come away valuing knowledge created from the scientific method.”

Students are recognized in three categories at the event: VetMed Research Scholars Students, Graduate Student Oral Presentations, and Graduate Student Posters. In addition, the Phi Zeta People’s Choice Award and the Boehringer Ingelheim Research Mentorship Award are also presented at the event.

Those honored this year are as follows:

VETMED RESEARCH SCHOLARS ORAL PRESENTATION WINNERS:

- 1st place: Matthew Mitsch
- 2nd place: Jenna Bordages
- 3rd place: Nicholas Wheeler

GRADUATE STUDENT ORAL PRESENTATION WINNERS:

- 1st place: Alexis Thompson
- 2nd place: Christa Frodella
- 3rd place: Arun Venugopalan

GRADUATE STUDENT POSTER WINNERS:

- 1st place: Carol Baker
- 2nd place: Bori Adekanye
- 3rd place: Darby Stanford

PHI ZETA PEOPLE’S CHOICE AWARD: Dr. Lauren B. Priddy

BOEHRINGER INGELHEIM RESEARCH MENTORSHIP AWARD: Maddie Heath



VETMED RESEARCH SCHOLARS ORAL PRESENTATION

Nicholas Wheeler (3rd place), Jenna Bordages (2nd place), and Matthew Mitsch (1st place), accompanied by Dr. Barbara Kaplan and Dr. David Smith



GRADUATE STUDENT ORAL PRESENTATION

Arun Venugopalar (3rd place), Christa Frodella (2nd place), and Alexis Thompson (1st place), accompanied by Dr. David Smith



GRADUATE STUDENT POSTER PRESENTATION

Darby Stanford (3rd place), Bori Adekanye (2nd place), and Carol Baker (1st place), accompanied by Dr. David Smith



PHI ZETA PEOPLE’S CHOICE AWARD: Dr. Lauren Priddy accompanied by Dr. Barbara Kaplan



BOEHRINGER INGELHEIM RESEARCH MENTORSHIP AWARD: Maddie Heath accompanied by Dr. Alicia Olivier.

This event is sponsored annually by



ANNUAL CAREER EXPO ONCE AGAIN GREAT SUCCESS

The College hosted its annual career expo on Friday, September 16, and, once again, it was a resounding success! The event saw 271 DVM and VMT students interacting with more than 50 practices and organizations who traveled to MSU CVM from across the country to share career opportunities and network with future veterinarians and veterinary medical technologists. As always, exhibitors represented employment opportunities in private and corporate practices as well as industry and government entities.

Exhibitors were offered tours of the Wise Center before a presentation from MSU CVM Assistant Dean for Clinical Services and Animal Health Center Director Dr. Joey Burt and MSU CVM Veterinary Medical Technology Program Director Dr. Maralyn Jackson. The duo spoke to participating employers about the expectations of today's graduates—whether they be DVMs or VMTs.

“With the market for veterinarians and veterinary technologists exhibiting very strong demand, the competition for graduates is intense,” MSU CVM Assistant Dean for Clinical Services and Hospital Director Dr. Joey Burt noted. “Salaries and benefits are contributing to some of the best employment packages ever offered. According to the AVMA, as shared during their most recent Economic Summit held just the week prior to our expo, this demand will likely continue for the near future as a workforce shortage is apparent.”

The 2023 expo is slated to be held in early fall with exact dates and pre-registration to be determined. Any organization seeking new veterinary graduates can watch for details about the annual event on social media, as well as the College's website, vetmed.msstate.edu, in early summer.



DVM STUDENT PERFORMS 500TH SURGERY

On average, a DVM student at MSU CVM will complete between 60 and 70 surgeries before graduating, which is well beyond the national average. However, with that knowledge in mind, class of 2023 student Ashley Smith of Alexander, Ark., set a goal for herself of 100 surgeries before graduation. On Tuesday, November 29, Smith hit a milestone far exceeding that goal, officially completing her 500th surgery in CVM's mobile veterinary unit stationed at the Oktibbeha County Humane Society.

