# IOWA STATE UNIVERSITY **Sector College of Veterinary Medicine** FALL 2020 | VOL. 34 NO.1

# COVID-19

A WHOLE NEW WORLD

# gentledoctor FALL 2020 | VOL. 34 NO. 1

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# gentledoctor



Cover story on page 8. Montage: Heather Brewer

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# From the Dean

### Dear Colleagues and Friends,

When the College of Veterinary Medicine cancelled its in-person commencement ceremony, our students and their families were devastated. So was Dr. Amanda Fales-Williams. In addition to serving as a faculty member, Dr. Fales-Williams is the current president of the Iowa Veterinary Medical Association.

In that role, she was scheduled to lead our new graduates in reciting the Veterinarian's Oath. With commencement's cancellation that didn't seem possible. But Dr. Fales-Williams had different thoughts. Over the course of several weeks, she led individuals and small groups in reciting the Veterinarian's Oath on Zoom, in front of the Gentle Doctor statue, on the deck outside student homes in Old Orchard and even in her own back yard.

Dr. Fales-Williams isn't unusual among our faculty, staff and students in thinking outside the box during the COVID-19 pandemic. We have been on the COVID frontlines here in Ames since early March. That's when Iowa State University went to all virtual learning and in less than two weeks, our faculty were innovative and creative bringing online instruction to our students.

COVID has impacted all levels of the college. The staff in the Lloyd Veterinary Medical Center have continued to see patients when it was critical to the health of the animal or the economic viability of the client. Things changed. Clients are no longer permitted inside the hospital. For a few months, no fourth-year students were in the clinics.

What didn't change was the level of care of the patients that came through the doors or the animals our Veterinary Field Services treated away from campus. Nor did the dedication change of our talented clinicians and veterinary technicians who worked long hours to make sure the animals committed to our care were treated with compassion as well as urgency.

Dedication and innovation is also a trademark of our Veterinary Diagnostics Laboratory. While businesses across the country shut down, the VDL has conducted more tests than any other time in that laboratory's history.

It's not just an increased workload that has distinguished the VDL and its faculty and staff during this crisis. Working with the Iowa Department of Public Health and the State Hygienic Laboratory, the VDL provided expertise and equipment to help those entities meet the state's heavy demand for COVID-19 and antibody testing.



When Iowa State was the only Regents institution to test all students residing in campus housing, the dependability of the VDL allowed that to be a possibility. Where much of the nation is experiencing long delays in getting test results, the staff of the VDL are turning around COVID test results the same day.

Our researchers have also stepped up. Almost immediately, teams of researchers within the college were working on a variety of COVID-19-related projects, everything from looking to identify a novel therapeutic strategies to creating a new avenue for testing to developing a vaccine.

The COVID-19 pandemic has been challenging. It has hit at the very soul of our nation and has impacted each and every one of us in different and meaningful ways.

But here in the College of Veterinary Medicine, COVID has brought the best out of our faculty, staff and students. I know you will be just as proud as I am when you read in this issue of the *Gentle Doctor* how the College of Veterinary Medicine has stepped up during these uncertain times. This community epitomizes the meaning of Cyclone Strong!

**Dan Grooms, DVM, PhD** Dr. Stephen G. Juelsgaard Dean of Veterinary Medicine

# collegenews



# USDA Announces CVM Project to Develop ASF/CSF-Monitored Certification Pilot

The U.S. Department of Agriculture (USDA) Animal and Plant Health Service (APHIS) has announced a joint project to develop a certification program for high-consequence swine diseases with the Center for Food Security and Public Health and the Veterinary Diagnostic Laboratory.

The consortium will develop and implement a pilot African Swine Fever (ASF)-Classical Swine Fever (CSF)-Monitored Certification Program. The program will be modeled after the basic tenets of the National Poultry Improvement Plan program for U.S. commercial poultry operations.

The pilot will provide a framework and support staff to further safeguard the pork industry by ensuring effective and active surveillance throughout the country and the ability to quickly zone infected areas, if disease was detected. The pilot also has the potential to provide assurances to trading partners and consumers about the nation's animal disease status.

# Plummer Named Anderson Chair in Veterinary Medicine



**Dr. Paul Plummer**, professor of veterinary diagnostic and production animal medicine, has been named the holder of the Anderson Chair in Veterinary Medicine.

A faculty member at Iowa State since 2010, Plummer is board certified in large animal medicine from the American College of Veterinary Internal Medicine and the European College of Small Ruminant Health Management.

Plummer is currently the executive director of the National Institute of Antimicrobial Resistance Research and Education. The national institute seeks to improve the understanding of antimicrobial resistance to reduce its societal impact. Based at Iowa State University, NIAMRRE seeks to improve health for people, animal and the environment.

While at Iowa State, Plummer has received both the Iowa State University Early Career Achievement Award for Research Excellence and the College of Veterinary Medicine Early Career Achievement in Research Award. He received the Zoetis Distinguished Veterinary Teacher Award in 2014.

"The funds from the Anderson Chair will hugely benefit my research and teaching efforts," Plummer said. "I will be able to further the research my team does in antimicrobial resistance and zoonotic diseases, provide my students interactive learning opportunities, and continue to provide outreach and extension efforts related to antimicrobial stewardship and livestock medicine."

# Ward Named New Clark Professor



**Dr. Jessica Ward**, associate professor of veterinary clinical sciences, has been named the holder of the Phyllis M. Clark Professorship in Veterinary Cardiology in the College of Veterinary Medicine.

The professorship was established through the estate of Phyllis Clark, a Des Moines resident who passed away in 2014. Clark created the endowed faculty position after her cat received care from the cardiology department in the Hixson-Lied Small Animal Hospital at Iowa State.

A faculty member at Iowa State since 2015, Ward is board certified in cardiology from the American College of

Veterinary Internal Medicine. In addition to being an outstanding clinician, Ward is an award-winning classroom instructor. Since arriving at Iowa State, she has received the ISU Award for Early Achievement in Teaching, the SAVMA Award for Teaching Excellence in Clinical Sciences and the College of Veterinary Medicine Award for Early Achievement in Teaching.

"The Clark Professorship is an amazing opportunity to honor not only an incredibly generous donor, but also the previous holder of this professorship, my predecessor and mentor, Dr. Wendy Ware," Ward said. "Dr. Ware truly blazed the trail to establish the clinical cardiology service and cardiology education at Iowa State, and I will strive to honor her legacy."

# **COMPARATIVE DATA REPORT**

Here are some of the highlights of how the College of Veterinary Medicine appeared in the latest Comparative Data Report of the 30 accredited veterinary colleges. The listing is compiled by the American Association of Veterinary Medical Colleges (AAVMC).

### **STUDENTS**

- Total Enrollment: 2nd highest
- Enrollment (Class of 2023): 2nd highest
- Non-resident Applicants:
  4th highest
- 2019 MS, PhD Graduates: 3rd highest

### **TUITION AND FEES**

- Resident Total Cost of Education (Total 4 Years): 26th lowest (\$164,945 for ISU and \$218,658 average)
- Non-Resident Total Cost of Education (Total 4 Years): 20th lowest (\$273,667 for ISU and \$292,492 average)
- Cost of Living in Ames: 30th lowest

### **RESEARCH FUNDING EXPENDITURES**

- USDA Expenditures: 2nd highest
- DoD Expenditures: 4th highest
- Industry Expenditures: 4th highest
- NIH Expenditures: 15th highest

# **CVM Places High in Latest QS World Rankings**

The College of Veterinary Medicine has been ranked among the world's best veterinary schools by a British organization's 2020 ratings.

Quacquarelli Symonds (QS) measures academic and employer reputations and the number of times faculty research papers have been cited by other researchers.

In 2020, the College of Veterinary Medicine was ranked 24th overall in the world rankings and tenth among U.S. veterinary schools.

# **Faculty and Staff Notes**

- Dr. Alex Ramirez, associate professor of veterinary diagnostic and production animal medicine, has been named assistant dean of academic and student affairs. In this role, Ramirez will have direct responsibility for career counseling, scholarships, international programs and the fourth year scheduling orientation.
- **Dr. Jared Danielson**, associate dean of academic and student affairs, was a member of the Competency Based Veterinary Education (CBVE) working group that received the 2020 AAVMC Presidential Award for Meritorious Service.
- Dr. Paul Plummer, associate professor of veterinary diagnostics and production animal medicine, was appointed to the Presidential Advisory Council on Combating Antibiotic-Resistant Bacteria (PACCARB).
- Dr. Rod Bagley, chair of the Department of Veterinary Clinical Sciences, is the new director of the AAVMC's 2020-21 Leadership Academy. The academy addresses how to develop effective leadership skills around the themes of communication, emotional intelligence and applied leadership skills.
- **Dr. Cathy Miller** has been named interim chair of the Department of Veterinary Microbiology and Preventive Medicine.
- Dr. Michael Kimber has been named interim chair of the Department of Biomedical Sciences.
- Dr. Jim Roth, Clarence Hartley Covault Distinguished Professor of Veterinary Microbiology and Preventive Medicine, has been appointed to serve on the USDA's consultation board that will assist the agency with implementation of the National Animal Disease Preparedness and Response Program.
- **Dr. Dana LeVine**, associate professor of veterinary clinical sciences, has been elected president of the Association of Veterinary Hematology and Transfusion Medicine.
- **Amy Kruzich**, interim executive director of development, is the 2020 recipient of the Association of American Veterinary Medical College's Award for Fundraising Excellence in Student Scholarships.
- Dr. Jodi McGill, assistant professor of veterinary microbiology and preventive medicine, is the 2020 lowa State recipient of the Zoetis Award for Veterinary Research Excellence.





