

IOWA STATE UNIVERSITY

# *gentle*doctor

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**Ten Years  
in the Making**



# gentledoctor

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## From the Dean

### *Dear Colleagues and Friends,*

If you come to Ames over the next couple of years, you may be a little inconvenienced when you visit the College of Veterinary Medicine.

But don't worry, it's a good inconvenience.

Construction has started on the new Veterinary Diagnostic Laboratory and we are encountering construction vehicles, making do with less parking spaces, reconstruction of some of the college roadways, and a stop light at the college's main entrance off 16th Street.

It's a little inconvenient now but the end result will be spectacular.

When the facility opens for business in 2023 there will not be a finer D-Lab in the country – I would say not even in the world.

Add in the best veterinary diagnostic medicine faculty and staff you will find anywhere and the new VDL will continue our 140-year journey and commitment to provide state-of-the-art diagnostic services in support of animal health, public health and Iowa's \$32 billion agriculture industry.

It's been an amazing 140-year journey. The VDL was formally started in 1946 and was located in just three rooms in the basement of the Pathology Building in the Veterinary Quadrangle. The new facility will begin to replace our current VDL that opened in 1976. Over that time period, the VDL services and caseload has grown substantially to the point that future growth is impossible in the current facility.

During my time here at Iowa State, I have had the wonderful opportunity to visit with former directors of the VDL, Drs. Lorraine Hoffman and Vaughn Seaton and learn about the incredible impact the lab has had on both animal and human health.

The new facility under construction is due to the hard work and dedication of our VDL faculty and staff and so many others in the College of Veterinary Medicine and Iowa State University. These individuals have steadfastly worked to gain support and funding from the Iowa Legislature and our many stakeholders.

The Iowa Legislature passed and Governor Kim Reynolds signed legislation appropriating \$63.5 million for this project. That wouldn't have happened without the tremendous support of so many stakeholder groups that championed this



project. They educated legislators across the state about how the VDL daily impacts their operations.

These groups not only helped secure state funds for the new VDL but each stepped up to make lead gifts to the project. Commodity groups like the Iowa Pork Producers Association, Iowa Farm Bureau, Iowa Beef Council, Cattlemen's Association, Cattlemen's Foundation, Iowa Egg Council, Poultry Association, Turkey Marketing Council and Farm Credit Services.

Without their dogged determination the new Veterinary Diagnostic Laboratory wouldn't be rising from the open space on the Vet Med campus near Highway 30.

Until then our amazing VDL staff will continue their excellent work in less-than-ideal working spaces. But every day they arrive for work they will see the future being constructed as they exit their cars.

Our work isn't done however. This is just phase one of the new D-Lab. The front-end functions of the lab will be housed in the new facility but that leaves many others still in their current locations. The first phase of the new VDL is being built with that in mind, with space to be flexible for the future to bring all of the VDL's areas into the new space.

In all honesty, we're hopeful to be "inconvenienced" for a long time.

**Dan Grooms, DVM, PhD**

*Dr. Stephen G. Juelsgaard Dean of Veterinary Medicine*

## AAVMC Comparative Data Report Released

Here are some of the highlights of how the College of Veterinary Medicine ranked in the latest Comparative Data Report of the 32 accredited veterinary colleges. The listing is compiled by the American Association of Veterinary Medical Colleges (AAVMC).



### STUDENTS

- Total Enrollment: #2 (625 DVM students)
- Enrollment (Class of 2024): #3 (160 DVM students)
- Non-resident Applicants: #4 (1,540 applicants)
- 2020 MS, PhD Graduates: #4 (43 students graduated)



### TUITION AND FEES (30 SCHOOLS)

- Resident Total Cost of Education (Total 4 Years): 3rd lowest (\$168,056)
- Non-Resident Total Cost of Education (Total 4 Years): 8th lowest (\$280,028)
- Cost of Living in Ames: 1st lowest (\$14,426 per year)
- Median Educational Debt: 9th lowest (\$146,796)



### RESEARCH FUNDING EXPENDITURES

- USDA Expenditures: #2 (\$3,217,881)
- Industry Expenditures: #2 (\$3,972,676)

## VDL Continues COVID-19 Testing

The Public Health Testing Services (PHTS) was established in the Veterinary Diagnostic Laboratory last summer in response to COVID-19. Early in the pandemic, the unit worked closely with the State Hygienic Lab at the University of Iowa in helping that facility meet the crush of testing requirements in Iowa.

When in-person classes started back up in August 2020, the PHTS began obtaining results from submission's from Iowa State's Thielen Student Health Center for both PCR (COVID-19 testing) and serology (antibody-based testing).

## Wong Returns to CVM, Named VCS Chair

**Dr. David Wong**, professor and chair of the Department of Large Animal Sciences at Virginia-Maryland Regional College of Veterinary Medicine, has been appointed as the chair of the Department of Veterinary Clinical Sciences (VCS).



A faculty member in equine medicine at Iowa State from 2003-19, Wong served as both a service leader in the Equine Medicine and Field Services Unit and as interim assistant hospital director of the Lloyd Veterinary Medical Center. Prior to joining the Iowa State faculty, Wong completed his residency at Virginia-Maryland Regional College of Veterinary Medicine and worked in private practice for several equine hospitals in Michigan.

Wong earned his DVM from Michigan State University. He is a Diplomate in both the American College of Veterinary Emergency and Critical Care and the American College of Veterinary Internal Medicine. He also completed a fellowship in equine emergency and critical care at the New Bolton Center at the University of Pennsylvania.

"David Wong is a great addition to our leadership team," said **Dr. Dan Grooms**, the Dr. Stephen G. Juelsgaard Dean of Veterinary Medicine. "His expertise and knowledge of the College of Veterinary Medicine, particularly the VCS department and the Lloyd Veterinary Medical Center, will prove invaluable to the college in the coming years."



During the fall semester, PHTS performed 24,734 COVID-19 tests for students, faculty and staff. The unit also expanded to service local health care providers' needs in central Iowa.

## Brewer Appointed Ramsey Chair



**Dr. Matt Brewer**, associate professor of veterinary pathology, has been appointed as the Dr. Frank K. Ramsey Endowed Chair in the College of Veterinary Medicine.

A faculty member in the Department of Veterinary Pathology since 2012, Brewer has earned his DVM and PhD (pharmacology) from Iowa State. He is a Diplomate in the American College of Veterinary Microbiologists (parasitology). While at Iowa State he has been honored for his classroom teaching excellence with the college's Award for Early Achievement in Teaching and the Outstanding Teaching Award voted by the college's student body.

The Ramsey Chair was established in honor of Dr. Frank Ramsey who served as the chair of the Department of Pathology from 1957-75.



*Photo courtesy of University Museums*

### FACE OF IOWA STATE

Last summer, 3rd year veterinary student **Catharine Found** lined up volunteers to gather medical supplies for the Maderas Rainforest Conservancy in Costa Rica. This happened around the same time she and her partner became foster parents to a 10-year-old boy. Found is part of the Faces of Iowa State exhibit in University Museums. The exhibit features portraits created by Iowa artist Rose Frantzen in early March. Found was one of six Iowa State students selected by President Wendy Wintersteen.



### MAY I HELP YOU?

Iowa artist Tom Stancliffe and his assistants have installed the new artwork in the area between the Fish Tank Lobby and The Commons. "May I Help You?" is a welded and patinated steel aluminum piece with LED lighting. Stancliffe writes, "We are dependent on the marine ecosystem in the most fundamental and profound ways, and life within it is as mysterious as it is diverse. There is intentional ambiguity as to whether we are peering into their world or perhaps they are peering into ours, opening the door to other possibilities as well, leading me to the title: 'May I Help You?'"







## DAY OF SERVICE

During the Dr. Martin Luther King Day of Service, a food drive was held and the College of Veterinary Medicine delivered donations to local organizations. The food drive collected 577 pounds of food and personal care items plus individuals donated \$1,633 to the online fundraising page for the Food Bank of Iowa. Additional pet food donations were distributed between the Ames Animal Shelter and the Story County Animal Shelter. Volunteers also made 50 personal hygiene kits for the Volunteer Center of Story County.



## FORE!

A new 9-hole disc golf course has opened on the grounds surrounding the College of Veterinary Medicine. Second-year veterinary students **Shauna Gross** and **Kelly Hubbard**, along with their husbands, designed the course and with the help of other faculty, staff and students, set the course up for use late last fall. The 9-hole course begins and ends at the Fish Tank Lobby entrance. "Our biggest changes to our initial design were holes that looked cool but turned out to be quite impossible and making sure the baskets were safe," Hubbard said.

## Faculty and Staff Notes

- **Dr. Monica Howard** has been named the Assistant Dean of Veterinary Student Success. This change better aligns Howard's title with her duties within the college as well as corresponding with the title of individuals in similar roles at other veterinary colleges.
- **Dr. Michael Kimber** has been named chair of the Department of Biomedical Sciences.
- The ISU Iowa Pork Industry Center has received the Iowa Pork Producers Association's Presidential Award. **Dr. Chris Rademacher**, clinical professor in veterinary diagnostic and production animal medicine, is the associate director of the Iowa Pork Industry Center.
- **Dr. James Roth**, a Clarence Hartley Covault Distinguished Professor in Veterinary Medicine and the director of the Center for Food Security and Public Health, has been named a Fellow of the American Association for the Advancement of Science. Roth was named for "distinguished contributions to the field of immunology, particularly for control of infectious diseases in food producing animals."
- **Dr. Yuko Sato**, assistant professor of veterinary diagnostic and production animal medicine, has been appointed to the Iowa Board of Veterinary Medicine.
- **Dr. Austin Viall**, associate professor of veterinary pathology, is the president-elect of the American Society for Veterinary Clinical Pathology.
- The following individuals and units have received COVID-19 Exceptional Effort Awards at Iowa State University.
  - ❑ **Dr. Bryan Bellaire**, associate professor of veterinary microbiology and preventive medicine, Research Impact Award, for research leading to the delivery of the next generation mask/respirator that enhances efficiency and is capable of self-sterilization.
  - ❑ **Dr. Locke Karriker**, the Dr. Douglas and Ann Gustafson Professorship for Teaching Excellence in Veterinary Medicine and professor of veterinary diagnostic and production animal medicine, and the SMEC faculty, Excellence in Remote Instruction Award, for seizing the opportunity to become a leader in remote instruction for clinical teaching.
  - ❑ The **Veterinary Diagnostic Laboratory** and **Dr. Rodger Main**, director, Exemplary Team or Unit Effort Award, for dramatically increasing COVID-19 test processing to respond to testing surges.
  - ❑ **Dr. Kristen Obbink**, lead public health veterinarian in the Center for Food Security and Public Health, University Hero, for her achievements in the role of acting COVID-19 public health coordinator.