"Like most vet students, I knew I wanted to be a veterinarian from a very young age, but I didn't know what kind of veterinarian I wanted to be until I started to volunteer for a low-cost spay and neuter clinic while I was an undergraduate at the University of Arkansas," Smith said. "At that clinic, I met the late Dr. Eric Jayne who inspired me with his love for helping people and animals in lower-income areas. I knew from that moment on that I wanted to surround myself with people like him and other shelter and rescue workers and help them the best way I could; for me, that meant getting really good at spay and neuter."

The surgery count started with Smith's very first dog neuter surgery during her second year of studies at MSU CVM. Second-year students complete six spay/neuter surgeries on area shelter dogs over the course of the year, before transitioning into clinical rotations during their third year of studies.

...I would imagine that she is in the top 0.01% of graduating veterinary students around the world who have achieved such a milestone.

DR. JAKE SHIVLEY, ASSOCIATE CLINICAL PROFESSOR



According to CVM Associate Clinical Professor and Shelter Medicine Service Chief Dr. Jake Shivley, this milestone is simply extraordinary. "Ashley's dedication to shelter medicine and acquiring real-world, authentic surgical experience is clearly on display when one considers her significant achievement—and I would imagine that she is in the top 0.01% of graduating veterinary students around the world who have achieved such a milestone," he said.

In addition to her hands-on surgical experience at MSU CVM, Smith credits an externship with Dr. Jeff Baker and Dr. Priya Kurup at Spay Arkansas with far surpassing her goals and boosting her confidence in the operating room.

"Surpassing my goal by five times is completely mind-blowing," Smith said. "It really makes me feel like I can make a meaningful impact on population control. This accomplishment means I can confidently return to Arkansas and help scores of animals as well as all those people who originally inspired me to go into shelter medicine!"



PRICE AWARDED ACT FELLOWSHIP



Chiquita Price, a graduate student in the Center for Environmental Health Sciences at CVM, earned an American College of Toxicology (ACT) Fellowship in 2022.

A native of the Mississippi Delta, Price earned a BS degree in chemistry and a BS degree in biology from Mississippi Valley State University in 2009 and a Master of Science in environmental toxicology from MSU in 2012, before joining Hinds Community College as a chemistry lab coordinator.

She is currently a PhD candidate in environmental toxicology in the laboratory of William L. Giles Distinguished Professor Dr. Janice Chambers, where her research focuses on nerve agent surrogate-induced neurotoxicity and the neuroprotective mechanisms of novel pyridinium oximes.

Price previously secured NIH funding through the Research Supplements to Promote Diversity in Health-Related Research Program. Her other honors include being named a Dr. Harold Grier Doctoral Scholar through the Southern Regional Educational Board; being elected a departmental graduate student representative; and serving as the GSA's service and outreach coordinator. Price is a member of the ACT, American Association for the Advancement of Science, and the Society of Toxicology.

LIFE IN THE DARK: PARASITES AND THEIR HOSTS

All things creepy and crawly were on display in the College's Clinical Skills Lab at the end of October as MSU CVM Assistant Research Professor Dr. Graham Rosser and his lab crew welcomed the CVM family into their educational "Life in the Dark: Parasites and Their Hosts" event. The exhibit showcased more than 100 parasites of veterinary and medical importance alongside host skeletons to help expand the CVM family's knowledge of parasitology.

"We were able to bring in some anatomy and physiology as it relates to parasitism, as well as emphasize the diversity and impact of parasites within veterinary medicine and human medicine," Dr. Rosser said. "This was fun to do and, hopefully, makes folks more aware of the work we're doing in our lab related to the impact parasites have on their hosts, the surrounding environment, and the world at large."