# **GROUNDBREAKING SET FOR NEW VDL**

It's been a long time coming, but work will soon begin on the new Veterinary Diagnostic Laboratory.

Groundbreaking ceremonies are tentatively set for Thursday, Oct. 8, and will be held in person for invited guests as well as virtually for those who wish to view the event remotely. The groundbreaking will be held on the eventual site for the building just south of the current College of Veterinary Medicine building across from the gravel parking lot.

Construction is scheduled to begin early in 2021 with a scheduled 2023 opening.

The \$75 million project will address additional and contiguous space requirements for the laboratory, biosafety containment



and functional adjacencies to serve the highly integrated and interdependent laboratory sections.

The new VDL will provide essential infrastructure for sample receiving and processing, pathology, bacteriology, necropsy, histopathology, and an incinerator. The new construction will improve efficiency and effectiveness of the process flow while addressing critical issues of space quantity and quality, and provide the necessary biosafety and biocontainment for the state's only fully accredited veterinary diagnostic lab.

The project has been funded by a \$63.5 million state appropriation with additional funding from the VDL, the College of Veterinary Medicine and Iowa State University.

# Wildlife Care Clinic Temporarily Closed

The Wildlife Care Clinic, jointly managed by the College of Agriculture and Life Sciences and the College of Veterinary Medicine, has been temporarily closed.



**Dr. Bianca Zaffarano**, clinical associate professor of veterinary clinical sciences, retired earlier this spring and was the clinic's holder of the rehabilitation license issued by the Iowa Department of Natural Resources. Without the state license the clinic cannot operate.

A search was underway to fill Zaffarano's position but that search has been suspended, along with other Iowa State University job searches, during the COVID-19 pandemic.

"We will be looking at other options in the future on continuing the efforts of the clinic as a resource for students and the community," said **Dr. Dan Grooms**, the Dr. Stephen G. Juelsgaard Dean of Veterinary Medicine.

lowa State is referring all wildlife rehabilitation cases to area rehab centers.

# NIAMREE Offers One Health Certification

A new program administered by the National Institute of Antimicrobial Resistance Research and Education (NIAMRRE) will soon give producers a better way to demonstrate to consumers that they follow responsible animal care principles.

One Health Certified, a comprehensive animal care program, established verified animal production practices in five core areas: disease prevention, veterinary care, responsible antibiotic use, animal welfare and environmental impacts.

Companies that align their procedures to meet the program standards and pass an audit administered by the U.S. Department of Agriculture, qualify for certification and the right to label their retail and wholesale products with a logo that conveys responsible animal care practices have been followed and verified.

"As an organization, NIAMRRE is delighted to support the One Health Certified program," said **Dr. Paul Plummer**, NIAMRRE executive director and associate professor of veterinary diagnostic and production animal medicine. "The program is true to the One Health principles of multiple organizations and disciplines working together to improve human health, veterinary health, agriculture and the environment."

# **RESEARCH ROUNDUP**

 Karin Allenspach, professor of veterinary clinical sciences, and Jonathan Mochel, associate professor of biomedical sciences and veterinary diagnostic and production animal medicine, have received the



Barry Cancer Research Award to investigate canine bladder cancer to produce a model for predicting drug responses in human bladder cancer patients.

"Bladder cancer is one of the most aggressive cancers someone can get, and despite the fact that there are new drugs available to treat most cancers, there has not been any true progress in terms of bladder cancer prognosis," Allenspach said. "There is a real need to improvement treatment options. Receiving this award and the foundational funding it provides is pivotal for preliminary data collection to address that need."

• Dr. Michael Kimber,

interim chair of the Department of Biomedical Sciences, is launching efforts to develop a vaccine for



a currently incurable mosquitoborne illness with the help of a Bailey Research Career Development award.

Kimber will use the award to research how to better understand and ultimately prevent the tropical disease lymphatic filariasis (LF) through creation of a vaccine. Affecting more than 120 million people worldwide, LF is caused by parasitic worms transmitted through the bite of infected mosquitos. Although not a deadly illness, LF invades the human vascular system and causes extreme, elephant-like limb swelling, skin conditions and long-term disability. "Parasitic worms are really difficult to control," Kimber said. "They're incredibly complex, so designing a vaccine against them has been hugely challenging. The focus of our research is to generate new knowledge and use that knowledge to create something translational that can impact the health of millions of people."

 An image of retinas may help lowa State researchers, including Dr. Heather Greenlee, professor of biomedical sciences, determine



the risk for Alzheimer's disease even before other symptoms are detectable.

Greenlee and researchers in the College of Human Sciences have received a National Institute on Aging grant to collect retinal images, along with cognitive measurements and data on economic and social factors to determine if this information can identify risk for Alzheimer's disease.

"This is a good example of interdisciplinary collaboration," Greenlee said. "It gives us an opportunity to identify an affordable, quick way to screen people for disease before they even know they're sick. The optical test takes only a few minutes and is completely noninvasive. If it's effective, people can be tested annually to identify those who may be at risk."

 For years, many scientists and medical professionals likely misunderstood how a commonly prescribed medication for elephantiasis battled the disease, but a new study sets the record straight.

The study, published in the peer-reviewed scientific journal *Communications Biology*, shows how the medication, diethylcarbamazine, paralyzes the parasites that cause lymphatic filariasis, also known as elephantiasis, upending the widely held belief the medication bolsters a patient's immune system but doesn't target the parasites directly.

**Dr. Richard Martin**, Distinguished Professor of biomedical sciences, the Dr. E.A. Benbrook Chair in Pathology and Parasitology and



senior author of the study, said the findings could pave the way to better predict how resistance to the medication may develop in the parasites and allow medical professionals to understand how the medication may interact with other therapies.

• The first case of *Streptococcus* equi subsp. zooepidemicus (Strep. zoo) was identified in the U.S. pig population last fall, and it's not an organism to be taken lightly. At that time, the clinical signs observed in pigs included "lethargy, weakness, high fever, swift spread among pigs from highly varied sources within the affected premises and rapidly escalating mortality levels approaching 30 to 50 percent," reported the US Department of Agriculture. "Although rare, it can cause severe illness in humans exposed to infected horses or other infected species. This includes exposure through consumption of associated unpasteurized milk products."

About 40 percent of the sows had died within a two-day period said **Dr. Eric Burrough**, associate professor



of veterinary diagnostic and production animal medicine. Tissue samples were sent to the Veterinary Diagnostic Laboratory. "The first thing that was unusual for us was the level of mortality — that got our attention," Burrough said.

### COVID-19 SPECIAL SECTION



# COVID-19 A WHOLE NEW WORLD

Stories: Tracy Ann Raef and Dave Gieseke

irst it was a trickle. Then a steady stream. Later it was a full-out flood of change this past spring at Iowa State University and the College of Veterinary Medicine.

Classes were winding down as word broke that the university would be moving temporary to online courses only when classes resumed. COVID-19 had arrived in central Iowa and students, faculty and staff were left scrambling as a new reality set in.

When students departed for spring break, they had no idea they wouldn't have in-person lectures for the rest of the semester. And the changes weren't limited solely to the classroom.

Non-essential staff started working remotely from home. The Lloyd Veterinary Medical Center reduced its services to seeing patients only when it was critical to the health of the animal or the economic viability of the client.

gentledoctor

Clients also stayed outside in their cars while their animal was treated. Zoom meetings became the norm instead of the exception.

The Gentle Doctor Café and the Vet Med Library closed. A few weeks later, fourth-year rotations were cancelled as students had enough credits to graduate. All events were cancelled, including graduation, which was held virtually.

The hospital remained open as did the Veterinary Diagnostic Laboratory and the Veterinary Pathology Laboratory. Veterinary Field Services continued off-site patient care.

Social distancing was practiced. Individuals inside the CVM building were soon required to wear face coverings. A pass/no pass policy was developed for all veterinary students. A Monday in the building felt like a Sunday. For that matter so did Tuesday, Wednesday, Thursday and Friday. Classrooms were empty. Hallways barren.

But things are gradually getting back to what it used to be.

Faculty and staff have begun returning to their offices. The new fourth-year students are back in rotations after COVID-19 delayed their start for almost two months. And in mid-August, the remainder of the veterinary students returned for some in-person classes.

Like everywhere else, life in the College of Veterinary Medicine is not what it was six months ago. The following pages contain a snapshot of how individual faculty, staff, students and alumni dealt with the changes COVID-19 brought upon them in this whole new world.

# **Stepping Up**

Deep in the bowels of the College of Veterinary Medicine is a new lab. But don't let it's location fool you. This may be the most important lab right now on Iowa State University campus.

The new facility (Public Health Testing Services) was created by the Veterinary Diagnostic Laboratory under the direction of Dr. Rodger Main in response to COVID-19. Early in the pandemic, the VDL worked closely with the State Hygienic Lab at the University of Iowa in helping that facility meet the crush of testing requirements in Iowa.

The VDL transferred much-needed equipment and provided the State Hygienic Lab (SHL) with reagents daily to help assist the high thru-put PCR system. That assistance dramatically increased the number of tests the State Hygienic Lab has been able to process on a daily basis during those early days of the COVID-19 response in Iowa. "By the third week of April it was apparent we needed do more," Main said. "We had to add some additional capacity, not just helping the State Hygienic Lab, but also setting up a unit in the College of Veterinary Medicine where we could do testing."