# RESEARCH ROUNDUP

- A team of researchers, led by **Dr. Joyce Carnevale**,



clinical associate professor of veterinary clinical sciences, has received a \$50,000 award from the American Society for the Prevention of Cruelty to Animals (ASPCA). The two-year grant will allow Carnevale and her team to research an incremental care approach to managing acute canine vomiting. "There is little evidence-based information available to help veterinarians predict which patients will necessitate more aggressive- in-hospital and/or surgical management," Carnevale said. "Since more advanced care and hospitalization are costly, financial considerations play a factor in the owner's decision regarding the extent of veterinary care they will pay for." Carnevale's project will devise a comprehensive incremental-care and evidence-based algorithm for dogs with acute vomiting to veterinarians. She says this should streamline the decision-making process while identifying risk factors associated with prolonged hospitalization and/or surgery.

- The Office of the Vice President for Research has awarded \$50,000 in Presidential Interdisciplinary Research Seed Grant Program funding to **Dr. Dana LeVine**, associate professor of veterinary clinical sciences, and **Dr. Austin Viall**, associate professor of pathology. Their project will investigate causes of blood clotting and lung inflammation in COVID-19 using a unique hamster model. "Unravelling the Role of Neutrophil Extracellular Traps in the Pathogenesis of Severe COVID-19" will explore evidence that



suggest virus-induced neutrophil extracellular traps (NETs) play a crucial role in COVID-19 infections. LeVine and Viall's research team will use Syrian hamsters to develop a brand-new animal model that properly mirrors the effect of the virus in humans and assesses the ability of hamsters to generate NETs in response to COVID-19. With relevant data in hand, the pair hopes to investigate the ability of NET-regulating drugs to improve hamster, and ultimately, human patient, outcomes. "With COVID-19, everything is high-risk because we are still learning about the disease," Viall said. "This horrible pandemic has impacted millions of lives. We're hopeful that by pursuing this project we can find something that will be useful for people everywhere."

- **Dr. Daniel Linhares**,



associate professor of veterinary diagnostic and production animal medicine, has been awarded a research seed grant as part of Iowa State University's ongoing support of economic growth in Iowa through innovation and technology transfer in key Bioscience platforms. Linhares' project, "Forecasting Swine Performance Under Field Conditions in Iowa Based on Ongoing Automated Integration of Data Streams," will receive a maximum of \$50,000 funding of a six-month period from the Office of the Vice President for Research. The seed grants were made possible through funding allocated by the Iowa Legislature.

- The production of autogenous vaccines to fight individual strains of the virus that causes porcine reproductive and respiratory syndrome depends on the ability of scientists to isolate the virus, but sometimes that's a tricky process. A new study from

- **Dr. Jianqiang Zhang**,



associate professor of veterinary diagnostic and production animal medicine, shows that a new cell line may offer a better alternative to the cell line most commonly used to isolate the PRRS virus. But the vast majority of vaccine producers use the established cell line, and it remains to be seen how readily they might adopt the use of a new one. "Considering that the vast majority of autogenous vaccine companies still rely on the MARC-145 cell line in their vaccine production systems, it may happen that some of them cannot produce autogenous vaccines even if a PRRS virus isolate is obtained in ZMAC cell line. It remains to be seen how readily they'll adopt the use of the new ZMAC cell line," Zhang said.

- Experiments testing the ability of ultraviolet light to stop the spread of porcine reproductive and respiratory syndrome (PRSS) has shown



promise, according to an ISU research team that includes **Dr. Jeff Zimmerman**, professor of veterinary diagnostics and production animal medicine. Ultraviolet light analyzed in experiments irradiates aerosolized droplets of the virus that causes PRSS. Zimmerman says the ultraviolet light might offer pork producers and veterinarians a new tool for disease prevention or reduction. Some farmers install expansive ventilation systems in their barns to keep aerosolized viruses out of their operations, but those measures come with a hefty price tag. "It's very costly to implement, and then there are ongoing maintenance concerns with making sure the buildings are airtight," Zimmerman said. "Ultraviolet fixtures could offer great flexibility."





Conceptual rendering



Over the past several years, Veterinary Diagnostic Laboratory faculty and staff have conducted numerous tours of the current facility including this visit by members of the Iowa State Legislature this past winter. Photo: Dave Gieseke

**T**our after tour. Presentation after presentation. Meeting after meeting.

It's been a long and winding road to get to this point in time. After all those tours, presentations, meetings and testimonies before the Iowa State Legislature, the new Veterinary Diagnostic Laboratory (VDL) in the College of Veterinary Medicine is happening.

What was so long studied, planned and sought after is about to become a reality.



# Ten Years in the Making

Story: Dave Gieseke



This spring, construction has begun on the first phase of the project – a \$75 million structure that will begin to meet the serious infrastructure challenges faced at the VDL.

The HVAC system is outdated. So are the plumbing and electrical systems.

When it was built in 1976, the VDL was a state-of-the-art building, whose 30 faculty and staff worked on 16,000 cases a year. Today, that same facility is overcrowded with more than 160 faculty and staff and the caseload has ballooned to over

100,000 cases per year. In fact, Iowa State's VDL sees the largest food animal caseload in the nation.

But that doesn't even begin to highlight the issues with the current VDL. Biosafety and biocontainment issues are the primary concerns that keep Dr. Rodger Main, VDL director, up at night.

"A lot has changed in the industry since this facility was built in the '70s," Main said. "The animal agriculture industry looked a lot different back then than it does

now. The core of what we do hasn't changed. The technology and the scale have changed.

"The lab's needs and growth are simply a reflection in the changes that have happened in animal agriculture."

After substantive facility deficiencies were noted in two independent audits of the laboratory in 2012, College of Veterinary Medicine officials knew the time had come to focus on a new diagnostic lab. A series of extensive VDL facility needs assessments and planning studies were commissioned.



Groundbreaking ceremonies for the new Veterinary Diagnostic Laboratory were held October 30 and included state and ISU officials and a performance (upper right) by the Cyclone Marching Band. Photos: Dave Gieseke



Current and past directors of the Veterinary Diagnostic Laboratory attended the groundbreaking ceremonies including, from the left, Dr. Vaughn Seaton, Dr. Pat Halbur, Dr. Lorraine Hoffman, and Dr. Rodger Main.

## Groundbreaking Held for New VDL

The College of Veterinary Medicine has long had a commitment to provide state-of-the-art diagnostic services in support of Iowa's \$32.5 billion animal agriculture industry.

That commitment continued Friday, October 30, as groundbreaking ceremonies were held for the new Veterinary Diagnostic Laboratory on the vet med campus.

"Today is another step in the 140-year journey and commitment of the College of Veterinary Medicine and the Veterinary Diagnostic Laboratory to provide diagnostic services to serve in support of animal health and public health," said Dr. Dan Grooms, the Dr. Stephen G. Juelsgaard Dean of Veterinary Medicine.

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.

The \$75 million project has been funded by a \$63.5 million appropriation from the State of Iowa with additional funding from the VDL, College of Veterinary Medicine, Iowa State University and private donors.

Lead gift commitments to the new VDL have been provided by the Iowa Pork Producers Association and the Iowa Farm Bureau Federation.

"The Veterinary Diagnostic Laboratory is a crown jewel for Iowa State University and for the entire state of Iowa," said Iowa State University President Wendy Wintersteen. "A long-time national leader in advancing animal health and food safety, the VDL has also leveraged its expertise to play a key role in the state's response to the COVID-19 pandemic. This new facility is critical for the VDL to continue

providing innovative solutions and support to the complex and growing needs of animal and public health. We are deeply grateful to the state, our industry partners, and donors for their investments to make it possible."

Construction began in early 2021 with a scheduled 2023 opening. The Weitz Company of Des Moines and STRANG of Madison, Wisconsin, has been selected as the project's design build team.







*The new Veterinary Diagnostic Laboratory will include new spaces for receiving and accessioning among many other front-end units. Photo: Christopher Gannon*

All reported what Main and others in the VDL knew.

A new facility was needed and the sooner the better.

## A PROUD HISTORY

The Veterinary Diagnostic Laboratory at Iowa State is one of the nation's few comprehensive laboratories that encompasses the full range of specialty areas needed for today's multi-billion animal agriculture industry as well as companion animals and wildlife.

Jammed into the College of Veterinary Medicine building and scattered throughout a number of outbuildings on the CVM campus are units that focus on pathology, bacteriology, virology, molecular diagnostics and serology, as well as expensive to maintain fields such as toxicology and areas of emerging importance such as clinical pharmacology, genetic sequencing and bioinformatics. The laboratory's consistent focus on excellence in clinical diagnostic service, teaching and applied research has continued despite the limitations of the current facility. Accurate,

same-day test results are provided in a timely manner. The public is educated about outbreaks and other serious health concerns.

Iowa State's VDL is not only the only full-service and fully accredited veterinary diagnostic lab in Iowa, but one of the world's most preeminent labs.

"We are a nationally recognized center of excellence," Main said. "Iowa State is a true national leader in veterinary diagnostic and production animal medicine and the citizens of Iowa and the nation benefit from what we do here."

Over the years, a number of small-scale, temporary fixes have been made to the diagnostic lab facilities as cases and staffing grew. When the Hixson-Lied Small Animal Hospital came on-line in 2012, the old surgical suites were transformed into a state-of-the-art molecular diagnostics laboratory.

But only so many temporary fixes can be done and to maintain the international prominence the diagnostic lab had earned, VDL officials knew a new building was needed. And any new building would have to solve the biocontainment and biosafety issues as well as creating quality and a sufficient amount of space.

Moving ahead with constructing the new VDL represents a substantial step forward.

## WORKING TO A NEW BUILDING

Main, Dr. Pat Halbur, executive director of the VDL and chair of the Department of Veterinary Diagnostic and Production Animal Medicine, and other college and university officials began making the case for a new facility.

