One World. One Health.
The Paul G. Allen School for Global Animal Health

Tureto Katai, a Maasai from Lolosesia, Tanzania, holds a Calabash gourd, which is a traditional container used to store fresh and sour milk.
Just last year we celebrated the 10th anniversary of the Paul G. Allen School for Global Animal Health. What an achievement to have built this program. With superb support from donors, the WSU administration and many in the college during very difficult budget times, it went from an idea to a maturing academic program that is making good on its promise and aspirations. It continues to be a point of pride for our college.

Its aspirational mission is to improve the health and economic security of the world’s poorest people, but that is not the whole of its aspirations. The Allen School faculty and staff work in Pullman and in other countries to achieve its mission, and the work they do truly has global benefit, including here at home. It at times is easy to lose sight of the fact that when we speak of “global health,” we include the United States, not just the rest of the globe.

We are part of an increasingly interconnected global community and all of the Allen School programs ultimately benefit our domestic stakeholders too. Improving livestock health, for example, improves social stability in low- and middle-income countries because it leads to higher family income that then leads to increased educational achievement, especially for girls. Greater education in a society can help promote regional and international stability. Similarly, combatting antimicrobial resistance in sub-Saharan Africa improves not only the lives of those people and animals, but is also necessary for effective control of antimicrobial resistance in the United States. Acting globally is in such ways necessary to achieve many of our important domestic goals.

What we do in the research laboratories here in Pullman, and the disease surveillance conducted by our Washington Animal Disease Diagnostic Laboratory, also helps us solve global issues. Take for example, the work of Dr. Jean Celli, who studies the bacterium that causes the zoonotic disease brucellosis. His research connects to programs to control the disease on the ground in Kenya, and other countries where it remains an important pathogen that causes illness in livestock and humans to a far greater extent than in the United States, where it has been substantially controlled. But the control of Brucellosis in our region depends on surveillance by our Washington Animal Disease Diagnostic Laboratory, which in turn provides guidance and education for developing effective control strategies in other parts of the world.

There are many other examples of work here that impact the lives of people everywhere. In the Pullman-based research laboratory of Dr. Viveka Vadyvaloo, her group studies the plague, another zoonotic disease affecting animals and humans around the world. Similarly, Dr. Leigh Knodler’s lab studies the globally impactful food- and water-borne disease caused by Salmonella. Dr. Jenni Zambriski’s lab conducts research to identify effective treatments for the microscopic parasite Cryptosporidium, which causes diarrheal disease in livestock and people all over the world.

It was because of our college’s outstanding track record in the study of globally important infectious disease that we could credibly aspire to build the Allen School. Most of our infectious disease scientists in the Department of Veterinary Microbiology and Pathology, the School of Molecular Biosciences, and in our long-time USDA Agricultural Research Service collaborator also study globally important pathogens of livestock and people. Your College of Veterinary Medicine, across these many programs working both in Pullman and abroad, continues to make a huge difference. Thank you for your support. Go Cougs!

Dr. Bryan Slinker, Dean
WSU College of Veterinary Medicine
WSU’s College of Veterinary Medicine and College of Nursing

Teamed Up to Help Homeless and Low-Income People and Their Pets

Story by Marcia Hill Gossard ’99, ’04 Ph.D. | Photos by Cori Kogan

On a January winter day, the College of Veterinary Medicine teamed with the WSU College of Nursing to help homeless and low-income people and their pets at the WSU Veterinary Specialty Teaching Clinic in Spokane. During the five-hour Healthy People + Healthy Pets clinic, students and faculty gave no-cost health screenings, vaccinations, and simple treatments to 125 dogs and cats and nearly 100 people. Gloves, hats, personal-care items, and pet supplies such as collars, leashes, coats, and pet food were offered to clinic-goers at no charge.

“It is a really good way to connect with the community and is a great service for both the owners and their pets,” says WSU Community Practice veterinarian, Dr. Raelynn Farnsworth. “The clients were very appreciative of all the services that we provided their pets. We vaccinated the animals and provided them with dewormer and other external parasite control.”