The new, state-of-the-art lab was set up in a matter of just a few weeks. A new IT system was created to support the human health care use. Main and his team went to work getting the certifications necessary to do human clinical work as well as establishing contractual agreements to do testing.

Since mid-June the new Public Health Testing Services (PHTS) has been



obtaining results from submissions from Iowa State's Thielen Student Health Center for both PCR (COVID-19 testing) and serology (antibody-based testing). The unit soon expanded to service local health care providers' needs in central Iowa.

Then the students started to move back to campus to start the fall semester.

"The volume really ramped up with student testing," Main said.

On an average day, the PHTS currently processes approximately 1,200 PCR and serology tests. Main says the unit's daily capacity can far exceed that number if necessary.

What is even more impressive how quickly the PHTS gets the results back to the individual being tested.

"Dr. (Anthony) Fauci has commented the problem nationally is the delay in getting test results back," Main said. Many times it takes five, six, even ten days before an individual gets their results.

"At the VDL we have a 24-hour turnaround with test results. That's monumentally important and a key element of Iowa State's testing program that we're very proud of." Main cites the working relationship established between the VDL and the SHL as a "silver-lining" to the COVID-19 experience.

"Dr. Michael Pentella and his team at the SHL have simply been tremendous to work with and staunch supporters of our efforts at the VDL," Main said. "1 believe the highly synergistic relationships established between the VDL and



the SHL hold the promise for benefitting animal health, human health and the State of Iowa long after the current pandemic ends."

"What the Veterinary Diagnostic Laboratory is accomplishing in supporting the response to the COVID-19 pandemic is truly a great example of how Iowa State University is prepared to and can respond to the needs of Iowans," said Dr. Dan Grooms, the Dr. Stephen G. Juelsgaard Dean of Veterinary Medicine.

It should come as no surprise that the VDL can produce these type of results. The Iowa State facility is the largest food animal veterinary diagnostic lab in North America, processing more than 100,000 cases and performing more than 1.25 million tests annually. "The core competency and capacities derived from running that system on a daily basis is why we can take on this human health care aspect during the COVID-19 pandemic," Main said.

And the VDL is continuing to reach out to assist the state of Iowa. The PHTS has been designed a Reference Lab, allowing it to further expand their testing capabilities to local and regional healthcare providers.

Already the PHTS is screening serology tests from an Iowa blood bank. The results of the antibody tests will not only be reported to provide feedback to donors, but also identify possible plasma donations for COVID-19 treatments. **gd** 





# **Anything But Routine**

Alk into the Hixson-Lied Small Animal Hospital last spring and you would notice the differences right away. Staff are wearing cloth masks. There are no veterinary students working with patients. And there's not a client in sight.

However, there are still lots and lots of patients.

Beginning in March when the COVID-19 pandemic hit Iowa, the Hixson-Lied Small Animal Hospital limited its services to emergencies only. The limitations include a new "curb-side check-in" for all patients.

"An owner calls when they are on their way or arrive at the hospital," said Dr. Rebecca Walton, clinical assistant professor in the Emergency, Critical and Intensive Care (ECC) Services. "This allows us to ask our standard COVID questions to see if anyone in the household has tested positive or if they have respiratory signs."

Once the patient arrives, team members from ECC meet the client and patient outside the facility. Patients are then brought inside for triage and evaluation. Any stabilization or life-saving procedures are performed immediately with the owner's permission.

From that point on, all communication with the owner is done electronically.

"A clinician will call the owners to get a history and discuss what we found from our physical evaluation and our recommendations for how to move forward," said Dr. April Blong, assistant professor of veterinary clinical sciences. "Once diagnostics are concluded or the animal is ready for discharge, our doctors go over the information with the client."

The animal is then brought back outside to the owner along with any prescribed medications and medical records.

The patient care is similar to what was occurring in the Hixson-Lied Small Animal Hospital prior to COVID. The emergency room is open to all emergency cases. Walton says the emergencies have ranged greatly.

"We have not only had patients who have been hit by a car, but also abscesses and urinary tract infections," she said. "Additionally we have access to all of our specialty services if they are needed.

"Not all cases will be evaluated by a specialty service, but if we deem it necessary then these services are available for consultation. The ER is open to all sick or injured cases, it doesn't have to be life threatening."

The staff is wearing cloth masks when they interact with the public. During the last part of the spring semester no fourth-year veterinary students were available to assist in the ER. That meant veterinary technicians from the specialty units were rotated into the ER. **gd**.



Photos: Dave Gieseke







# **Business as Usual**

Before COVID-19 hit, Dr. Pat Gorden, associate professor of veterinary diagnostic and production animal medicine, had never listened to a podcast.

He may not be addicted to the podcasts today, but he is sure getting used to them.

"I'm listening to a lot more podcasts in the last few months," he said. "I was going out to farms by myself instead of going with several students. As I drove, I listened to podcasts."

Gorden, who serves as the director of Iowa State's Veterinary Field Services, says his solo trips to area farms is just one of the ways COVID-19 has affected the unit that provides individual animal and herd health services to producers in the Ames area.

In late March, the fourth-year veterinary students departed their rotations and the service's clinicians were on their own. With the start of the fall semester, students have returned.

"While we had a contingency plan in place, we had to make a few adjustments," Gorden said. "We're sanitizing the building more, wiping down the trucks and we were only allowing one person in the vet truck at a time. "Clients are no longer allowed in our building. We have also been consistently wearing a mask since none of us want to be the person to bring the disease onto our client farms and into this facility."

These adjustments to the service haven't affected the patients the clinicians see. Beef cattle and dairy cattle cases have remained steady. It's been pretty much "business as usual" according to Gorden.

In addition to treating area livestock, Gorden and his fellow field services veterinarians have been providing producers with information on how to protect their farms from COVID-19.

"The producers have a lot of questions," said Mitch Hiscocks, clinical professor of veterinary diagnostic and production animal medicine. "We try to tell them not to be afraid but to be respectful of the virus."

The most significant change has been working with this year's fourth-year veterinary students who started out their rotations with online courses. In early July, the fourth-year students returned to the college, but their rotations in field services have been adjusted.

Students and clinicians don't get together for daily rounds in the Field Services Building. Now rounds are held virtually through Zoom meetings. The number of students going out on calls has been reduced and multiple vehicles are used to get to the site.

The first few rotations were a learning curve for all of us," Gorden said. "We had to adopt policies as needed and make it work.

"I believe we did okay with online courses, but it's not the same as getting to treat an animal live and in person."gd



Dr. Pat Gorden and fourth-year student Rachel Stika work at this year's livestock check-in at the Iowa State Fairgrounds. Photo: Dave Gieseke

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# **CVM Researchers Step Up with COVID-19 Projects**



Researchers across the College of Veterinary Medicine have been engaged in high-impact projects in response to the COVID-19 pandemic for months now.

The projects range from developing a vaccine to evaluating therapeutic drugs and creating a new testing system.

Iowa State University's Office of the Vice President for Research created a research seed grant program to fund high-risk, high-reward projects related to COVID-19 that can be rapidly pursued for up to six months. Of the seven projects funded, five featured CVM faculty members. A small sampling of the COVID-19 research projects currently underway include:

- Dr. Cathy Miller, interim chair of the Department of Veterinary Microbiology and Preventive Medicine, is working to identify antiviral drugs that disturb the structure of the viral RNA genome to determine ways to slow down its replication in human hosts. Her research team hopes to find drugs capable of binding specifically to the virus genome, altering its ability to replicate.
- **Dr. Michael Cho**, professor of biomedical sciences, is looking to find a way to prevent the COVID-19 virus entirely by creating a protective vaccine. He plans to develop a vaccine based on the receptor binding domain of SARS-CoV-2.
- Dr. David Verhoeven, assistant professor of veterinary microbiology and preventive medicine, is part of a team developing a novel, human-relevant 3D in vitro model of co-cultured human respiratory systems cells to mimic the respiratory tract more accurately. The model will be used to screen COVID-19 drug candidates before they are used on human patients.

Verhoeven is also on a team that includes **Dr. Karin Allenspach**, professor of veterinary clinical sciences; **Dr. Jonathan Mochel**, associate professor of biomedical sciences and veterinary diagnostic and production animal medicine; and **Dr. Bailey Arruda**, associate professor of veterinary diagnostic and production animal medicine.

Photos: Bryan Bellaire





The team is looking to better understand a possible spillover of the virus to other species including livestock species in the United States, particularly swine.

- Verhoeven and **Dr. Michael Wannemuehler**, professor of veterinary microbiology and preventive medicine, are also part of a research group that is evaluating the antiviral activity of a novel nanomedicine.
- Wannemuehler and **Dr. Al Jergens**, professor of veterinary clinical sciences, are investigating ways to ensure that once a COVID-19 vaccine is ready it can be as effective as possible. The group is pursuing a method to combine experimental data with machinelearning modeling to identify specific host and microbial genes, and the projects they encode, that may boost or suppress host immunity.
- Dr. Jianqiang Zhang, associate professor of veterinary diagnostic and production animal medicine, are examining better avenues for COVID-19 testing using a similar system currently used for alcohol breath tests. The team plans to collect virus particles directly from exhaled breath and the finished product will be a handheld breathalyzer with a response time of less than seven minutes and at a cost of less than \$1 per test.
- Dr. Radford Davis, associate professor of veterinary microbiology and preventive medicine, and Dr. June Olds, clinical assistant professor of veterinary clinical sciences, will conduct a survey of Iowa bats to evaluate the similarities of coronavirus found in bats to those in other animals and humans.