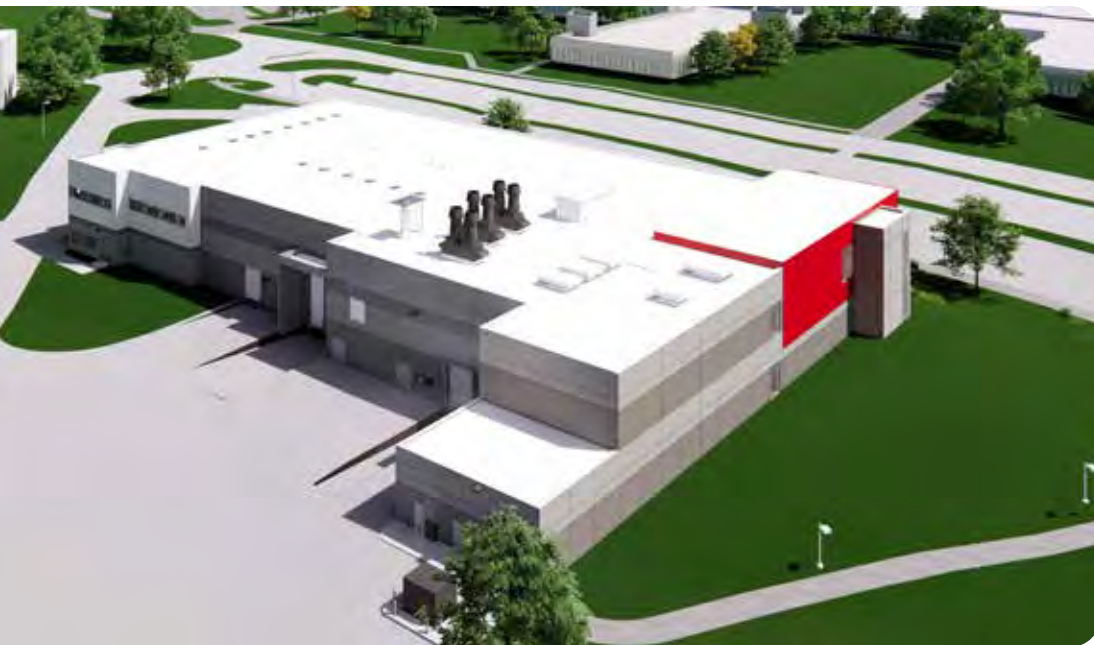
"Pat and Rodger have made countless presentations, given tours to legislative groups, stakeholders and other without ever taking their eyes off the goal of continuing to build and maintain a world-class veterinary diagnostic laboratory that protects animal and public health while supporting and growing the livestock industry," said Dr. Dan Grooms, the Dr. Stephen G. Juelsgaard Dean of Veterinary Medicine.

"This project would not have been possible without their dedication and the world class expertise of our faculty and staff who are the heart and soul of the facility."

The Iowa Legislature has appropriated \$63.5 million over six years (through 2024) from the Rebuild Iowa Infrastructure Fund. Additional funding for phase one will be provided from



*Conceptual rendering of northeast view of Veterinary Diagnostic Laboratory*



Conceptual rendering of aerial view from the south.

the VDL, the College of Veterinary Medicine, Iowa State University and private donors.

“We started this facility infrastructure evaluation and improvement process nearly ten years ago,” Main said. “It has been a long and rewarding journey. We recognized that this was a long-term project in order to get to where we are today.

“The largest champions for the project have been the VDL’s stakeholders across all aspects of veterinary medicine and animal agriculture. They educated legislators about how the lab impacts their veterinary clinics, farming operations and local communities. They were just tremendous advocates to raise awareness of the need for a new lab across the state.”

The Iowa Veterinary Medical Association and commodity groups like the Iowa Pork Producers Association, Iowa Farm Bureau Federation, Iowa Beef Council, Cattlemen’s Association, Cattlemen’s Foundation, Iowa Egg Council, Poultry Association and Turkey Marketing Council have each played a significant role.

These groups not only helped secure state funding for the new VDL, but have also stepped up to make lead gifts to the project. (See page 13 for a listing of the major donors and available naming opportunities).

“This new facility is critical for the VDL to continue providing innovative solutions and support to the complex and growing needs of animal and public health,” Iowa State University President Wendy Wintersteen said at the VDL groundbreaking ceremonies last October. “We are deeply grateful to the state, our industry partners and donors for their investments to make it possible.”

Work has begun on the new, stand-alone building south and west of the current laboratory site. It is anticipated the lab will open in 2023.

## THE NEW FACILITY

When it is completed, the new Veterinary Diagnostic Laboratory will include essential infrastructure and half of the needed program space.

The new lab will include receiving/ accessioning, necropsy, sample processing, histopathology, bacteriology,

pathology and an incinerator. Main describes these units as the laboratory’s “front-end functions.”

“The highest risk activities that deal with handling the whole animals and tissues being submitted to the lab will be in the new building,” he said.

The final product will also look vastly different than the current 1970s edition.

“The spaces are being strategically built for purpose, and are way more open and flexible than what we currently have,” Main said. “The biocontainment, biosafety and the quality and quantity of space will all be much improved.

“We’re building a building that puts us in a position to be flexible for the generations to come.”

The future includes plans for a strategically planned addition needed to enable the entirety of the VDL’s operations to be housed in this new stand-alone facility.

“We’re building as much of the lab as we can with the funding that has been afforded to support this endeavor,” Main said. “It’s a tremendous first step and will be sustainable for the long term.

“But we’re doing it in such a way that we can survive until Phase 2 comes along.”

## NOT FINISHED YET

There will be many of the key components of the VDL that will be “left behind” in the current facility. Consistent with the findings of the preceding VDL facility needs assessment when Main, Halbur and others were first advocating for a new diagnostic lab, they were seeking funding in the amount of \$125 million. While planners have worked hard to get as much as possible into



the new building, critical, unmet needs will need to be addressed in the future.

Main estimates that 80% of the lab's testing functions will continue in their current spaces. This includes molecular diagnostics, serology, virology, analytical chemistry, toxicology/pharmacology, genetic sequencing, bioinformatics, BSL-3 lab, and the VDL's research and development functions. The VDL's administrative staff and support functions will also continue to be housed in their current locations.

One of the downsides will be the operational limitations of having separate facilities and associated movement of samples and people between buildings, but that will be an incentive to work towards the addition.

"I worry when we move the first units into the new space, people may think that project is completed," Main said. "Far from it."

The new VDL is being constructed so that an already preconceived addition can be readily built on, to get all of the VDL's operations under one roof. Main emphasizes that this multi-generational impacting investment in infrastructure aims to play a key role in safeguarding and bettering animal health, public health and the competitiveness of Iowa and U.S. animal agriculture for decades to come.

"Whether it's developing and applying new cutting-edge diagnostic tests and strategies or identifying new emerging pathogens such as Porcine epidemic diarrhea virus, this lab has set the standard for innovation in diagnostic medicine," Grooms said.

"I can only image what our extraordinary scientists and diagnosticians can do in the facility we are getting ready to build." **gd**

## VDL Naming Opportunities

The new Veterinary Diagnostic Laboratory project is being partially supported by the state of Iowa. A private funding component is also required. There are several opportunities to name spaces in this new facility. Flexible pledge and payment options. For more information, contact:

### Trent Wellman

*Director of Development*

College of Veterinary Medicine

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515-294-4675



### Thank you to all of our supporters.

- Lobby: Iowa Pork Producers Association
- Premier Conference Room: Iowa Farm Bureau Federation
- Archives Room: Lora and Russ Talbot
- Client Service Entrance: Iowa Beef Council, Cattlemen's Association & Cattlemen's Foundation
- Conference Room: Dr. Norm & Beth Cheville
- Faculty Offices: Lora and Russ Talbot, Drs. Lorraine J. Hoffman and M. Peter Hoffman, Carole Triplett
- Poultry Lab: Iowa Egg Council, Poultry Association & Turkey Marketing Council
- Science on Display: Merck Animal Health
- Specimen Viewing Studio: Iowa Beef Council, Cattlemen's Association & Cattlemen's Foundation
- Student Rounds Room: Bill Blohm, DVM
- Teaching, Training and Research Lab: Lynn Anderson, DVM
- Leadership Level Contributor: Farm Credit Services of America



*Additional alumni, friends and anonymous donors have contributed more than \$450,000 to the project.*

### Remaining naming opportunities range from \$25,000 to \$1,000,000

- Bacteriology Lab
- Client Services Spaces
- Entrance Plaza
- Faculty/Staff Office Suite and Individual Offices
- Faculty/Staff/Student Commons
- Histology Lab
- Media Prep
- Pathology Floor
- Pathology Viewing Mezzanine
- Sample Receiving/Processing

**Please contact the ISU Foundation for these and other naming details.**

# Raising Their VOICE



One year ago, the student chapter of VOICE didn't exist in the College of Veterinary Medicine. But thanks to the efforts of a dedicated executive team, the student run organization is primed and ready to make a difference at Iowa State.

VOICE (Veterinarians as One Inclusive Community for Empowerment) is a national organization that seeks to increase awareness, respect and sensitivity to differences among all individuals and communities in the field of veterinary medicine.

That message is one third-year students Kelly Hewitt and Mithila Noronha want to bring to the students, faculty, staff and alumni of the College of Veterinary Medicine.

"Coming into this school you quickly realize that this is not as diverse a student body as other professional schools across the country," Noronha said. "Through VOICE we want to educate our peers to be able to have positive interactions with people

who may be different from those they usually interact with."

The Iowa State chapter of VOICE was established this fall semester and even in the age of Zoom meetings, the group was active right from the start. During the chapter's first meeting, members watched and discussed a podcast on minority women in veterinary medicine which features Dr. Monica Howard, director of student programs with the College of Veterinary Medicine and adviser to the new VOICE chapter.

VOICE, which received the 2021 ISU Student Activities "Outstanding Commitment to Diversity Award," also conducted a voter registration event in the college last fall with the purpose of registering students to vote in the general election. There are no annual dues to be a member of VOICE and meetings and events are open to all veterinary students, faculty and staff.

"We want to increase awareness throughout the college," Hewitt said. "Our voices can make a difference in the world."

And while the chapter's rapid beginning is impressive so has been Hewitt's role in the national group. She recalled reviewing applications for grants from veterinary students across the country to attend last spring's national AVMA's Leadership Conference.

"Many of the applicants listed being founding members of VOICE at their respective institutions," Hewitt said. "I had no idea what VOICE was so I googled it.

"Since I was invested in VOICE's mission of celebrating diversity within our profession, I thought it would be really cool to start a chapter here."

Hewitt's initial involvement soon led her to become involved nationally with VOICE even though Iowa State did not have a recognized student chapter. Today she is one of VOICE's national co-presidents.

"I think being an outsider to the national group is an advantage," Hewitt said. "I can bring new ideas and help other local chapters at the national level."

Because of her national responsibilities, Hewitt recruited Noronha to help establish the Iowa State chapter of VOICE. Noronha spent the first two years of veterinary school studying at the University of Nebraska-Lincoln's 2+2 program before moving to Ames this fall to finish her degree. She is serving as president of the Iowa State VOICE chapter.

"This is a good year to start a VOICE chapter at Iowa State with all that is going on in this country with COVID and Black Lives Matter," Noronha said. "Hopefully people come away from our meetings with knowledge or perspective they can apply to their own lives." **gd**



Third-year students Kelly Hewitt and Mithila Noronha were instrumental in the establishment of the new VOICE student chapter in the College of Veterinary Medicine. Photo: Dave Gieseke



# New Funding Reality

Old hat. That's how the trio of Dr. Karin Allenspach, Dr. Jonathan Mochel and Dr. Al Jergens would describe the process of writing research grants.

"You write the grant, submit it and then don't worry if you never hear back from the proposal," said Allenspach, professor of veterinary clinical sciences. "It's not painless but we've all done this for years."

The three are still writing grants but their start-up entity has entered a whole new world when it comes to securing new funding for their company. 3D Health Solutions, Inc., is a start-up entity that seeks to expand upon and commercialize three-dimensional in vitro canine cell cultures for therapeutic drug screening purposes.