GRANTS & CONTRACTS

AWARDED TO CVM FACULTY

EXTERNAL GRANTS

Amelia Woolums (CoPI), Florencia Meyer (PI), Carrie Vance (CoPI), Brandi Karisch (CoPI). Developing a diagnostic tool for rapid screening of livestock at risk of developing bovine respiratory disease (BRD). \$193,812

Janice E. Chambers (PI), Edward C. Meek (CoPI), Matthew K. Ross (CoPI), Alicia K. Olivier (CoPI). National Institutes of Health (NIH). Optimization of Substituted Phenoxyalkyl Pyridinium Oximes as Therapies for Organophosphate Poisoning. \$688,206 (Year 2 Funding)

Kimberly A. Woodruff (PI), David R. Smith (CoPI), Carla L. Huston (CoPI), William Isaac Jumper (CoPI). USDA NIFA. Enhancing Rural Practice by Preparing Students, Residents, and Practicing Veterinarians For Service in Veterinarian Shortage Situations. \$249,930

Janice E. Chambers (PI), Edward C. Meek (CoPI). Gowan Company LLC. Investigation of Spontaneous Reactivation of Aging of Human Erythrocyte Acetylcholinesterase Inhibited by Phosmet-oxon or Bensulide-oxon. \$36,117

Matthew J. Griffin (PI). St. George's University. Postdoctoral Scholars Program. \$60,000

Barbara L. Kaplan (PI). National Institutes of Health (NIH). Investigation of AhR Ligands on FcGamma Receptor Signaling: Consequences of Antibody Suppression. \$419,864

Gregory T. Pharr (PI). USDA ARS. Identification of the Molecular Determinants of Pathogenesis, Strain Variation, and Tissue Tropism of Different E. coli Strains. \$143,748 (Year 4 Funding)

Jeb C. Cade (PI), Andrew J. Mackin (CoPI). The Stanton Foundation. 5 Minutes and 5 Dollars Laboratory into the Future. \$29,496

Bindumadhavi Nanduri (CoPI), David R. Smith (CoPI). USDA-ARS. Advancing Agricultural Research through High Performance Computing. \$628,182 (Year 3 Funding)

Lester H. Khoo (PI), Matthew J. Griffin (CoPI). USDA-ARS. Catfish Health Initiatives. \$397,783 (Year 2 Funding)

Bindumadhavi B. Nanduri (PI). National Institutes of Health (NIH). EMCC-MSU Bridges to Baccalaureate Degree Program. \$8,907 (Year 5 Funding)

Brittany Moore-Henderson (PI). Purdue University (NIH). See Us-Be Us: Inspiring future veterinarians using a Veterinary STEM Ecosystem. \$1,500 (Year 3 Funding)

Stephen B. Pruett (PI), Mark L. Lawrence (CoPI), Barbara L. Kaplan (CoPI), Keun Seok Seo (CoPI), Justin A. Thornton (CoPI), Giselle T. Munn (CoPI), Bindumadhavi B. Nanduri (CoPI). National Institutes of Health (NIH). Center for Biomedical Research Excellence in Pathogen-Host Interactions. \$2,140,849 (Phase II, Year 5 Funding)

James Andrew Shores (PI). The University of Alabama at Birmingham (UAB). Canine Comparative Genomics, Oncology, and Neurotherapeutics. \$39,285 (Year 6 Funding)

Mark L Lawrence (PI), Timothy W. Morgan (CoPI), Stephen R. Reichley (CoPI), Debra P. Moore (CoPI), William B. Epperson (CoPI). Mississippi Marine Mammal and Turtle Conservation, Recovery, and Monitoring Program. \$1,300,000 (Project extension and additional funding)

Stephen R. Reichley (PI). USDA Foreign Adrgiculture Service (FAS). Bolstering fish health in Georgia. \$60,722

INTERNAL GRANTS

Cooper Brookshire (PI), Keun Seok Seo (CoPI). MSU CVM ORGS. Development of a point of care molecular technique to predict antimicrobial susceptibility of Staphylococcus pseudintermedius isolates. \$10,000

Matthew J. Griffin (PI), T. Graham Rosser (CoPI). MSU CVM ORGS. Investigating Potential Pond Treatments to Reduce Losses during Catastrophic Outbreaks of Proliferative Gill Disease in Catfish Aquaculture. \$9,121

Gretchen Grissett (PI), Casey E. Neal (CoPI), Amelia Woolums (CoPI). MSU CVM ORGS. Effect of oral D,L methionine and ammonium chloride on urinary acidification, urinary excretion and blood gas analysis in clinically healthy goats. \$10,000