- **Dr. Chandru Charavaryamath**, assistant professor of biomedical sciences, is looking at the factors that might increase an individual's susceptibility to COVID-19 infection.
- **Dr. Bryan Bellaire**, associate professor of veterinary microbiology and preventive medicine, is testing antivirals against SARS-COV2 exploring the application of nanomedicines to prevent the competition of the coronavirus' life cycle in cultured cells.

Bellaire is also collaborating with many of these and other projects being conducted at Iowa State. Bellaire manages the college's BSL3 lab, the only BSL3 lab on campus.gd







# **Jumping into the Real World**

**O** ne day, fourth year veterinary students in the College of Veterinary Medicine were seeing patients and treating animals of all sizes and species in the Lloyd Veterinary Medical Center.

Then COVID-19 happened and the final two months of their clinical rotations went first online and then were cancelled all together. Every student had earned enough credits to graduate.

It was the perfect opportunity for many graduating seniors to get a jump start on their professional veterinary careers.

"As soon as rotations were cancelled, I moved up to my new job two months before my contract started and started learning the ropes," said Rachael Ostrem. "Because of this extra training time, I will be mostly a fully functional veterinarian by the time my contract starts in June."

Ostrem will be an associate veterinarian at Humboldt Vet Clinic in Iowa. Once her clinical rotations were cancelled, she contacted her future boss about starting early.

It was a win-win situation for both parties.

"I told her I was able to start early if she would have me," Ostrem said. "She was very excited that she got her new hire





two months before she was supposed to, so it has worked out well for both of us."

Sarah Muirhead had a similar experience. Now working at a mixed animal practice in Brookings, South Dakota, Muirhead had hopes of volunteering at her future employer in order to become more familiar with the equipment and how the clinic operated.

Then the clinical rotations were cancelled.

"When the rotations were cancelled, I touched based with my clinic again and asked I I could volunteer my time for training," Muirhead said. "Turns out they had remained very busy despite the pandemic and they asked me if I wanted to start my employment early."

Like her classmates, fellow fourth-year student Allysa Koethe started working early with her future employer – the Farm & Family Veterinary Clinics in Victor, Iowa. For Koethe it was a quick turnaround.

She was informed by the College of Veterinary Medicine that the clinical rotations had been discontinued on a Thursday. The following Monday she was on the job. Koethe has worked for this practice for the past four years on weekends, holiday and summer breaks. She had accepted a full-time position earlier this year.



"I have been eager to start working ever since I accepted the job," Koethe said. "It was an easy decision to go straight to work after clinical rotations were cancelled. I wanted to continue gaining hands-on experience over the weeks leading up to graduation and get a head-start on my veterinary career."

Another Iowa State fourth-year student, Tess Hudson, worked as an extern at Southview Animal Hospital in West Saint Paul, Minnesota. Prior to COVID-19, Hudson was scheduled to be in South Africa through August acting as a wildlife field medicine extern. With those plans obviously out the window, she reached out to Southview Animal Hospital asking if she could start a few months early.

"They've been even busier during the pandemic, so they were happy for the extra hands," Hudson said.

The move hasn't come without some issues for Hudson.

"It's been very weird to move to Minneapolis in the middle of a pandemic," she said. "However, the transition into the clinic has been pretty seamless."

Like many other veterinary clinics, including the Lloyd Veterinary Medical Center, Southview Animal Hospital is currently only practicing curbside medicine. Clients call upon arrival for their appointment and are met at the car where a veterinary technical will retrieve the animal.

Class 2020 ISU CVM Graduates (left to right): Drs. Rachel Ostrem, Tess Hudson and Allysa Koethe. Provided Photos







gentledoctor

It's something Hudson and her classmates didn't train for.

"It's been super weird not to be able to interact with clients in person especially since that was one of my favorite parts of veterinary medicine," she said. "It's going to be interesting when we transition back to letting clients in the building and using the exam rooms again. It will be learning a whole new flow."

All three fourth-year students said the additional experience has proved invaluable to their development as veterinarians. Each was thrown into the work right off the bat.

"I am able to take charge of my cases and am able to make decisions," Ostrem said. "I get to do hands-on work myself, make a plan and finally execute it.

"I love having the freedom to make these decisions and I feel like I learn so much more every day being the one doing the hands-on technical work."

Koethe says she has been working closely with her new boss and has been involved with medical cases, performing surgery, and meeting and communicating with clients.

She, like so many of her fellow classmates, are making the best of a bad and unusual situation.

"While the unforeseen circumstances of COVID-19 have altered what would have been a 'typical' end to our clinical year and graduation, I have been very thankful for this time to get settled in my new career," Koethe said. "I've been able to gain extraordinary hands-on experience while meeting so many new clients." **gd** 



# **CONTINUING A TRADITION**

f all the duties Dr. Amanda Fales-Williams would have as president of the Iowa Veterinary Medical Association, there was one that she looked forward to the most. It was administering the Veterinarian's Oath to the Class of 2020 at Iowa State's College of Veterinary Medicine.

Midway through her rather normal year as president, a global human health pandemic struck, and everything became anything but normal.

In mid-March, as the College of Veterinary Medicine went to online instruction, Fales-Williams and her colleagues rushed to create content for virtual delivery. As Fales-Williams figured out ways to teach veterinary pathology to her students, it became apparent that things were going to change in many ways, quickly. Adjustments to schedules, campus life, and most importantly, a move to cancel the in-person graduation ceremony and go to a virtual ceremony.

"I was gutted for the class who had such an unusual end to their four years of veterinary education," said Fales-Williams, professor and chair of the Department of Veterinary Pathology and holder of the Tyrone D Artz, M.C. Chair for Teaching Excellence.

"What I remember most from my own graduation 25 years ago was taking the Oath. It's an important, timeless, genuine statement of what veterinarians do every single day."



Dr. Amanda Fales-Williams administers the Veterinarian's Oath to members of the Class of 2020. Provided Photos

To provide the students with the best send-off that she could, Fales-Williams offered to give the Oath individually to students.

As creative as the idea was, so were the settings for the Oath. "In-person settings included my front yard, graduates' yards at Old Orchard Trailer Park, a graduate's dining room right after the graduation ceremony video aired, and the Gentle Doctor Plaza," Fales-Williams said. In late May, she led the recitation via Zoom for graduates in Nevada, Texas, Indiana, and a hospital room. By the end of May, she led a total of 32 Oaths.

Although leading the Oath for those students helped to partially fill the void, nothing compares to an in-person recitation. "What I love about the Oath during the ceremony is the chance to hear the blend of the soon-to-be doctors' voices," Fales-Williams said. "It's so gratifying to see the graduates experience the ceremony that they had dreamed of for many years."

But even if an in-person ceremony was held, Fales-Williams would still have offered do the Oath in person for anyone that wanted to include family members who couldn't travel, or those that just wanted to recite the Oath again. That offer still stands, in perpetuity, for anyone wishing to recite the Oath again. **gd** 



# **Stepping into a Campus Role**

Stressful. Challenging. Meaningful. Those are just a few of the emotions that Dr. Kristen Obbink is facing every day as Iowa State University's COVID-19 public health coordinator. Obbink ('11) recently assumed this temporary role as Iowa State prepared to welcome back students for the fall semester amid a global pandemic.

"The job is stressful and can be overwhelming at times," she said, "but the work is meaningful and I'm enjoying the challenge. I'm lucky to be working with a great team and also to have the support of many mentors, colleagues and friends."



Obbink comes into the new role after working both in the Center for Food Security and Public Health (CFSPH) and at the Iowa Department of Public Health.

"This position aligns well with my past work experience and gives me n opportunity to work with a variety of partners both on and off campus," Obbink said. "I'm able to fully utilize my skill set to have a broad and meaningful impact within our campus community and beyond."

In her new role, Obbink is coordinating, implementing and monitoring the university's comprehensive strategy to mitigate the risk of coronavirus spread. This includes elements of symptom checking, testing, contact tracing, quarantine, isolation and case management.

She works with a variety of units at Iowa State including the Veterinary Diagnostic Laboratory, Thielen Student Health Center, the Department of Residence and other campus administrators. She is also in frequent contact with public health partners at both the state and county levels.

Obbink describes her days as fast-paced and challenging. She meets (virtually of course) daily with senior leadership, the campus emergency operations center, public health team and other campus partners.

"On any given day, I may be working on everything from contact tracing and case investigation to monitoring of data and metrics," she said. "In just the short time I've spent in this role, I've come to fully recognize the complexity of the factors that must be considered and the decisions that must be made at all levels of the university because of the pandemic.

"It truly takes a village and I'm constantly impressed by the dedication of our campus community and the ways they have risen to the many challenges we face because of COVID-19."

One of the biggest challenges Obbink has had to face was preparing to bring students back to campus in August. She helped develop a comprehensive strategy for health and safety including testing, case investigation, contact tracing, reduced campus density and promoting mitigation behaviors.

It has been a daunting task to complete, but Obbink credits her veterinary medicine training with helping her through the rough spots.

"I was taught critical thinking skills and a systems-based approach that has allowed me to work collaboratively with others while approaching complex problems in a successful manner," she said. "I am doing my part to model our healthy behaviors while encouraging and empowering others both within and outside our community to do the same.