Jergens, professor of veterinary clinical sciences, refers to it as being thrown into the "shark tank," the popular entrepreneurial-themed reality show on ABC.

And so far, 3D Health Solutions has proven to be able to get a handle on this new funding reality. Earlier this year, the firm received first place in the 15<sup>th</sup> Annual John Pappajohn Iowa Entrepreneurial Venture Competition.

Then in February, 3D Health Solutions was named the winner of the 6<sup>th</sup> Annual Biotech Showcase, a bioscience pitch competition sponsored by the Iowa Biotechnology Association. In the Pappajohn competition, 3D Health Solutions had to make a 20-minute pitch to a review board. It's quite the change from submitting a grant proposal and getting a yes or no via a letter.

"For that competition we had to do multiple rounds of applications

and pitches," said Mochel, associate professor of biomedical sciences and veterinary diagnostic and production animal medicine. "As opposed to a typical grant application, you have to also include the business side of your model in your presentation.

"But what I like about these presentations is that you actually have a chance to defend your proposal. The problem isn't the presentation but rather the knowledge of what non-scientific items you need to submit."

"Venture capitalists are looking for the best idea and what would provide the higher return on investment fast," Allenspach said.

So, what has made 3D Health Solutions the best idea in the minds of these review boards? The company's overall objective is to provide the veterinary and human drug pharmaceutical industry with assays on multi-species organoid cell lines from different species and microfluidic techniques for drug absorption, efficacy and safety screening that will deliver superior predictability than current in vitro systems.

Allenspach, Jergens and Mochel feel their idea will dramatically reduce the cost and time of approving human drugs. The current cost per approved drug is estimated at more than \$1.5 billion each. That includes pre-clinical drug discovery and testing on rodent- and non-rodent models to determine whether the compound can be taken into human clinical trials.

Even then, 95% of all drugs developed ultimately fail to enter the consumer marketplace. 3D Health Solutions has a new approach in testing on canine intestinal organoids. This is expected to significantly improve the



From left: Dr. Al Jergens, Dr. Jonathan Mochel and Dr. Karin Allenspach. Photo: Christopher Gannon

predictability of in vitro systems currently used for pre-clinical drug research and allow for early selection of the most-promising drug candidates. It will also reduce the number of live animal studies and their associated costs while accelerating the transition from pre-clinical research to early drug development.

The company has also been developing a bioarchive of 3D organoids for investigative purposes which is another strategic advantage in the biomedical research marketplace.

"We believe we have come up with real world ideas to make it possible to get drugs made cheaper and quicker," Allenspach said.

Dogs, Jergens says, are the ideal model for a number of reasons. Chief among them is that dogs have a number of spontaneous developing diseases similar to humans.

"The dog is an excellent model," Jergens said, "and not only can cost be reduced, but we can speed up discovery by using dog organoids instead of rodents in drug testing."

One way the research team is already doing that is through their investigation of canine bladder cancer to produce a model for predicting drug responses in human bladder cancer patients. They received the 2020 Margaret B. Barry Cancer Research Program award and \$120,000 over two years for the research. Importantly, this research is now advertised as an ongoing clinical trial on the Mayo Clinic website. **gd**

# FIGHTING Cancer

**W**orking to realize the dream of becoming a veterinarian is tough. For two College of Veterinary Medicine students that work became much harder when they were diagnosed with cancer.

Dominic Gentile was just beginning his fourth year when he had to put his education on hold. Maia Farber's diagnosis came just as she was starting the second half of her second year at Iowa State.

Regardless of their health issues, both Gentile and Farber have continued on with their veterinary studies, both determined to graduate.

## I HAD TO GRADUATE

Eight months of chemotherapy. Eight months living in a hotel. An invasive total hip arthroplasty to remove a tumor and save his leg. A month of radiation treatments. That was what Dominic Gentile endured while undergoing treatment after being diagnosed with metastatic Ewing's Sarcoma, a rare form of bone cancer.

"Outside of all of the obvious things that come along with a cancer diagnosis – the mental, emotional and physical strain – I had to withdraw from school to focus on my health and treatment," Gentile said.

That meant not graduating with his class last May. Despite all that he was going through, Gentile was committed to graduate. It's a goal he had realized.

"I HAD to graduate," he said. "I had worked so hard for so long and nothing, not even cancer was going to stand in my way."

Through those eight months of treatment, Gentile continued to study. He went over his old class notes, re-read textbooks, checked out the latest journals. It became important to continue to immerse himself in the material but also to have something to focus on instead of his illness.

"It wasn't like I was studying every day," he said "Chemo made concentrating for long periods of time tough, it made recalling information challenging at times and it made me

just overall fuzzy. But when I felt good or just to pass time when I was admitted to the hospital for my infusions I would study little by little trying to stay fresh with the material."

Prognosis for metastatic Ewing's Sarcoma is typically poor. Gentile defied the odds and was cancer free in March 2020. But because he had withdrawn from his fourth year, he wasn't able to graduate with his class last May.

That was devastating for the New Jersey native.

"I was heartbroken that I wasn't able to continue with my class," he said. "I wouldn't get to graduate with my classmates. I wouldn't get to start working. And I had to watch my classmates achieve their dreams as I was fighting for my life."

Cancer free, Gentile rejoined Iowa State's veterinary program last May.



Dominic Gentile exams a patient during a fourth-year rotation in the Hixson-Lied Small Animal Hospital. Photo: Christopher Gannon

He started studying for the NAVLE. He continued with clinical rotations.

He had to make some adjustments in clinical rotations. His treatment included a new hip and he didn't have the mobility or strength in the leg as he was used to. Restraining big dogs or lifting them up on the exam table were much more difficult.

In the back of his mind there was always that lingering fear. What if the cancer returned? Every pain and twinge in his body sacred him. The combined burdens of his health concerns and being a fourth-year vet student weighed on him.

Then this past November, bad news. The cancer had returned with more lesions in a number of different bones, including lesions on his skull. Additional chemotherapy followed. This time Gentile was doing his rotations in an online format as he worked



Several College of Veterinary Medicine faculty members traveled to New Jersey to participate in a graduation ceremony for Dominic Gentile including, from the left, Drs. Jared Danielson, Dan Grooms, Rebecca Walton, Chad Johannes, Rachel Allbaugh and Jim Noxon. Submitted Photo



to finish his degree. He transferred his medical care back to Philadelphia to be closer to family and friends.

Gentile's hard work and dedication to earn his degree came about earlier this semester when he completed the number of clinical credits required. His determination of "I HAD to graduate" became a reality.

The College of Veterinary Medicine made Gentile's graduation more than just receiving a diploma. A group of faculty traveled to New Jersey for a special graduation ceremony for Gentile and his family.

"I'm still not over the shock that the college came to give me an official graduation ceremony," he said. "I don't think I was ever more humbled and honored than in that moment when they insisted on doing this for me.

"My goal while at Iowa State was to always be a determined student, reliable friend and colleague, an example of what ISU CVM looks for in a vet student. I supposed with their insistence on doing this ceremony I must have made an impression on folks in my time there."

## CONTINUING ON

Classes were just starting this semester when Maia Farber got the news. Bad news as it turns out as she learned she had cancer – Follicular variant of Papillary Carcinoma, what is commonly referred to as thyroid cancer.

After the shock and anger had passed, Farber went immediately for treatment. She underwent a full thyroidectomy in early February but was quickly readmitted to the hospital because she was symptomatically hypocalcemic. Farber has returned to her studies as well as continuing to receive treatments.

"Luckily for me, with the pandemic making our lectures online, my schedule has been minimally affected," she said. "I am in touch with all of my professors and if something should

arise regarding my medical care, they are all willing to work with me to ensure I am still able to succeed."

The ability to continue with her studies is a close second in her priority list behind her health.

"There was no doubt in my mind I would continue with my studies," Farber said. "I remember telling Dr. (Monica) Howard that I worked way too hard to get into vet school so I wouldn't let cancer stop me."

After earning her undergraduate degree, she then completed Iowa State's one-year biomedical science master's program. She took a year off before gaining entry to the College of Veterinary Medicine in the DVM program.

In that year, she worked at a specialty, emergency small animal practice.

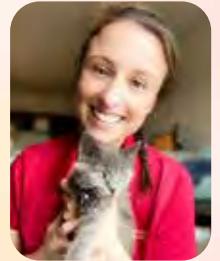
Here Farber was exposed to a number of veterinary specialties with surgery grabbing her interest. After she graduates from Iowa State, she hopes a surgical residency is in her future.

In the meantime, Farber is concentrating on both her health and studies. Her doctors have recommended she reduce her stress load, which may be causing her calcium levels to fluctuate. She gets a blood test once a week to monitor those levels because if she becomes hypocalcemic again she will need to have calcium and magnesium infusions.

She is also on a strict regimen of medications. Throw in the added complication of veterinary medicine education coursework and reducing stress may prove to be difficult.

But Farber says the support she has received from faculty, classmates and friends has helped in that regard.

"It was very comforting to learn I had options of continuing my studies full time, go part time or take a medical



*Just weeks after being diagnosed with cancer, Maia Farber is back as a student in the College of Veterinary Medicine. Submitted Photos*

leave," she said. "I've had overwhelming support from staff and my classmates."

Farber has been open with others about her illness. When she first received her diagnosis, she felt alone and despite support from family and friends, there was no one to speak to about what she was feeling.

"I wanted to speak to a student, someone who understands the caliber of being in a professional program, getting a cancer diagnosis and continuing their education without going on leave," she said. "I wanted to know if this was possible."

Today, Farber is that student.

"The reason I want to spread awareness and tell my story is because you never know who is listening," she said. "Not everyone is as vocal as I am with their health. Everyone copes with these situations differently, but I don't want anyone to feel like they're alone in this."

Farber's positive attitude is infectious.

"I remind myself that I worked very hard to get to this stage in my life," she said.

"There hasn't been a day yet when I say I can't go on." **gd**

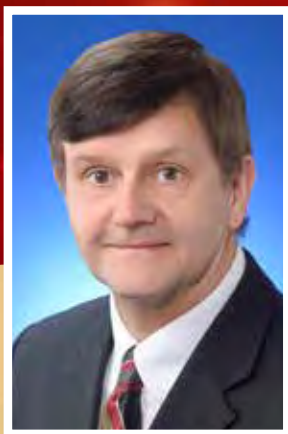
## ALUMNI AWARD FEATURES

# TRUE & VALIANT

This Homecoming, the College of Veterinary Medicine recognized five individuals with alumni and service awards.

These individuals are just a small example of the college's alumni and friends who have made the world a better place.

*Read their full stories online at [vetmed.iastate.edu/true-valiant-2020](http://vetmed.iastate.edu/true-valiant-2020)*



*Submitted Photo*

### **Dr. Gary Borkowski ('87)** ***Stange Award***

As the global director of the AAALAC, the world's most influential organization in the improvement of animal welfare of research animals, Dr. Gary Borkowski oversees the accreditation program. Although he has only been with AAALAC for a few years, the humane treatment of animals in science has long been a passion for Borkowski. "I'm pretty open with what I do as a laboratory animal veterinarian," he said. "There must be an openness and transparency in what we as animal medical researchers do. My job is to help the greater public understand what labs do take care of their animals."