W. Isaac Jumper (PI), Carla L. Huston (Collaborator), Brandi B. Karisch (Collaborator), David R. Smith (Collaborator). MSU CVM ORGS. Cross-sectional study to estimate prevalence and identify risk factors associated with bovine anaplasmosis in Mississippi cow-calf herds. \$9,991

Alison M. Lee (PI), Marc A. Seitz (CoPI). MSU CVM ORGS. The use of post induced coughing radiographs in the diagnosis of tracheal collapse in dogs. \$7,560

Kimberly Woodruff (PI), David R. Smith (CoPI), Hannah Urig (CoPI). MSU CVM ORGS. Bayesian Latent Class Analysis to evaluate the accuracy of RID and PCR in diagnosing FeLV and FIV. \$9,600

Cooper Brookshire (PI), Marie Cozzarelli (Student). MSU CVM ORGS Veterinary Student Research Initiative. Phenotypic and genotypic characterization of three carbapenem resistant Klebsiella pneumoniae isolates from pet dogs. \$1,460

Attila Karsi (PI). MSU CVM MAFES. Development of live attenuated vaccines against Edwardsiella piscicida. \$8,000

Hossam Abdelhamed (PI). MSU CVM MAFES. Improving Safety of the live attenuated Edwardsiella piscicida vaccine for prevention of disease in catfish. \$8,000

Natalie Stilwell (PI), Stephen Reichley (CoPI), Justin Stilwell (CoPI), Barbara Kaplan (CoPI). MSU CVM MAFES. Investigation of Tissue Enzymes and Environmental Toxicants in Wild-caught Sharpnose Sharks. \$5,045

Matthew J. Griffin (PI), T. Graham Rosser (CoPI), Justin Stilwell (CoPI), Fernando Yamamoto (CoPI). MSU CVM MAFES. Anti-parasitic Feed Additives to Mitigate Proliferative Gill Disease in Farm Raised Catfish. \$7,970

Grace McBride (PI), Kristen Fizzano (CoPI), Alison Lee (CoPI), Marc Seitz (CoPI), John Thomason (CoPI). MSU CVM ORGS House Officer. Effects of Alfaxalone, alone or with Butorphanol, on feline splenic measurements and appearance on ultrasound. \$2,000

Blair Bennett (PI), Michael Jaffe (CoPI), Steven Elder (CoPI). MSU CVM ORGS House Officer. Biomedical evaluation of Orthopedic Cable Compared to Standard Cerclage Wire in a Canine Fracture Model. \$2,000

Seila Day (PI), Michael Jaffe (CoPI), Steven Elder (CoPI). MSU CVM ORGS House Officer. Ex vivo and biomechanical evaluation of a polymer iso-elastic orthopedic cerclage cable (Kinamed SuperCable) compared to standard metal cerclage cable wire in a canine femoral fracture model. \$2,000

SHELTER MEDICINE PROGRAM BENEFITS FROM PETCO LOVE GRANT



The MSU CVM Shelter Medicine Program has been awarded a \$25,000 grant from national nonprofit Petco Love in support of their lifesaving work for animals in Mississippi.

A national nonprofit leading change for pets by harnessing the power of love to make communities and pet families closer, stronger, and healthier, Petco Love was founded in 1999 has since invested \$330 million in adoption and other lifesaving efforts.

“Our investment in the MSU CVM Shelter Medicine Program is part of more than \$15M in investments recently announced by Petco Love to power local organizations across the country as part of our commitment to create a future in which no pet is unnecessarily euthanized,” said Susanne Kogut, president of Petco Love.

MSU CVM Associate Clinical Professor and Shelter Medicine Service Chief Dr. Jake Shively said the funding from Petco will support spay/neuter services provided by the program to animal shelters and rescue organizations throughout the state free of charge.

“More than 1,000 spay/neuter surgeries will be provided for adoptable pets as a result of this grant, increasing the likelihood of their adoption and translating to the prevention of scores of unwanted litters of puppies and kittens,” he said. “Financial support from Petco Love and other such organizations and gifts from individuals enable us to fulfill our mission of combating pet overpopulation and giving homeless animals a better chance of finding forever homes.”