"We each have a personal responsibility to help keep our campus and communities as safe as possible." **gd** 

Photo: Dave Gieseke

gentledoctor

# **The New Normal**

s Dr. Amanda Fales-Williams, professor of veterinary pathology and Tyrone D. Artz, MD Chair for Teaching Excellence, walks down the hall to the lecture room, the reality sets in. She's taken aback by the lack of students in the hallway. But, the most jarring reality is the silence – in the hall and the building.

On a normal day, she and the first-year veterinary students wait in the hall outside the lecture room, while the noon hour class or club meeting finishes. While they wait, classmates are chatting with each other, going over notes, or texting messages. But not today. Today is the start of a new normal.

Last month, Iowa State University shifted all coursework online for the remainder of the spring semester in response to the COVID-19 global pandemic. Like many of her colleagues at the College of Veterinary Medicine, Fales-Williams spent spring break exploring ways to present their courses online.

For Fales-Williams, it's a challenge she is ready to accept, but not without some trepidation.

"It could be a train wreck," she says.

"Technology is easier to use now, she says, but I have to access several different aspects of it to provide the most interactive lecture."

But the lecture isn't the only teaching modality that Fales-Williams uses, and needs to switch to online instruction. Her student-oriented teaching method includes a mix of interactive lectures, gross pathology labs, and case-based instruction. The preparation involved to deliver those experiences is different.

For Fales-Williams, the flip from in-person to virtual teaching is both

easy and difficult. Lectures can be adjusted via technology to include an interactive component with questionand-answer through the chatbox and the "Raise Hand" button where students can raise a digital hand. Easy.

More difficult, though, is creating a virtual lab experience. With the use of technology and two teaching assistants, Fales-Williams preps, to determine which tools will best showcase the material she needs to cover.

"We have a lot of equipment in our department that we employed and re-purposed for the virtual labs," Fales-Williams said.

To allow the students to see the specimens virtually, the teaching assistants, Drs. Dana Hill and Ya-Mei Chen, place them on the table of the overhead projector along with a measuring ruler to help gauge size. During the lab, Fales-Williams provides commentary while the assistants manipulate the specimen to show the texture. Videos of lab specimens were embedded in the document given to the students before class.

Fales-Williams admits it's a challenge to restructure the remaining lectures for online instruction. No stranger to asking for feedback, she asks and expects her students to provide negative and positive feedback. "I just want to provide the best instruction possible for the students."

Ames, Iowa native, Trevor Arunsiripate, says that the veterinary pathology class exemplifies how strong the veterinary professors are at adapting. "There were a few hiccups, but that can be expected from anyone who is used to seeing their students in person. With time, everything will smooth out." Maia Farber, a first-year veterinary student in Fales-Williams' pathology class, is sheltering-in-place with family in Los Angeles, Calif. "Virtual education has its pros and cons. I find it more difficult than being in the classroom." Living in Los Angeles has some unique challenges for Farber and others who may not be living in the Midwest. Farber always reminds herself of the two-hour time difference, so she doesn't miss any live lectures. Los Angeles is also under lockdown due to the COVID-19 situation, adding to the stress. What makes it easier for Farber and other students, she says, are professors who are willing to adjust and make changes in response to feedback about the online coursework.

"Dr. Fales-Williams is listening to our feedback. It's a learn-as-we-go situation and new territory for all of us."

### **MOVING FORWARD**

"I'm a social creature," said Fales-Williams. "When students are sitting in the classroom, I can recognize if I'm lecturing too quickly. It's been a learning experience that has shown how resilient our students and faculty are throughout the university. But I will be glad when the students return." **gd** 



Dr. Amanda Fales-Williams provides commentary while Dr. Dana Hill assists with the specimens for the virtual lab. Photo: Tracy Ann Raef



# **Taking a Different Approach**

n the matter of days everything changed with little, if any, advanced warning.

Such is the case with the College of Veterinary Medicine's 4th year surgical rotation. When Iowa State University went to only online, virtual learning, it became imperative for clinicians in the small animal hospital to replicate a hands-on experience to a totally virtual one.

And they had to do it on the fly.

What has emerged is a quick and meaningful adaptation to the online environment.

Before the COVID-19 pandemic forced Iowa State to move all classes online, 4th year vet students would observe in-person surgical procedures during their two-week surgical rotation.

Currently the Lloyd Veterinary Medical Center is only seeing patients when it is critical to the health of the animal. Today students are able to observe the surgery online thanks to cameras that had previously been installed in the surgical suite.

"When we were approached about live streaming in the wake of the online instruction, we were able to demo how the streaming would work, and it then showed how valuable this resource could be especially in the current situation," said Deb Hoyt, the college's instructional development coordinator.

Hoyt, along with Jeremy Kellen, systems support specialist, worked to utilize two other cameras scheduled to be placed elsewhere in the college, and quickly installed them in the surgical suite.

The innovation didn't end with the technology. As the fourth-year students observe live streaming from the surgical suite, the video is complemented with live commentary from a professor who is also observing the procedure online. "I have been able to watch the surgeries with the students and give commentary," said Dr. Karl Kraus, professor of veterinary clinical sciences. "This does not always happen in surgery as it is distracting to the surgeon. The students can ask questions without hesitation."

"Getting commentary and being able to ask questions during live stream surgeries will be very helpful for getting us oriented to understand exactly what the surgeons are seeing and doing," said Cassie Hilbrands, a fourth-year vet student. "Anyone can read how to do these procedures in a textbook, but to see it performed and have it explained at the same time will be very valuable for our learning."

Still the hands-on experiences that comes naturally with clinical rotations are out the window for the time being. And it's not just dealing with animals.

"With rotations moving to virtual learning, we are obviously messing out on the hands-on learning, the physical exams, the live tissue handling, the patient care, but we're also missing out on communicating with clients, which is just as important as the physical aspects of our training," HIlbrands said. "The circumstances are less than ideal, but I have been so impressed to see how faculty members in all departments are getting creative and going above and beyond to come up with new teaching strategies.

"This isn't an easy transition for anyone but knowing that the faculty members and clinicians in the College of Veterinary Medicine are making our education a priority definitely helps moving forward." **gd** 



File Photo

# **Moving to a Virtual Anatomy Lab**

wo weeks. That's all the time Dr. Eric Rowe and others in the College of Veterinary Medicine had to move the anatomy lab from an in-person course to online when the COVID-19 pandemic forced Iowa State University to move to virtual learning last spring.

"We had just a little under two weeks to come up with a plan and figure out how to execute it," said Rowe, associate professor of biomedical science.

"Needless to say, we had to be adaptable as we worked through it."

When Rowe learned he had to quickly move the VM1 course online, he immediately contacted Colorado State University. That institution has a virtual anatomy software which covered the limb of the horse and has the limb osteology for the ruminant.

Next he went online himself, seeking out as many other online resources as he could make available to students.

Unfortunately, the pickings are slim for large animal anatomy.

"We sat down as a teaching team to come up with at least a start of a plan," Rowe said. "It took us a few days to solidify something and then we worked together as a team to get it done."

A videotape was made of instructors identifying and describing the anatomy of the ruminant and equine limb on newly dissected material, which the team had to create. Photographs were taken from the specimen for students to label virtually within their groups. In addition to providing new material, the team also took photos of previously learned material for students to study.

It was almost like starting from scratch for Rowe and other members of the teaching team – Dr. Karl Bolser, associate teaching professor in biomedical sciences; Dr. David Starling, assistant teaching professor in biomedical sciences; Dr. Bharathi Palanisamy, teaching assistant; and Wolfgang Weber, teaching laboratory associate.

"For most of the remainder to the semester we were only about a week ahead of the students," Rowe said "In addition to creating study materials, we also increased the number of quizzes we made available to the students with the hopes to keeping them on track, while getting them used to how we were going to conduct the exams in the new virtual environment."

One of the big issues going online was how to keep the individual dissection groups functional. Students were encouraged to work together online as they identified structures depicted in the photographs provided to them.

Change, practically this late in a course, doesn't come without a few bumps along the road. But Rowe says the students understood the situation and gave the instructors the benefit of the doubt to finish out the semester.

"Their buy-in to the process was key to our successful completion of the



*Dr. Eric Rowe instructs students in the anatomy lab prior to COVID-19. File Photo* 

semester," he said. "They already had a semester and a half of anatomy under their belt so they knew what embalmed tissue looked like. That helped them identify different structures. But on the other hand, we had to do the entire large animal limb and trying to capture videos and photos while still allowing students to get their orientation is difficult.

"The way the semester was going to finish changed virtually overnight," Rowe continued. "I don't think any of us, students or faculty, wanted to finish the semester the way we did, ut we had no choice and did the best we could." **gd** 







# Happy at Home

Photos: Dave Gieseke

ne thing Dr. Rebecca Walton, clinical assistant professor in the Hixson-Lied Small Animal Hospital, can count on year-in and year-out, is that her and her fellow ER/ ICU staff members will see a lot of dogs diagnosed with Leptospirosis.

But none came into the vet clinic's ER with a case of Leptospirosis like Benny, a 1 ½-year-old Goldendoodle.

"Benny was one of the worst cases I've seen," Walton said. "He was an extremely severe case, his kidneys had been hit really hard."

Leptospirosis is a disease caused by a bacteria that can affect not only a dog's kidneys and liver but also the blood's ability to clot. And what makes the disease even more frightening to owners is that the symptoms of Leptospirosis vary and are nonspecific. Sometimes pets do not even have any symptoms.

The bacteria that causes Leptospirosis is spread through the urine of infected animals, usually wildlife. Dogs can get infected by drinking from a standing water that has become infected or even in the grass. After Benny was admitted to the Hixson-Lied Small Animal Hospital, he was diagnosed with a kidney injury and was started on antibiotics and fluids. "The infection was bad and we were really concerned that his kidneys would not recover," Walton said. "His kidneys needed a lot of time and care to get better."