*Submitted Photo*

### **Dr. Laura Molgaard ('91)** ***Stange Award***

Dr. Laura Molgaard didn't aspire to be a dean of a veterinary college. But she didn't shy away from the opportunity when asked. Since 2019 Molgaard has served as the interim dean for the College of Veterinary Medicine at the University of Minnesota. This comes after almost two decades as that college's associate dean for academic and student affairs where her efforts with the American Association of Veterinary Medical Colleges have had a significant impact on education in the veterinary profession. That background has helped prepare her for her new role. "Being an associate dean is surprisingly good training to be a dean," Molgaard said, "especially when it comes time to interact with our stakeholders. The first thing they ask about is classroom instruction and our students. My background in those areas made it easy for me to have those conversations."





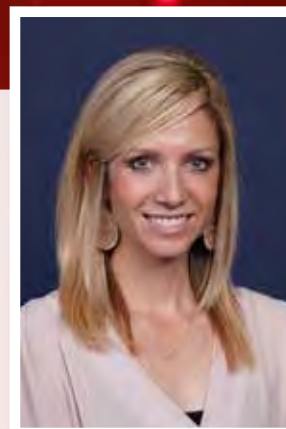
Submitted Photo

**Dr. Charles Lemme ('75)**  
**Switzer Award**

You name the veterinary organization and Dr. Charles Lemme probably has a connection. He has served in numerous leadership positions in local and state organizations, including the Iowa Veterinary Medical Association. He was president of the Midwest Small Animal Association and is currently a member of the American Veterinary Medical Association's Board of Directors. "These activities were a great distraction for me," Lemme said. "Working with these groups was a great way for me to get away from the day-to-day operations in my clinic. But more importantly, they were great learning opportunities. I learned about things I would never had been exposed to if I had just concentrated on my practice."

**Dr. Sherry Johnson ('12)**  
**Outstanding Young Alumni Award**

Once Dr. Sherry Johnson sets her mind to something it's pretty much a done deal. "My husband says I have a 'single-minded focus,'" Johnson says. "I find my niche and I stick to it. I focus solely on that." Johnson has been that way all her life. From her first day in vet school, Johnson knew what type of veterinarian she wanted to be. "My goal was to do rehab on horses," she said. "I have never wavered from that. I streamlined my experiences with the goal to make the very best connections I could with people at the very highest levels in this field." Johnson is the partner and co-founder of two businesses – Equine Sports Medicine and Rehabilitation and Equine CORE, Inc., the nation's first equine-focused, specialist-owned and operated tele-rehabilitation service. "This is what I want to do," she said. "I love working with horses, particularly Western performance horses at the high end of their athletic career."



Submitted Photo

**Dr. Mike Roof (MS '89 & PhD '91)**  
**Lorriane J. Hoffman Graduate Alumni Award**

Dr. Mike Roof became hooked on research while a microbiology undergraduate at Iowa State. "While I was an undergraduate I was lucky to get a part-time job in Dr. Paul Hartman's lab where I did basic lab maintenance typical of student help," Roof said. He says he loved everything about research – from working with scientific tools and innovative methods to solving problems that added value and benefit. That love of research continue in his professional career, first at Boehringer Ingelheim Vetmedica, Inc., where Roof eventually served as executive director of Bio-R&D and now as Iowa State's chief technology officer for vaccines and immunotherapeutic. "In the latter stages of my industry career, I was getting distant from the customer and the laboratory. When I thought about what I liked most about my job, it became clear that it was working with universities, scientists and the technology transfer," he said. "Although it was scary to leave a 25-year career with a great company, this was the best decision I ever made. Being part of Iowa State is a dream come true."



Submitted Photo



# The Vets Unleashed

*Submitted Photo*

From the instant the Zoom call begins, you can tell there's a chemistry between Michael McClenahan and Scott Weinman. Not to mention friendship.

Even though one is in Portland, Oregon, and the other in Los Angeles, it's like they're still in vet school. There are a couple of jabs to the left, a few rights and no matter the question, the jokes keep coming.

It's a routine McClenahan ('97) and Weinman ('96) have perfected since they met in vet school at Iowa State.

"My roommate was Mike's (first-year mentor)," Weinman recalled. "Since graduating we've met up at conferences and kept in touch."

"We've been going to the Western Veterinary Conference now for 20 years and the same people would show up and we always wind up talking about veterinary medicine," McClenahan said. "The podcast is just a continuation of our life-long friendship."

The conversations didn't veer into your run of the mill topics such as the latest medications on the market or what to do if your pet has eaten something toxic.

Instead they wanted to create something different, allowing them to talk about other issues facing the veterinarian profession. Or rather what they wanted to talk about.

That's how "The Vets Unleashed" was born last year. The podcast for animal lovers and animal professionals has tackled a wide variety of topics ranging from the pros and cons of designer breeds to music's effect on animals and co-parenting animals after a breakup.

"There's a lot of how-to's out there but none were talking about issues veterinarians want to talk about," McClenahan said. "We just took what we were doing when we got together and made it into a podcast."

It's not as easy as McClenahan makes it out to be. The duo has hired a producer to help them come up with ideas and find a market. It helped that McClenahan had worked with a producer on his YouTube show, "The Bow Tie Vet Guy," who keep the duo focused on the subject at hand.

"Because we had a producer, the podcast was much better right out of the gate," Weinman said. "I think each episode has gotten better. We try to make it light and entertaining, you know like having a black cat on our Halloween episode ("The Curse of the Black Cat")."

Of course, it helps to have a few cocktails – both for the listener and the hosts. In addition discussing all things vet, the duo has a "cocktail of the week." For instance, the cocktail was Industry Sour when they were

discussing how veterinarians were portraying the industry on reality TV shows.

"Over the years we've both had people come up to us at parties and tell us 'they've never met a vet before,'" Weinman said. "Cocktail parties are when vets let their guard down and we can speak freely about things we really want to talk about."

"We sit, have adult beverages and discuss everything animals," McClenahan said. "Sometimes we drink too much."

Before COVID, the 30-40 minute podcasts were coming out every Friday but they have scaled back to every two weeks now. Sometimes they bring in experts, including numerous Iowa State CVM alumni as guests.

"We've got around 50 podcasts under our belt now so it's time to start marketing the project," Weinman said.

The two say there is no end in sight for "The Vets Unleashed" as the comedy routine between the two long-time friends continues.

"Scott makes me laugh all the time," McClenahan said.

Not to be outdone, Weinman returns the compliment.

"Mike thinks he's funnier than he is," he retorted. **gd**





# Inside Voices

**D**r. Sarah Davis ('01) travels a lot in her job as a veterinarian. As she traverses the North Dakota highways, she tunes in to the radio and listens to audio books. But Davis says she can't always be listening to something and will turn off and tune out the radio.

That's how *Inside Voices*, the new young adult fiction thriller came to be.

"Sometimes I just get sick of hearing to the same music on the radio or I'm not interested in the audio book I'm listening too," she said, "so I daydream."

Six years ago a daydream led her to begin formulating a plot for a book. She shared the idea with her family and several drafts later *Inside Voices* was published by Darkstroke Books.

"I had worked out the beginning and end of the book in that first 'daydream,'" Davis said. "That pushed me to actually begin writing."

Still it wasn't easy. She had to do a lot of research to begin writing. There were countless rewrites. Passages would be written on small pieces of paper and Davis' phone. She sought opinions from several different sources including her local book club and her grandmother. Her mother edited the manuscript so many times Davis says she is surprised she still talks to her. An editor was hired. The finished manuscript was submitted to multiple agents and publishers.

"A couple of years after writing the first draft I trimmed it down because I had written enough material for a trilogy," Davis said. "I actually gave

up three or four times. I would put it away and not try to look at it for a few weeks. But I couldn't stop thinking about it. I knew I was so close so why not finish it."

Penny Osborn is the main character in *Inside Voices*. In high school, Penny witnessed a massacre and lost her father the same day. She saw the events unfold before it happened, in a premonition, but couldn't prevent it.

A college research project has taken Penny to the edge of the Arctic where she has a chance for a new beginning. Her fresh start is plagued by dark and foreboding premonitions that coincide with a rising number of murders in the Alaskan community. Add in an orphaned polar bear cub and you have the plot for *Inside Voices*.

"The underlying themes of the book are mental illness and post-traumatic stress disorder and how we cope with certain things," Davis said.

*Inside Voices* ultimately was picked up by Darkstroke Books, a small indie publishing firm, because of Davis' determination. She continued to pitch *Inside Voices* in between raising a family, farming and raising livestock with her husband and three children in Glenfield, North Dakota, and working her day job as a veterinarian.

After years of writing a long-form story, it was a 280-word pitch on Twitter that landed Davis a publisher. #PitMad is a pitch event where writers tweet a 280-character pitch for their manuscripts. The winning pitch that caught the attention of the company she would soon sign with went... "Just a city girl living in an arctic world, took a midnight run beneath a shining sun. The fresh start for PTSD suffer Penny is overshadowed by a killer preying on young women. She

must determine if it is man or beast without losing sanity."

Darkstroke Books liked the pitch and *Inside Voices* is available through Amazon. So far the response has been good. Not only have sales been good but she has received five star reviews on Amazon.

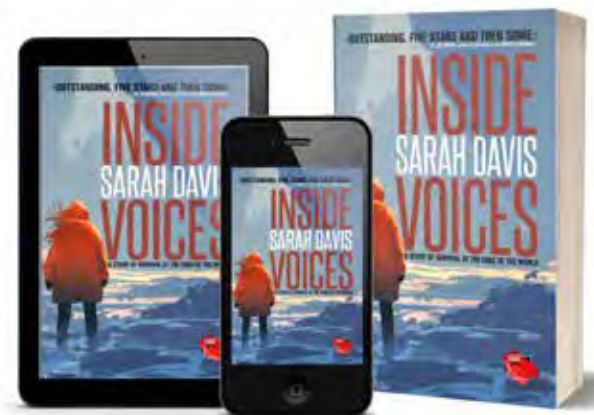
"It took a look of work and patience to put the book together," she said. "Nothing happens overnight, but I knew I had a good idea, a good story to tell, something that anybody can read."

Then in the summer of 2020, the big moment arrived in the form of the printed copy of *Inside Voices* at the doorsteps of her Glenfield farm.

"That was really awesome," said Davis still excited months after the book's delivery. "It's hard to explain."

This may not be the only time Davis has a book she has authored delivered to her home. She is working on a separate fantasy-themed novel and she has an idea for a sequel to *Inside Voices*.