CVM OFFICE OF DEVELOPMENT NEWS

PROGRESS CONTINUES in the College of Veterinary Medicine

We can see and feel the difference that private giving is making in the College of Veterinary Medicine. The newly renovated Turner A. Wingo Dean's suite has transformed the academic entrance to the Wise Center. We are soon to open an expansion at the Animal Emergency & Referral Center in Flowood where many naming opportunities will exist. We recently established a second endowment for an exam room with the Roo and Friends room. We have a comprehensive plan to transform many areas of the exterior of the Wise Center, bringing better spaces for clients, students, faculty, staff, and animal lovers. The Radiology space was renovated thanks to Dr. Jimmy Murphy, The Pet Hospitals, and Thrive. We are constantly adding scholarships such as The Gamblin Family Scholarship to help lessen the financial commitment associated with attending a college of veterinary medicine. Just this past year, we awarded over \$1,000,000 in scholarships thanks to the generosity of many donors. We are in the process of naming the Dorothy and Thomas Wells Professor in Feline Medicine, which is a gift that was made through an estate. This endowment will have a significant perpetual impact on the care we provide our feline patients and on feline medicine in

general. Private support is what helps take our college to the next level.

For many years, our CVM has been in need of a second major gift officer. I am delighted to announce that Mary Beth Baldwin recently joined Melissa Montgomery and myself in the development office. Her role will be to work with alumni and friends to help them invest in our people, programs, facilities, and animals. She brings a wealth of experience from her previous position as a leadership annual giving officer, and we are fortunate to have her on our team. Please welcome her through email or when you see her.

Thank you for making the choice to make a difference!

With many thanks,

Jimmy Kight

Director of Development

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CVM NOTES & NEWS

ALUMNI & FRIENDS NEWS

Congrats to **DR. SUSANNE A. HEARTSILL** (DVM 1999) of Ceva Animal Health, LLC. Dr. Heartsill was promoted to Ceva's US Director of Companion Animal Veterinary Services last year after serving in roles including veterinary services manager for the south-central region and technical marketing manager for cardiology with the company over the last four-plus years. In her new role, she is responsible for management of the US technical veterinary team, educational and expert strategy development, and management of key expert relationships.

Kudos to **DRS. CAMERON FILI** (DVM 2017) and **COURTNEY HUNTER** (DVM 2017) for earning Diplomate status in the American College of Laboratory Animal Medicine!

Dr. Fili serves as a veterinary medical officer for the US Food & Drug Administration's National Center for Toxicological Research in Jefferson, Ark.

Dr. Hunter is an assistant professor and clinical veterinarian at Vanderbilt University Medical Center in Nashville, Tenn.

NOTE TO ALUMNI:

Please send us your news! We want to hear about and share your career-related happenings, such as new jobs and titles; state, national, and international committee appointments; awards and recognition, etc. Please direct this info to the attention of MSU CVM Outreach Director Mel Thurlow, mel.thurlow@msstate.edu. You can also keep up with your fellow MSU CVM graduates on our social media pages!

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HELP US STAY IN TOUCH!

Update your contact info quickly and easily by visiting vetmed.msstate.edu/alumni-friends/update-information and filling out the short form!

CALENDAR of Events

*All events and dates are subject to change.
Please check the College's social media sites
for the most up-to-date information.*

MARCH

MSU CVM Annual Open House

Friday, March 24 – Registered school groups

Saturday, March 25 – Open to the public

MAY

MSU CVM Dean's Council Spring Meeting

Date, Time, and Location TBA

DVM Class of 2023 Graduation Festivities

May 10

Scholarship Breakfast 8:30 a.m.

Awards Program 10 a.m.

Commencement 11:30 a.m.

Newell-Grissom Building

(OLD Bully Blvd at south end of Bost Drive)

VMT Class of 2023 Graduation Festivities

May 12

Pinning Ceremony - Time TBA

Awards Program to follow pinning

MSU CVM Auditorium

MSU CVM Vet Camps

May 24-June 11

Visit vetmed.msstate.edu/outreach/summer-veterinary-camp
for info!



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