Walton had reason to be concerned. When he was admitted, Benny's kidney values were exceptionally high at 16 mg/dl and he was barely able to urinate. A normal dog's kidney value is 1 mg/dl. To complicate matters further, Benny didn't initially respond to treatment.

"For the first couple of days there was no improvement on his bloodwork despite receiving treatment for Leptospirosis," Walton said.

"We knew his case was really severe, however, most cases show some improvement within the first few days of hospitalization, which was not the case with Benny. "We were definitely concerned enough so that we discussed referring him to another hospital for dialysis."

After three days, Benny's owners, the Gens family of Ames, began to consider if it was time to stop his treatments. After seeing their pet in the hospital, they made the decision to wait another day so their oldest son could come home from college to say goodbye. "On paper, Benny's numbers looked bad," Walton said. "But he was happy. He would wag his tail, shake hands. He was fighting the disease so hard. Almost everyone else would have stopped the treatments but his owners kept on going and Benny is now happy at home."

What the Hixson-Lied Small Animal Hospital team did was turn Benny around. By the fourth day, his kidney levels started to improve. It would take many more weeks, a dedicated team of veterinarians, and a patient, caring family before Benny finally turned the corner. By the time he left the hospital his kidney levels were at 4.0.

"He's on the mend," Walton said. "He is still receiving fluids and medication at home, but his family are doing an amazing job with his care. They sent us videos of him over Christmas and Benny was running around like nothing was wrong.

"Despite now having chronic kidney disease, he will be able to have a happy and long life."**gd** 

# Surprise, Surprise, Surprise

AvMA Animal Welfare Assessment Contest in the overall individual category?

Just look at the photo below. Then double or even triple his level of surprise and excitement.

"Dr. Millman says my jaw dropped when they made the announcement," Brezina, a first-year veterinary student from Council Bluffs, said. "I didn't know if I could stand and go get my award."

Even though he was just a first-year veterinary student, Brezina is no stranger to animal welfare. While an undergraduate student at Berry College, he competed in a similar competition. The results, he says, "weren't nearly as good as this time."

Still Brezina enjoyed the competition and wanted to continue to study this

year as a veterinary student. So he was pleased when he enrolled as a first-year student at Iowa State to learn that the animal welfare course was an elective he could take.

The course is taught by Dr. Suzanne Millman, professor of biomedical sciences and veterinary diagnostic and production animal medicine. As part of the class, the veterinary students practiced for the competition.

Practice made perfect for Brezina at this year's AVMA competition. The animal welfare assessment contest consisted of one live session and three "closed" sessions.

During the live session, Brezina competed with his teammates Isabella Schroeder, another first-year student, and Jasmine Hanson, a second-year student studying at the University of Nebraska-Lincoln as part of the 2+2 program with Iowa State. The group analyzed the welfare of sheep brought into the competition arena. The three "closed" sessions focused on the animal welfare of African Wild Dogs, zebrafish and broiler chickens. "There are different ways you can approach the competition," Brezina said. "I looked at what was the best in terms of the welfare of the animals.

"Being a veterinarian you have to put yourself in the individual animal's shoes. The contest is heavily weighted to evidence-based research."

Competitors are given 45 minutes to prepare for a 3-minute oral speech. Brezina did his presentation on the zebrafish category for which he received an almost perfect score.

Even though he thought he had done well, Brezina wasn't prepared for his victory. A few weeks after the fact though the results have sunk in.

"I'm pretty calm now," he said. "I got a lot of help along the way, not only my teammates in the competition but other students that were in the class who helped me refine my ideas." **gd** 



College of Veterinary Medicine team members, from the left, Isabella Schroeder, Dr. Suzanne Millman, Jasmine Hanson, Dr. Cassandra Stambuk, Braden Fitzgerald and Caleb Brezina. Photos: John Eisele/Colorado State University



Caleb Brezina accepting his first place High Point Individual Overall Award in the Veterinary Division. Pictured, left to right, Dr. Angela Bassinger, Merck Animal Health; Brezina and Dr. Cia Johnson, director, AVMA Animal Welfare Division.

# diversity&inclusion

# **Promoting Diversity** and Inclusion

r. Dan Grooms acknowledges he comes from a place of white privilege.

"I'm often ignorant of the reality of those that do not share my privilege," Grooms said. "Although I have committed to learning more about what I do not know, I acknowledge this lack of awareness.

"However, this does not lessen my conviction that there is no place in this world for hatred and racism."

Like so many others, the senseless killing of George Floyd and other persons of color hit Grooms, the Dr. Stephen G. Juelsgaard Dean of Veterinary Medicine, and the rest of the College of Veterinary Medicine community hard.

Grooms and the college are committed to anti-racism. This past spring, the college was a champion of the Iowa State Conference on Race and Ethnicity (ISCORE). Grooms addressed the conference and spoke of Dr. Frederick Douglass Patterson (DVM '23), one of the first African-Americans to graduate from the College of Veterinary Medicine.

Patterson went on to become president of Tuskegee Institute, the founder of the United Negro College Fund, and a driving force behind the formation of the Tuskegee Airmen during World War II. In his autobiography, Patterson wrote about that the "absence of animosity (at Iowa State) encouraged me to see veterinary medicine as a field in which I could practice without being hampered by the racial stereotypes and obstacles that would confront me as a medical doctor."



Faculty, staff and students in the College of Veterinary Medicine silently knelt Friday, June 12, for 8 minutes and 46 seconds to support the White Coats for Black Lives mission to dismantle racism in medicine and promote the health, well-being and self-determination of people of color. Photo: Dave Gieseke

"I wish I could say that Dr. Patterson's experiences are the same as our students are experiencing in 2020," Grooms said. "The experiences persons of color are having in Ames and throughout this country is quite different from the one Dr. Patterson chronicled."

Those experiences came to the forefront during the demonstrations nationwide and in Ames after the Floyd killing. In response to those events, Dr. Jennifer Scaccianoce, clinical assistant professor of veterinary clinical sciences, organized a collective kneel for 8 minutes and 46 seconds – the length of time, a white Minneapolis police officer, kneeled on Floyd's neck before he died.

The event was in support of White Coats for Black Lives, a national campaign to dismantle racism in medicine and promote the health, well-being, and self-determination of people of color. Scaccianoce said since the event, there has been discussions and self-reflecting by faculty, staff and students.

Grooms images that one day Iowa State can be a campus like the one Patterson described, a goal the College of Veterinary Medicine is working hard to achieve. The underrepresented student population in the college has jumped from six percent for the Class of 2021 to 14% in last year's first-year class.

The increase in underrepresented students coincided with an emphasis on recruitment. The Diversity and Inclusion Committee has worked to make the college a welcoming and inclusive place to learn and work for all.

That committee has been the driving force behind a series of college events including the annual MLK Day of Service where faculty, staff and students volunteer at local organizations and agencies.

When classes began this fall, the committee invited Dr. Kesho Scott, a professor of American studies and sociology at Grinnell College, to speak to the college community on "Unlearning Isms 101." With a virtual audience of 150, she explored the basic concepts of racism, exploring common language and addressing questions that many maybe too afraid to ask on the top of racism, diversity and inclusion.

In addition to Scott's presentations, firstyear veterinary students were required to participate in discussions on the importance of diversity, equity and inclusion within the veterinary profession. The discussions were led by college faculty and staff who are enrolled or have completed the Purdue University Center of Excellence Diversity and Inclusion in Veterinary Medicine Online Professional Certificate Program.

"By no means are any of us experts on these topics," said Dr. Heather Greenlee, who serves as the college's equity advisor and chair of the diversity and inclusion committee. "As organizers of this activity, we take pride in having these important discussions on issues surrounding diversity, equity and inclusion within our profession." **gd** 

# **Establishing an Inclusive Classroom**

ook up the meaning of a microaggression and youget this for a definition.

"A statement, action or incident regarded as an instance of indirect, subtle or unintentional discrimination against members of a marginalized group such as a racial or ethnic minority."

Many times, the individual uttering the microaggression doesn't realize they have done so.

An inclusive classroom training program provided by Iowa State's Center for Excellence in Learning and Teaching (CELT) is working, among other things toward eliminating microaggressions. All College of Veterinary Medicine faculty members are currently participating in the training sessions through their academic departments.

This program is in addition to training related to diversity and inclusion conducted by the college's Office of Curricular Assessment and Teaching Support (OCATS). The office provides a variety of materials on best teaching practices including an annual seminar series.

"The trainings being conducted by CELT and OCATS advances our goal to create a great place to learn," said Dr. Dan Grooms, the Dr. Stephen G. Juelsgaard Dean of Veterinary Medicine.

The offerings by CELT and OCATS are designed not only to inform but to spark conversations. Those conversations seem more often than not to go back to uncertainty and change. "Change is always hard," said Dr. Courtney Vengrin, director of curricular assessment and teaching support. "But the sign of an excellent educator is a willingness to be a life-long learner."

Both programs look at diversity and inclusion and offer inclusive teaching strategies including course design, teaching strategies and evaluation practices. Course-specific improvements are identified to allow faculty to foster inclusive excellence in their classroom.

It's not always easy to do that however.

"The first step is awareness," Vengrin said, "and being aware of what changes need to be made and once you are aware of them, finding resources to help you through that change. However it will take some time for people to get used to these changes." Some of the changes include using non-gender specific language and pronouns that an individual wishes to be addressed as. But even that is difficult.