"I said I would never move back to North Dakota, never touch a cow again or marry a farmer and I did all of them. So I know I have enough ideas for another book." **gd**



Submitted Photos

# Advocate for the Homeless, Injured and Neglected



Photo: Alex DeForest

**B**retta Nelson remembers the day when things changed at the Arizona Humane Society (AHS).

It was 2013 and Dr. Steven Hansen (DVM '85) had just been named the organization's president and chief executive officer. One of the first items on his agenda was to pull his leadership team together and lay out nearly a dozen new programs.

"He told us we were going to implement those programs, not today or tomorrow, but yesterday," said Nelson, AHS public relations manager. "All of these programs speak to an animal's welfare."

"It didn't take long to believe in his philosophy."

Since becoming the AHS president and CEO, Hansen has instituted several changes at the Phoenix-based organization.

The Mutternity Suites has been created as a quiet place for mothers to give birth with medical supervision. The Bottle Baby Kitten ICU is a 24-hour operation that helps care for newborn, orphaned kittens. The Parvo Puppy ICU annually sees a 90 percent success rate for the highly-contagious, often fatal, viral disease. These are pets who are routinely euthanized in other shelters around the country.

For pet owners, pet training classes are offered including cat behavior consultations and AHS' veterinary clinics provide affordable and accessible spay/neuter and wellness services. Pet Resource Center consists of bi-lingually trained professionals and a Resource Navigator dedicated to providing resources to pet owners. The creation

of this service has helped decrease the number of pets surrendered to AHS by more than 50 percent over the past six years.

"More than half of the calls we receive are owners looking to surrender their pet," Hansen said. "We are dedicated to providing resources to pet owners to help keep pets in homes and help save lives."

Hansen oversees the massive organization that not only employs 280 but has more than 2,000 volunteers. It is not uncommon to find volunteers reading to injured dogs who are on medical rest as part of the organization's Resting Rover program.

The Second Chance Animal Trauma Hospital is the largest shelter-based trauma center for homeless animals in the Southwest and provides veterinary care for animals with nowhere else to turn.

"I honestly think I have the best job on the planet," Hansen says. "I've liked all my other jobs but here we get to do everything. Here we care for animals, many of whom wouldn't survive without the care we provide."

Last year, the AHS saw 11,250 animals adopted or returned to their owners. Another 11,500 owned and shelter pets were spayed or neutered. Close to 4,400 pets received in AHS Foster Hero homes. On average, animals spend less than a week on the AHS adoption floor.

"We're really good at adopting out pets," Hansen said, "but sometimes we have to look at creative ways to make sure our critters get adopted such as offering adoptable rabbits to elementary teachers for their classroom."

This program was created on the heels of an animal cruelty case in which AHS rescued more than 150 rabbits from horrific conditions.

Many times, the Arizona Humane Society sees the worst of the worst. They have what Hansen, who has long been an advocate for homeless, injured and neglected animals, calls "an awful life experience."

Each year, AHS' Animal Cruelty Investigators assist law enforcement on approximately 6,000 suspected cases on animal cruelty and AHS' Emergency Animal Medical Technicians or pet paramedics, rescue around 3,000.

Hansen came to AHS after spending 16 years with the American Society for the Prevention of Cruelty to Animals (ASPCA), as that organization's chief operating officer. After graduating from Iowa State he also served as the director of veterinary research for Wellmark International in Illinois while practicing in Houston and Chicago.

No matter the job, the welfare of animals has come first for Hansen.

"I'm always willing to try new things," he said. "The programs we've implemented here have significantly impacted the lives of more than 100,000 additional animals. We've got some very productive enrichment programs here and we work hard to make sure the animals are as comfortable as can be."

"This job is a big challenge, but in the end all I needed to do was institute new ideas and let my great team of veterinarians, staff and volunteers do what they do best." **gd**



# Taking A Different Path

**D**r. Tara Grinnage-Pulley's path as a veterinarian has taken her from Maryland to Tuskegee to Iowa State, then Iowa City and now back home in Maryland.

Along the way, Grinnage-Pulley honed her research interests and veterinary skills that led her to a position as a veterinary medical officer with the National Cancer Institute, a division of the National Institutes of Health within the U.S. Department of Health and Human Services.

"Like most of us who knew we wanted to go veterinary school from middle or high school, I wanted to be a typical veterinarian," said Grinnage-Pulley. "Originally I went down a very traditional path, earning an animal science degree with the plans of studying equine medicine."

Things started to change with an undergraduate scholarship from the United States Department of Agriculture. The funding for her animal science degree at Tuskegee University took her into the federal sphere for summer internships. It was while at USDA that the future veterinarian was taken aside by her staff veterinary mentor, Dr. David Morris.

"Dr. Dave was very adamant in advising me that veterinarians could do a variety of things," she said. "He wanted me to see other aspects of the profession, that there were different choices I could take."

That experience was just the first of Grinnage-Pulley's many excursions into the non-traditional areas of veterinary medicine.

She took the advice to heart during her summers at USDA. She started

at what is now National Institute of Food and Agriculture and took opportunities for rotations in both the Agriculture Research Service and Animal and Plant Health Inspections Service units.

Heading to Iowa State Grinnage-Pulley dived headlong into a concurrent DVM-PhD program with a research focus. She spent two weeks in China learning acupuncture and worked summers in Dr. Qijing Zhang's *Campylobacter* research lab as part of her graduate studies.

After graduating with her DVM in 2009, Grinnage-Pulley turned her focus to completing her thesis on *Campylobacter* antimicrobial resistance mechanisms. Completing her PhD in 2013 she was at a cross-roads to find a way to blend her interest in research and veterinary medicine skills.

That road led to Iowa City, where she joined Dr. Christine Petersen's lab as a postdoctoral scholar working on the zoonotic parasite leishmania. While at the University of Iowa her research focused on immune responses to leishmania. Her primary work on response to leishmania surface antigens paired nicely with on-going work in the lab on canine immune responses to leishmania vaccine antigens.

Grinnage-Pulley served as a veterinarian for field studies on canine leishmania epidemiology and immunology. That work also led into working as part of the veterinary team on a field trial of anti-leishmania vaccine studies in a naturally infected hunting dog population.

"I attempted to get as many experiences on both the veterinary and research sides, seeing as many different aspects



of the profession as possible," she said. "But in the end, I couldn't see myself just seeing patients.

"I wanted to make a bigger impact."

That desire along with her veterinary experiences and research background in infectious diseases and immunology, led Grinnage-Pulley to making a bigger impact at the National Cancer Institute. She works in the Biological Testing Branch, supporting research to evaluate anti-cancer agents and develop models for a variety of cancers.

In her role, Grinnage-Pulley focuses on animal well-being and welfare of laboratory animals. A lot of that work deals with herd health, husbandry, and disease prevention. As the Biological Testing branch works with xenografts and patient derived xenografts in model development and pre-clinical testing, there also the work to review the data generated from tumor growth, tumor characterization.

"I like the variety," Grinnage-Pulley said. "I still get to work around animals and do veterinary things mostly with mice and a few rats. But I also get to be in the lab where I do research and generate data that human clinicians can use to improve cancer therapies.

"It's being able to apply everything that you learn in vet school, all of the research-related things and still being challenged to do something new that makes this job exciting". **gd**



# Answering a Calling

Submitted Photos

Seven years Shannon Tucker has called Kenya her home. She lives in a rectangular concrete house with a concrete floor. The water and electricity isn't always on. Water storage tanks are backups when the water is turned off.

Tucker's new home is in the desert of northwest Kenya. It's dirty, windy and sandy. It's always hot. She has to drive on the left side of the road.

She had to learn two languages and she admits she's not good in either one – that sometimes the words don't easily come out of her mouth. Kenya is a former British colony so now a boot is actually a car trunk, a lift is an elevator and chips are French fries.

Life can be lonely in this outpost. She misses spending birthdays, anniversaries, graduations, weddings and holidays with family and friends.

Yet the 1996 DVM graduate loves what she does.

"I do not believe anyone has a life that has no challenges, however, missionary life is full of many more than I ever experienced in the U.S.," Tucker said.

Tucker serves as a missionary for CMF International. After graduating from Iowa State, she worked in small animal practices followed by stints as a relief veterinarian in Indiana, Kentucky and Michigan.

In 2012 she took a class, "Perspectives on the World Christian Movement."

Nine short term missionary trips to locales throughout the Western Hemisphere firmed up her conviction.

She had a calling.

A vision trip to Turkana, Kenya a year later was the deciding factor. She wanted to do missionary work on a long-term basis.

"My ministry is teaching and training using a method called CHE (Community Health Evangelism)," Tucker said. "It's a participatory learning method of teaching and training that is spiritually based."

Tucker and her fellow missionaries begin by learning from the people and teaching from that point forward. The hope is that the Kenyans she is missioning to will take ownership and learn to recognize their own resources and help create solutions to problems they are having.

On a daily basis Tucker uses CHE to teach basic veterinary, human and public health lessons, while focusing on women's health. Cultural beliefs passed down through generations can be difficult to overcome. In addition to teaching in town, Tucker and her team travel out to different bush areas to teach CHE lessons a couple of times a week. The lessons generally take place under the trees.

"Some interesting things have come up as I've learned about their beliefs and customs around childbirth," Tucker said. "Interestingly in many bush areas the umbilical cord is cut

with a spear or men's wrist knife if the baby is a boy.

"But if the baby is a girl, they will use a kitchen type knife. My teaching point is to educate them about cleaning the item and sterilizing before using it. It really might not matter what is used if we can convey the message about using something that is cleaner."

Tucker's role as a missionary is to teach, so anything she does with animals and veterinary medicine has a teaching focus. She regularly performs sterilization surgeries for her own pets (she has two cats, two guard dogs and chickens) and other expats and missionaries in the area.

The Kenyans in Turkana raise sheep, goats and camels. After years as a small animal veterinarian in the U.S., she had to relearn goat and sheep medicine.

"It is very basic medicine that we do and teach here," she said. "I incorporate public health, learning about zoonotic diseases and handing medications."

And while it might be windy, dirty and sandy in Turkana, Tucker has led a "charmed" life in Kenya.

"I have managed to be here seven years and never had malaria," she said. "I have never been stung by a scorpion and I'm good at swatting to kill them with a flip flop. I have encountered only a few snakes and have never been bitten. I have been relatively healthy and able to treat myself or manage the illness and injuries I have had." **gd**



# Following in Her Grandfather's Footsteps

**F**ourteen children. More than 30 grandchildren. Yet none of Dr. John Herrick's ('46) family followed him in the family business.

That is until his granddaughter Lauren Pipitone enrolled at Iowa State University's College of Veterinary Medicine in the fall of 2019.

Even Pipitone, now in her second year of veterinary studies, wasn't directing her career aspirations to veterinary medicine at first.

"I'm a big believer in signs," Pipitone said. "I was sort of a lost lamb going into college. I liked journalism, but I wasn't passionate about it."

Animals were something that Pipitone was passionate about. A photo of her dog was the background on her computer. One day she was skimming through a veterinary book and ran across her grandfather's name. That was the sign she was looking for.

Soon afterwards she was job shadowing a veterinarian and found her passion.

"I loved that experience," Pipitone said. "I love the atmosphere of a clinic, the people and the animals."

Pipitone says her grandfather was just as passionate about the veterinary profession. Herrick spent 35 years as a professor of veterinary clinical science and an extension veterinarian at Iowa State.

He was the president of the American Veterinary Medical Association (AVMA) from 1969-70, served as a vice president of the Pan American Veterinary Congress, chaired of Infectious Diseases of Cattle Committee of the U.S. Animal

Health Association, and chaired the meeting that resulted in the formation of the American Association of Swine Veterinarians.

"My grandfather was so passionate," Pipitone said. "He could sit for hours talking about bovine respiratory diseases.

"Anyone who knew him knew he had a big personality. Family came before anything and he was definitely loyal to his profession and family."

Herrick was also loyal to his alma mater. After retiring from Iowa State, Herrick moved to Arizona. Pipitone's family also relocated to the Scottsdale area.

"He had Iowa State stuff all over his house," Pipitone said.

Herrick died in 2007 at the age of 87. But if he was still alive Pipitone knows how emotional he would have been when he learned one of his grandchildren was following in his footsteps.

"I know he would have been over the moon with my decision to become a veterinarian," Pipitone said, "but if I had chosen anywhere else to go to school other than Iowa State, I don't think he would have been as happy."

As Pipitone nears the end of her second year in vet school, she says her grandfather is with her. From connecting with current faculty who knew and worked with him to little reminders of his legacy.

She recalls not doing as well as she had hoped to on an anatomy test her first year. Feeling down she walked past a plaque recognizing her grandfather's achievements and her spirits were lifted.

"Whenever I have what I call a 'vet med victory,' I wish I could talk to him about it," she said. "I would have loved to be able to talk to him after I got through microbiology.

"He would have been so proud to have one of his grandchildren here at Iowa State, a place he truly loved." **gd**



Photo: Dave Gieseke

## Five Graduates Honored with Alumni Awards

The College of Veterinary Medicine will recognize five graduates at the 2021 Homecoming with alumni awards.

The individuals are scheduled to be honored during an in-person ceremony Friday, October 22, at 8 a.m. in the Alumni Center.

The honorees are:

### Stange Award

- Dr. Norm Cheville ('59), *dean emeritus of the College of Veterinary Medicine*
- Dr. Joel Leininger ('72), *consulting toxicologic pathologist*
- Dr. Paul Snyder ('85), *manager and senior pathologist, Experimental Pathology Laboratories Southeast*

### Outstanding Young Alumni Award

- Dr. Molly Lee ('14), *public health veterinarian, Center for Food Security and Public Health*

### Lorraine J. Hoffman Graduate Award

- Richard Hill (MS '90), *former director, USDA Center of Biologics & president, American College of Preventive Medicine*



## BACK ON DISPLAY

The Senior Class photo composites are displayed in the hallway outside of Classroom 2226 as well as digitally. Many of the earlier classes identify graduates with only the initials of their first and second names. If you know the first names of any of these graduates please send those to [dgieseke@iastate.edu](mailto:dgieseke@iastate.edu). Any typos or name changes including adding married names can also be forwarded to that email address so updates can be made on the digital version which is available at [cc.cvm.iastate.edu](http://cc.cvm.iastate.edu).

## In Memoriam

Notices of recent deaths are available online at [vetmed.iastate.edu/alumni/memorial](http://vetmed.iastate.edu/alumni/memorial). If you know of a recently deceased CVM alumnus, faculty or staff member please send the notice to [dgieseke@iastate.edu](mailto:dgieseke@iastate.edu).



## Mark Your Calendars for These Tentative Alumni Receptions

**Monday, September 6**

**Western Veterinary Conference**

Las Vegas, Nevada

7:30-9:30 p.m.

**Thursday, October 7**

**AABP Convention**

Salt Lake City, Utah

7-9 p.m.

**Friday, October 23**

**Homecoming**

**Sunday, January 16, 2022**

**VMX Conference**

The Pub

9101 International Drive,

Suite 1003

Orlando, Florida

7-9 p.m.



## 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](mailto:dgieseke@iastate.edu).





## HONORS AND AWARDS

- **Dr. Timothy Baszler** ('82) has received the American Association of Veterinary Laboratory Diagnosticians Distinguished Service Award for volunteering time, energy and professionalism to substantially enrich and advance the AAVLD. Baszler serves as the executive director of the Washington Animal Disease Diagnostic Laboratory. He was also recently elected to the Washington State Academy of Sciences.
- **Dr. Norman Cheville** ('59), dean emeritus of the College of Veterinary Medicine, has written *Pioneer Science and the Great Plaques: How Microbes, War, and Public Health Shaped Animal Health* which has been published by Purdue University Press. The book is available on Amazon and from other book sellers.
- **Dr. Mary Christopher** ('80) is the recipient of the American Society of Veterinary Clinical Pathology (ASVCP)'s Lifetime Achievement Award. Christopher is a professor of clinical pathology at the University of California-Davis School of Veterinary Medicine.
- **Dr. Marthina Greer** ('81) has received the Dr. John Steiner Award for Excellence in Practice from the Society for Theriogenology. Greer is the co-founder of Veterinary Village in Lomira, Wisconsin, where she also established the International Canine Semen Bank.
- **Dr. Tamara Hancock** ('11) is the 2021 recipient of the University of Missouri Department of Women's and Gender Studies Alumnae Anniversary Award. Hancock, who is a faculty member at the University of Missouri's College of Veterinary Medicine, was recognized for her teaching excellence and other contributions to the education of women.
- **Dr. Richard Hill** (MS, veterinary microbiology and preventive medicine '90), veterinary medical officer with the USDA, has been elected president of the American College of Veterinary Preventive Medicine. **Dr. Danelle Bickett-Weddle** ('99), lead public health veterinarian with the Center for Food Security and Public Health, is the organization's immediate past president.
- **Dr. Shannon Jones Hostetter** ('00) is the recipient of the ASVCP's Educator Award. Hostetter is an associate professor of pathology at the University of Georgia College of Veterinary Medicine.
- **Dr. Sherry Johnson** ('12) received the American Association of Equine Practitioners President's Award for spearheading AAEP's first-ever online continuing education event as program chair of the Virtual CE Summer Series. Johnson is the partner and co-owner of Equine Sports Medicine and Rehabilitation.
- **Dr. Dustin Oedekoven** ('02) has been recognized by the South Dakota Pork Producers Council with the Friends of Industry Award, which recognizes state individuals, leaders or businesses for their continued support of the pork industry. Oedekoven is the executive secretary and state veterinarian of the South Dakota Animal Industry Board.
- **Dr. Katherine Polak** ('10) has been named 2020's American Hero Veterinarian in special ceremony during the Hero Dog Awards, which was broadcast nationally on the Hallmark Channel. Polak works for FOUR PAWS, an international charity active in 15 countries where she manages a variety of stray animal care programs throughout Southeast Asia, most notably against the cruel dog and cat meat trade.
- **Dr. Zadok Ruben** ('72) has been elected as a Fellow of the International Academy of Toxicologic Pathology. He was also the recipient of the Robert L. Farrell Award from the Davis-Thompson Foundation for his 30 years of contribution to the advancement of international continuing education for veterinary and comparative pathology.
- **Dr. David Twedt** ('72) has received the Robert W. Kirk Award for Professional Excellence from the American College of Veterinary Internal Medicine. Twedt is a professor of small animal internal medicine at Colorado State University College of Veterinary Medicine & Biomedical Sciences.
- **Dr. Amy Vincent** (DVM '02, PhD '04) has been elected to the national Academy of Medicine. Vincent is a research veterinary medical officer and lead scientist at the Agriculture Research Service with the USDA's National Animal Disease Center in Ames. Her groundbreaking research led to improved vaccines and surveillance for swine influenza, characterization of vaccine-associated enhanced disease in a swine influenza model, and characterization of pandemic potential for swine influenza viruses.
- **Dr. Jeff Wilcke** ('78) has been named the 2020 recipient of the Allen W. Hahn Lifetime Achievement award from the Association for Veterinary Informatics. This honor is presented to individuals who have dedicated their careers to becoming pioneers in the field of veterinary informatics through education and leadership. Wilcke is a retired faculty member at the Virginia-Maryland College of Veterinary Medicine.

Several alumni were recently recognized by the American Association of Swine Veterinarians (AASV).

- **Dr. Jeremy Pittman** (MS '14) was named the Swine Practitioner of the Year. Pittman is a staff veterinarian for Smithfield Hog Production - North Region
- **Dr. Chris Sievers** ('16) was named the Young Swine Veterinarian of the Year. He is a veterinarian with the Swine Vet Center.
- **Dr. Mary Battrell** ('95) is the new AASV president. She is a staff veterinarian for Smithfield Hog Production - South Region

*Congratulations!*

# #GentleDoctorsEverywhere



**Khristian  
Becker**

#GentleDoctorsEverywhere '97

## Hometown Pride

For months, Dr. Khristian Becker worked diligently, digging up the soil and replacing it with cement that will form the walkways at the soon-to-open Maquoketa Dog Park. Of course, he had some help from his family. But it was his idea to do it all and pay to get it done. "That was the first kind of physical thing that said, 'Hey, we are having a dog park here,'" said Stephanie Stagers, office manager and economic development specialist at Jackson County Economic Alliance. "He has been a really big proponent of the dog park. He is also very humble and would not tell all the things he has done." Stagers recently successfully nominated Becker, a longtime veterinarian, for the George Bailey Award presented by Maquoketa Area Chamber of Commerce. Every year, residents in the area nominate someone who they think goes above and beyond to give back to others. The award is named after the character from "It's a Wonderful Life."



**Meghan  
Fick**

#GentleDoctorsEverywhere '13

## Thriving on Unpredictability

While still a student at Iowa State, Meghan Fick knew she wanted a career that involved teaching. A position as a clinical assistant professor at the University of Illinois College of Veterinary Medicine has allowed Fick the opportunity to not only teach students, but technicians, interns and residents. "It's my favorite part of my job," she says.



**Lester  
Fisher**

#GentleDoctorsEverywhere '43

## Patton's Personal Vet

Lester Fisher was director of Chicago's Lincoln Park Zoo for 30 years. But his most famous role may have occurred years earlier just after he graduated from the College of Veterinary Medicine. During World War II, Fisher served in the U.S. Army where he cared for 5,000 messenger pigeons. While making sure those pigeons were in flight shape, he also was asked to keep an eye on one of the most famous dogs of the war – a homely, white bull terrier named "Willie" who traveled with its owner, General George S. Patton throughout the war.