Individuals may be hesitant to engage and ask personal questions of a colleague or student.

"Naturally we're all afraid of doing or saying the wrong thing," Vengrin said. "One of my favorite quotes comes from the author Lee Airton who says 'don't aim for no mistakes, aim for better mistakes.'

"We all slip up," she continued. "I've slipped up from time to time, but we should aim for making improvements and being aware of the consequences of how our words can be heard by others." **gd** 

Drs. Alex Ramirez and Jodi Smith participate in the CELT inclusive classroom training workshop. Photo: Dave Gieseke



# alumni**news**



# **2020 Homecoming Events Cancelled**

After weighing all options concerning the date and method of hosting the 2020 Honors & Awards recognition events with the uncertainty of the COVID-19 pandemic, Iowa State University and the College of Veterinary Medicine have decided to postpone the Honors and Awards Program originally scheduled for Friday, Oct. 16.

The annual Homecoming Weekend with alumni and friends gathering to celebrate has been a longstanding tradition in the College of Veterinary Medicine. The postponement, however, will allow the college to recognize the accomplishments of alumni recipients and honor them appropriately surrounded by family, friends and peers, when it can be done in in a safe and inclusive event. Details on an in-person event in 2021 will be announced at a later date.

The college's reunion weekend is also postponed due to the uncertainty and risk associated with COVID-19.

The college will coordinate virtual reunion happy hours for classes this fall. If you are interested or want to help coordinate a reunion for your class, please contact Tracy Ann Raef.

# PAIR HONORED BY ISU ALUMNI ASSOCIATION

Two DVM graduates of the College of Veterinary Medicine have been recognized with top awards by the Iowa State University Alumni Association (ISUAA).

Dr. Jack Shere ('87) is the recipient of the Distinguished Alumni Award, the highest honor given to alumni by the ISUAA. Shere has



spent his career on the leading edge of animal disease response, including three-and-a-half years as Chief Veterinary Officer and Deputy Administrator for the U.S. Department of Agriculture's Animal and Plant Health Inspection Service. (APHIS).

### Dr. Bob Bashara ('63)

is the recipient of the Alumni Humanitarian Award, recognizing Iowa State alumni for outstanding humanitarian efforts.



Bashara is a long-time advocate for animal welfare with the Doris Day Animal Foundation. He is a retired small animal practitioner in Omaha, Nebraska.

Shere and Bashara will be recognized at in-person events to be scheduled in 2021.

# In Memoriam

Notices of recent deaths are available online at vetmed.iastate.edu/alumni/ memoriam. If you know of a recently deceased CVM alumnus, faculty or staff member please send the notice to dgieseke@iastate.edu.





### VMX RECEPTION

The College of Veterinary Medicine hosted an alumni reception during the Veterinary Medicine Expo (VMX) in Orlando this past January. Dr. Dan Grooms, the Dr. Stephen G. Juelsgaard Dean of Veterinary Medicine, met with alumni including Dr. Marlin Frank ('65) and his wife Judy from Greeley, Colorado. Photo: Dave Gieseke

# **HONORS AND AWARDS**

- **Dr. Lynn Anderson** ('77) received the 2019 Bennett J. Cohen Award from AAALAC, International.
- **Dr. Jessika Uden Benes** ('11) has been named the Young Veterinarian of the Year by the Nebraska Veterinary Medical Association. Benes is a veterinarian with Stolley Park Veterinary Hospital in Grand Island.
- **Dr. Shamus Brown** ('13) was named a 2019 Master Pork Partner by the Iowa Pork Producers Association for individuals who have made positive impacts on pork production systems. Brown works at Iowa Select Farms.
- **Dr. Eric Gonder** ('74) has been presented the Lamplighter Award by the U.S. Poultry & Egg Association for sustained and exemplary service. Gonder is a senior veterinarian with Butterball/Goldsboro Milling Company.
- Dr. Kelly Heath ('88) has been named the Veterinarian of the Year by the Nebraska Veterinary Medical Association. Heath practiced mixed animal medicine as an associate and as a practice owner for 16 years before working in the biopharmaceutical industry for eight years. He is an attending veterinarian in the School of Veterinary Medicine and Biomedical Sciences at the University of Nebraska-Lincoln.
- **Dr. Philip Johnson** ('81) received the Outstanding Service Award from the Wisconsin Veterinary Medical Association. Johnson practices at Omro Animal Hospital in Omro.

- **Dr. Dustin Loy** ('09) received the bioMic Award for Excellence in Diagnostic Microbiology from the American Association of Veterinary Laboratory Diagnosticians, for research accomplishments in the field that have resulted in new scientific findings that have application for the betterment of veterinary medicine. Loy serves as a veterinary diagnostic microbiologist and case coordinator at the Nebraska Veterinary Diagnostic Center.
- **Dr. Joel Nerem** ('95), veterinarian with Pipestone Veterinary Services, has been named the 2020 Practitioner of the Year by the American Association of Swine Veterinarians.
- **Dr. Daryl Olso**n ('82) from Audubon, Iowa, has been appointed to the Iowa Racing and Gaming Commission by Iowa Governor Kim Reynolds.
- **Dr. Katherine Polak** ('10) has been named Veterinarian of the Year by the Association of Shelter Veterinarians. Polak works for Four Paws International and serves as head of Stray Animal Care - Southeast Asia.
- Dr. David Steffen ('87), diagnostic pathologist and quality control section head of the Nebraska Diagnostic Center at the University of Nebraska-Lincoln, has received the 2019 Dr. Edward Pope Memorial Award presented by the American Association of Veterinary Laboratory Diagnosticians.
- Dr. Frank Walker ('77), has been inducted as the new president of the North Dakota Veterinary Medical Association.
   Walker is the owner of Flickertail Veterinary Service in New Rockford, North Dakota.

# Alumni Award Recipients Announced

The College of Veterinary Medicine has selected recipients of its 2020 College Alumni Awards. The recipients will be recognized at an in-person event in 2021.

CONG

- Stange Award: Dr. Gary Borkowski ('87), global director, AAALAC International
- Stange Award: Dr. Laura Molgaard ('91), interim dean, University of Minnesota College of Veterinary Medicine
- Switzer Award: Dr. Charles Lemme ('75), retired small animal practitioner
- Young Alumni Award: Dr. Sherry Johnson ('12), co-founder, partner Equine CORE Inc., and Equine Sports Medicine & Rehabilitation
- Hoffman Graduate Alumni Award: Dr. Michael Roof (MS '89 & PhD '91), executive director of Bio- R&D, Boehringer Ingelheim Vetmedica

# Alumni E-Newsletter



Can't wait until the next *Gentle Doctor* magazine hits your mailbox for news about the College of Veterinary Medicine? Then

check out the college's monthly alumni e-newsletter.

CVM Alumni News features news and updates from the college including alumni events, features on CVM alumni and notices of recent deaths.

If you don't currently receive the CVM Alumni News please send your e-mail address to dgieseke@iastate.edu.

# #GentleDoctorsEverywhere



# **Testing for a Virus**

Mark Ackermann has taken his place on the front lines in the scientific battle during the COVID-19 pandemic. As the director of the Oregon Veterinary Diagnostic Laboratory at Oregon State University, Ackermann and his staff have teamed up with a private lab to increase novel coronavirus testing for medical providers in Oregon and other West Coast states. "OSU's veterinary diagnostic lab has the instruments and technical knowledge to run RNA extractions and virus detection on COVID-19 test swabs, but is federally accredited to conduct tests with animal samples, not human samples," Ackerman said. "The private lab normally processes drug tests and has the necessary accreditation, lab structure and experience working with human samples, but lacked the instruments and viral extraction expertise."



### **Finding Her Calling**

Janessa Butterfield doesn't hold back when she talks about her career. "Private practice just wasn't my thing," she said. "Day in, day out, it was a lot of vaccinations and ear infections." But since she became the lead veterinarian at the Animal Protection and Education Charity in Boone, lowa, Butterfield has found her calling. "I really like the independence and flexibility this job gives me," she said. "I love doing surgery and I do a lot of surgeries here. We see so many different things yet I still have the opportunity to interact with clients. I love that we are providing a needed service to the community."



# **Raising a Healthy Turkey**

Michelle Kroom has dedicated her career working with a staff of veterinarians, nutritionists and flock supervisors who visit Jennie-O farms on a weekly basis to make sure those birds stay healthy. "Those research farms are pretty unique to Jennie-O," Kroom said. "We have the ability to do studies that last a couple of months to see which new feed products show promise. This is an area where there are new technologies coming out all the time." Kroom has been recently named vice president of animal health and welfare at Jennie-O.

### **Follow ISU CVM Alumni Career Accomplishments**

### View full stories at vetmed.iastate.edu/gentledoctorseverywhere



### Moving from Cows to Sows

Christine Mainquist-Whigham says there are never two weeks the same at Pillen Family Farms. She divides her time among the 18 commercial sow units and downstream nursery finish spaces, and oversees the farm's disease elimination program. "I feel inspired to do the best I can for this company and these pigs," Mainquist-Whigham says. "Hopefully, I continue to grow my role here and continue to improve the health of our pigs and keep foreign animal diseases out."



### **Turning a Lifelong Love into a Career**

In getting to know Katie Merkes, it takes nearly no time at all to connect the dots as to where her pride and joy lies. "We have three dogs; two cats; three mini donkeys, with two of the mares pregnant again; and three horses," the 33-year-old said, with a laugh. "Like most people who work with animals, we have a menagerie." But it was the latter collection of equestrians among the mix that pointed Merkes toward the direction of her passion and eventual profession. Today, she balances her quality time as the owner of two local veterinary businesses, a wife and a new mom with her time on horseback.

AP File Photo



### A Good Place

A dozen sled dogs are hooked to a fence as veterinarian Laurie Meythaler-Mullins runs her hands over the backs, legs, paws, flanks and bellies of these canine athletes. "Just getting a good feel of their abdomen, their organs. Does anything feel enlarged. Everything feels pretty normal," she says. Meythaler-Mullins is looking for minor injuries or irregularities that could cause problems as the dogs run 300 miles in cold temperatures in the K300 Sled Dog Race in Bethel, Alaska.

# #GentleDoctorsEverywhere



# **Rural Challenges and Incentives**

Growing up on a small dairy farm, Cody Sacquitne knew there was a shortage of veterinarians in rural America. Today Sacquitne works at the Veterinary Medicine Center where he is "the fourth cattle veterinarian at the clinic." "I do the majority of the work at the one large dairy we have, and also work with cow-calf operations and other smaller ruminants," he says. "My goal was to be a food animal veterinarian, and it's exciting to be able to do that." Sacquitne and other lowa State veterinary graduates were featured in this article about the challenges and incentives in rural veterinary practices.



### **Bringing Solutions Back to the Farm**

When Chris Sievers works with his clients on-farm, he tries not to simply give a protocol or make a treatment decision and walk away. He strives to also provide the "why." "Discussion on-site is needed to evaluate if there are things that we can improve on, how we handled and implemented to that point, and give the follow-up that's needed to be successful – with not only the problem at hand, but also to try to prevent the next one and do the best we can for the next groups," said the veterinarian with Swine Vet Center in northwest lowa.



# Next LMU Dean

Lincoln Memorial University (LMU) has appointed Stacy Thacker Anderson as dean of the LMU's College of Veterinary Medicine. Anderson has been a member of the LMU faculty since 2015, serving as associate dean for academic affairs, the director of the Large Animal Clinical Skills and associate professor of Large Animal Surgery. "I am honored and humbled to serve as the next dean of the LMU CVM," said Anderson. "As I move into this new role, I plan to continue the vision forward to be a leader in bringing innovation to veterinary medical education. I am committed to upholding the LMU CVM mission and will work hard to implement initiatives that will meet the needs of today's veterinary graduates and prepare them for meeting future challenges."

### **Follow ISU CVM Alumni Career Accomplishments**

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### A Watchful Eye on Swine Disease

A casual conversation at a swine meeting in Minnesota eventually led Giovani Trevisan to become the first Iowa State graduate to earn a doctoral degree in population sciences in animal health. "Iowa State is recognized by the level of study that it provides, they have outstanding professors, and is a swine-revered university, so that's what was attractive," Trevisan says. "I had the opportunity to meet Daniel Linhares who became my adviser, and I felt very confident that we could work together and develop a good project."



### I Just Enjoy Volunteering

A career as a veterinarian doesn't typically leave a lot of time for volunteering. But Ashley Wegmann takes what spare time she has to do just that. The veterinarian with the DeWitt Veterinary Clinic in lowa, volunteers at New Kingdom Trail Riders. For her efforts Wegmann has been selected as the Professional Association of Therapeutic Riding International Region 7's "Veterinarian of the Year 2020."



# A True Hall of Fame Story

Lisa Uhl spent the first part of her life running as fast and far as she could. Now the College of Veterinary Medicine alumna and former Olympian is looking forward to doing much of the same – just at a much different speed. Uhl will be one of five new inductees this fall into the lowa State Athletics Hall of Fame for 2020. She is currently a resident in veterinary pathology at lowa State. "I am no longer formally competing, but I still get out there and run for my own enjoyment," she said.

AP File Photo



# Hatting Joins CVM Development Team



Steven Hatting is the new executive director of development in the College of

Veterinary Medicine.

A 1991 political science graduate of Iowa State University, Hatting was the associate dean for advancement at the Foster School of Business at the University of Washington before joining the ISU Foundation this October. Hatting has also worked in fundraising at Indiana University and the University of Minnesota prior to rejoining the ISU Foundation team.

After graduating from Iowa State, Hatting was the assistant director for annual giving program at his alma mater.

Hatting will replace Amy Kruzich, who has served as the interim unit lead.

# Allbaugh Named Inaugural Talbot Endowed Professor

Dr. Rachel Allbaugh, associate professor of veterinary clinical sciences, has been named the inaugural holder of the Lora and Russ Talbot Endowed Professor in Veterinary Medicine.

The endowed faculty position is the first of three named professorships that the Talbots have established in the College of Veterinary Medicine. The other two positions will be filled at a later date.

A faculty member at Iowa State since 2011, Allbaugh is board certified in veterinary ophthalmology from the American College of Veterinary Ophthalmologists.

"I am extremely humbled and honored to be selected for this prestigious position," Allbaugh said. "The fact that Lora and Russ Talbot established this professorship is incredibly special to me as I have come to know them very well over the past few years. They are amazing and exceedingly generous people. I am especially overjoyed and tremendously proud to hold this position in their name."

"We are extremely happy, proud, and ecstatic that Dr. Rachel Allbaugh is the very first Talbot Endowed Professor," Lora and Russ said. "We are just absolutely delighted and have every reason to believe that she will be an exceptional role model as an endowed professor. Rachel has a deep passion for both learning and teaching and she inspires students to be the best they can be."

The Talbots are long-time supporters of the College of Veterinary Medicine and Iowa State University. The Belmond, Iowa, couple have supported many different areas of the college including multiple four-year and second-year student scholarships as well as graduate fellowships.

Allbaugh will use funds generated from the Talbot Professorship to enhance her professional development through attending national and international meetings as well as purchasing equipment for the ophthalmology service unit in addition to facilitating research investigations to further ophthalmology knowledge.

"I am very excited to be able to purchase a laser unit that will allow for cutting-edge treatment of certain frustrating ocular conditions," Allbaugh said. "This will greatly enhance the clinical service we can offer our equine, feline and canine patients.

"Having these funds annually will allow us to initiate research projects which help to answer clinically pertinent questions. This position will not only help further ophthalmology knowledge and influence clinical management of patients, but will also aid me in supporting ophtho interested students, interns and residents in advancing their careers through the resulting presentations and papers."



Photo: Paul Gates

# **VDL FUNDRAISING**

The Iowa Pork Producers Association and the Iowa Farm Bureau Federation have each committed a gift of \$1 million to support the new Veterinary Diagnostic Laboratory (VDL) building project.

The laboratory is the only full-service and fully accredited veterinary diagnostic lab in Iowa and has been a state and national leader in protecting animal and human health since it was established in 1947. Processing more than 90,000 submissions a year – and more than a million tests in total – the laboratory plays a key role in ensuring animal health, including wildlife and companion animals; public health; world food safety; and the competitiveness of Iowa's \$32 billion animal agricultural industry.

The investment in the new state-of-the-art facility will help greatly increase the state's diagnostic service and discovery capabilities for current and future generations of Iowa's livestock farmers. In addition, the new facility will help keep Iowa State at the forefront in discovery of emerging and re-emerging diseases, provide a rich caseload to teach



future veterinary practitioners and make innovative discoveries regarding new methods to control and eradicate diseases.

"We are very grateful for the visionary generosity of the lowa Pork Producers and lowa Farm Bureau," said Dr. Dan Grooms, the Dr. Stephen G. Juelsgaard Dean of Veterinary Medicine. "Through partnerships, the Veterinary Diagnostic Laboratory will continue to be a leader in protecting animal and human health while advancing lowa's animal agriculture economy."

# **Transformational Scholarship Initiative Underway**

The College of Veterinary Medicine has established a new transformational scholarship that will lessen the financial obstacles veterinary students face.

"Our students' education and wellbeing are my top priority," said Dr. Dan Grooms, the Dr. Stephen G. Juelsgaard Dean of Veterinary Medicine. "One way to ease the burden of student debt is through transformational scholarships."

While the educational debt of an average lowa State veterinary student is significantly lower than the national average, the college thinks it's too high.

The college has a goal to double scholarship awards to DVM students to \$2 million by 2023 through the transformational scholarship initiative. Nationally, veterinary students finish their education with an average debt load of \$169,000. At Iowa State that debt level is \$140,000. One of the major factors in that is an increase in yearly tuition as state appropriations have declined. In 1960, yearly tuition for an lowa resident was \$252 or \$2,190 in today's dollars. Today's lowa DVM students pay \$24,200 a year and non-residents pay almost twice that amount.

The minimum pledge for a transformational scholarship is \$20,000 a year. This covers almost a full year of tuition for one in-state student or half of tuition for one non-resident student. Transformational scholarships may be a one-time gift of \$20,000 or a \$100,000 commitment payable over five years.



"Your support helps to reduce the educational debt of our students and allows them to focus on their education," Grooms said.

For more information on the transformational scholarships contact Trent Wellman or Deb Calderwood at 515-294-0867 or vetmeddev@iastate.edu.

SCHOLARSHIPS AWARDED		
2013	\$426,450	
2014	\$501,150	
2015	\$662,054	
2016	\$734,112	
2017	\$718,184	
2018	\$900,573	
2019	\$1,049,575	
2020	\$1,119,825	
2023 Goal	\$2,000,000	

### **IOWA STATE UNIVERSITY College of Veterinary Medicine**

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