## Follow ISU CVM Alumni Career Accomplishments

View full stories at [vetmed.iastate.edu/gentledoctorseverywhere](http://vetmed.iastate.edu/gentledoctorseverywhere)



### Heart of the Beef Cattle Industry

Jenna Funk found her herd early in life. "I've wanted to be a veterinarian for as long as I can remember. I've never not wanted to be a veterinarian," she said. "By the time I got to my first year of vet school, when I did my feedlot internship, I knew this was where I wanted to be. I stepped onto my first feedlot and just immediately felt comfortable." Funk is now in the "heart of the beef cattle industry" as she is the newest clinical assistant professor at the Texas A&M College of Veterinary Medicine & Biomedical Sciences' Veterinary Education, Research & Outreach program.



### Mentor for Life

When Caitlin Knutson learned of a new award offered by the Veterinary Medical Alumni Association (VMAA) she immediately knew whom to nominate. "I've known Dr. Quam my entire life," the second-year veterinary student said. "He has been our family veterinarian ever since he started working in our local vet clinic." Dr. Doug Quam ('89) is the inaugural recipient of the Outstanding Mentor Award from the VMAA. The award recognizes an Iowa State College of Veterinary Medicine graduate who has encouraged and supported one or more students of veterinary medicine in their personal and professional development.



### Outstanding Service

There is much Fred Sick of Sioux Center, Iowa, can take pride in throughout his many years as a veterinarian, but he was recently awarded the 2020 Outstanding Service Award from the Veterinary Medical Alumni Association for his work to help young vets get their start in the industry. Sick has been instrumental in initiating and supporting the White Coat Ceremony, is a past president of the Iowa Veterinary Medical Association and the Northwest Iowa Veterinary Medical Association and advising pre-veterinary students through a pre-veterinary club at Dordt University in Sioux Center and Northwestern College in Orange City.

Photo: Eric Sandbulte

## SUPPORTING DIVERSITY

As a member of Iowa State University's College of Veterinary Medicine faculty, **Dr. Roger Hogle** (DVM '58) was well aware of the accomplishments of Dr. Frederick Douglass Patterson.

Patterson (DVM '23) was the long-time president of Tuskegee Institute where he founded that school's veterinary school and later the United Negro College Fund.

"Sure, I was aware of him," Hogle recently said. "In fact I believe I was in a few meetings with Dr. Patterson when I served on an AVMA committee that was looking at minority representation in the veterinary profession."

Those meetings were indicative of Hogle's efforts to increase the diversity of his profession and at his university. For a number of years he served on the college's admissions committee where diversity was a not only a college goal but a personal one as well.

"One year, Iowa State had wanted to increase the number of minority students admitted to the university to 10%," he said. "At the time we were already near that level in the College of Veterinary Medicine.

"That was when my interest in diversity and inclusion really was piqued."

Hogle and his wife Sharon have continued that interest to this day, even though he has been retired from the college for 30 years. Over the past few years, the couple has contributed to the college's scholarship fund.

But not just to any scholarship but the Frederick Douglass Patterson Diversity and Inclusion Scholarship. That scholarship was created to honor the personal merits and attributes of Patterson and is awarded to current and incoming DVM students.

"I would say the veterinarian profession should be just like any other profession," Hogle commented. "There should be veterinarians who look like their clients. If that was the case then I believe persons of color would be more inclined to take their animals to a clinic.

"I hope these type of scholarships will help overcome the lack of persons of color in our profession."

## Forever True Campaign Nearing Conclusion

As Iowa State University approaches the final three months of its historic *Forever True Campaign*, the College of Veterinary Medicine has benefitted from more than \$96 million in philanthropic commitments from 8,000 alumni, friends and companies.

Students remain the primary beneficiaries through endowments and expendable funds exceeding \$37 million for scholarships and programming. The College continues to work toward individual goals for the new Veterinary Diagnostic Lab and other priorities for people and programs.



Individuals who wish to remember the College of Veterinary Medicine in their estate or discuss an outright gift of cash, appreciated stock or other property, please contact the CVM philanthropy team at [vetmeddev@iastate.edu](mailto:vetmeddev@iastate.edu).

"Every dollar makes a difference," said **Dr. Dan Grooms**, the Dr. Stephen G. Juelsgaard Dean of Veterinary Medicine. "I would like to thank all our generous contributors, including our tireless campaign committee leadership, for creating futures in education, research and care."

## Carver Charitable Trust Helps CVM Advance Research in Antimicrobial Resistance with New Instrumentation

The Roy J. Carver Charitable Trust of Muscatine, Iowa, has committed \$243,585 to provide state-of-the-art instrumentation that will help advance research in antimicrobial resistance, infectious disease diagnostics and more in the College of Veterinary Medicine.

"Antimicrobial resistance is an urgent and serious threat to global health because it impedes or prevents effective treatments of a range of infections," said **Dr. Orhan Sahin**, assistant professor of veterinary diagnostic and production animal medicine. "Rapid and accurate detection of antimicrobial resistance genes and pathogens and additional research is essential for combating the threat, and we are grateful for the Carver Trust's generous support of these efforts."

Antimicrobial resistance is the event in which microorganisms change to be able to defeat drugs such as antibiotics and antivirals. CVM has broad and diverse expertise in microbiology, molecular biology, food safety, chemistry, biomedicine and diagnostic medicine with an application toward antimicrobial resistance.

Iowa State has state-of-the-art equipment for isolation and identification of antimicrobial resistance bacterial organisms. Within CVM, large numbers of samples are processed every day for accurate and timely diagnosis of a diverse range of bacterial and fungal pathogens.



## BENEFITS OF A FELLOWSHIP

It's not often that a fellowship established at a veterinary school honors the accomplishments of a faculty member at another vet college.

Yet that's what Pipestone Veterinary Services did when the company established the MorriSTONE Faculty Fellowship in honor of Dr. Bob Morrison of the University of Minnesota. Morrison was instrumental in the lives of many of Pipestone's swine veterinarians' personal and professional growth.

The initial awardee of the fellowship utilized the funds to help advance swine medicine at Iowa State.

"We used the fellowship to support a PhD graduate student and post-doctoral staff whose research involved bioinformatics analysis of influenza A viruses circulating in swine and describing the genetic and antigenic diversity that has affected the ability to control the virus with biosecurity methods and current vaccines," said Dr. Phil Gauger, associate professor of veterinary diagnostic and production animal medicine.

Gauger said through this research, influenza monitoring in swine was automated using data in the Veterinary Diagnostic Laboratory information management system.

"This provides a method of surveillance for emerging or novel strains of influenza in swine," Gauger said.

Additional studies involving the graduate student and post-doc looked at detecting human influenza A viruses that spill over into swine and documenting evidence of reassortant viruses that contained gene segments from a live attenuated influenza virus

vaccine that started to circulate in swine after the release of the vaccine for commercial use.

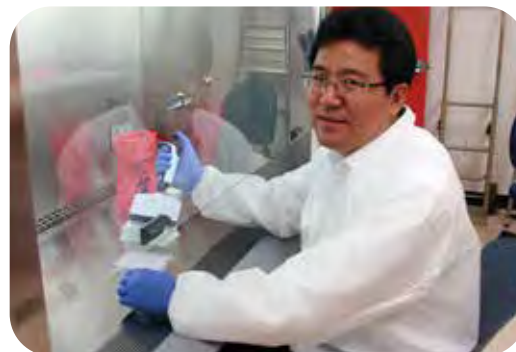
Influenza A virus is common in swine, but difficult to control due to widespread circulation of the virus and increasing genetic and antigenic diversity. This reduces the ability of current vaccines to cross-protect against multiple strains.

The research conducted with funding from the MorriSTONE Fellowship was used to support an additional grant Gauger and his team received from the Defense Advanced Research Projects Agency. The project is an extensive evaluation of the evolution, genetic and antigenic changes that occur in influenza A viruses in swine.

"The research investigates how virus evolution, reassortment and genetic changes affect vaccine antigen selection that could help improve cross-protection in swine," Gauger said. "We will also evaluate influenza A virus genetic changes that may enhance transmission of the virus among swine or cause occasional zoonotic infections observed in people."

Gauger has concluded his term as the MorriSTONE Faculty Fellow and now the position has been awarded to Dr. Jianqiang Zhang, associate professor of veterinary diagnostic and production animal medicine. Like Gauger, Zhang's research project focus on swine medicine.

Zhang's current research looks at porcine enteric coronaviruses and porcine reproductive and respiratory syndrome virus (PRRSV). He plans to use the MorriSTONE Fellowship funding to support one PhD graduate student and develop and validate



Top: Dr. Phil Gauger, Photo: Christopher Gannon  
Bottom: Dr. Jianqiang Zhang, Photo: Heather Brewer

diagnostic tools in hopes of better detecting and differentiating commercial PRRSV-2 modified live virus vaccines.

There are currently six commercial modified live virus vaccines derived from PRRSV-2 strains available in the U.S. The current screening PCR cannot differentiate PRRSV-2 vaccine viruses from other strains.

"We plan to develop and validate new diagnostic tools to better address this challenge and better serve the swine industry," Zhang said.

When PRRSV is isolated from a farm, guidance on which vaccine(s) to use against the particular isolate is lacking. Zhang is also considering looking at the generation of antisera against commercial PRRSV-2 modified live virus vaccines. He will evaluate their in vitro cross neutralization against genetically diverse PRRSV laboratory and field isolates. These will ultimately help veterinarians and producers select appropriate PRRSV vaccine(s) to combat PRRS under each circumstance.

# IOWA STATE UNIVERSITY

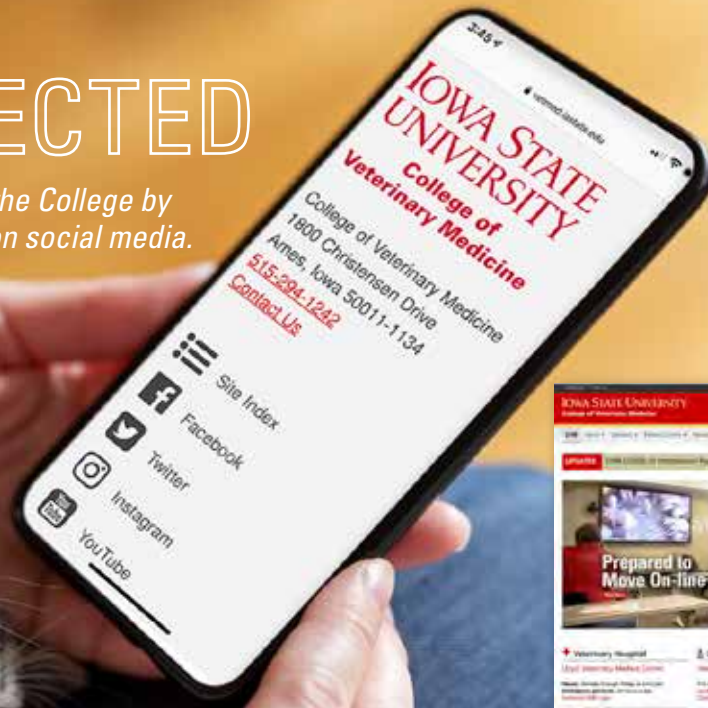
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