WSU veterinarian Dr. Cariann Turbeville joined Dr. Farnsworth at the clinic along with licensed veterinary technicians Melody Gerber and Aleena Nemeth, and eight fourth-year veterinary students, Allyson Atwell, Belinda Baumel, Annika Benedetto, Cassidy Broggs, Carrie Jo Cobb, Kevin Gavin, Laura Mailard, and Tara Whalen.

The clinic was so well received, they are hoping to do it again next year. “We look forward to partnering with the WSU College of Nursing on this effort again,” says Dr. Farnsworth. “I think it would make a great annual event.
Continuation in a series of stories featuring what the WSU College of Veterinary Medicine is doing to improve the health of animals and people at home and around the globe.

One World. One Health.
The Paul G. Allen School for Global Animal Health

Story by Marcia Hill Gossard ’99, ’04 Ph.D.

When the places where people live have adequate sanitation and clean water, and the animals people raise for food are free from disease, people are not only healthier, but they also have improved life chances through higher income, better education, and overall well-being. That is One Health.

For the last 10 years, the Allen School has been committed to doing just that by helping to create healthier communities. Our scientists have seen that by vaccinating cattle for East Coast Fever, a young girl in rural Africa can attend school because her family has milk to sell from a healthy cow, which leaves an intergenerational impact on the community. Or an entire family is spared hunger and economic hardship because vaccinations for Newcastle disease prevent the decimation of a community’s chickens.

Improved health practices including the pasteurization of milk, prevents bacterial infections such as E. coli, Salmonella, or Campylobacter and reduces the number of illnesses that ultimately would need to be treated with antibiotics. By discovering the causes for increases in antibiotic use, our scientists have helped implement ways to reduce infection and the spread of resistant bacteria in poor communities worldwide, which not only protects those communities but helps preserve effective antibiotics here around the world and here at home.

HEALTHY CHILDREN

At the Coast General Hospital in Mombasa, Kenya, pregnant women sit in the waiting room to see a doctor for a monthly prenatal wellness check. Allen School medical epidemiologist Dr. Eric Osoro also waits to ask the women if they would agree to participate in a study to test for the Zika virus.

Transmitted by the Aedes aegypti mosquito, the Zika virus causes microcephaly, a birth defect in children where the head is smaller than other children of the same age. In Kenya, Aedes aegypti mosquitoes are prevalent in coastal regions and spread dengue fever, a disease that is related to the Zika virus.

Once they agree to participate, the women fill out a questionnaire and give a blood sample to test for the virus. Dr. Osoro and his team will do monthly follow ups with the women. “After the baby is born we will follow up with the infants to assess for growth and neurodevelopment,” says Osoro.

What the researchers learn will not only be used to help prevent Zika in Kenya, but also assist health workers to counsel patients about the risks of the virus and provide health care facilities with information to offer the most effective services to children with microcephaly.

Deputy Director of Public Health for WSU Global Health-Kenya Dr. Eric Osoro (left) with field study coordinator Harriet Mireiri reviewing study procedures at the Bomu Hospital in Mombasa, Kenya.
HEALTHY FAMILIES

A Maasai woman in northern Tanzania collects cow’s milk for her family in a gourd called a calabash. Milk is a staple in the diet of the Maasai and can make up about half of their daily calories. After finding antibiotic resistant E. coli bacteria in their milk, anthropologist Dr. Mark Caudell teamed with students in the WSU Center of Entrepreneurial Studies to develop a basic thermometer that could be placed in a pot of milk over a fire. When the milk is hot enough to kill any bacteria, the end of the thermometer lights up green. Before the thermometers, it was impossible for the Maasai women to know how hot they needed to warm the milk to kill bacteria.

“We found that mothers trained to pasteurize their milk using our thermometers heat-treated milk more often and drank milk with less bacteria,” says Caudell. “We are now working with engineers at WSU on a redesign that will allow multiyear use.”

Caudell and his team plan to return to Tanzania this summer and find the most effective ways to distribute the thermometers in these hard-to-reach, rural communities. “We want to empower Maasai women within these communities to teach other community members about the importance of milk hygiene and pasteurization,” says Caudell.

Watch the video about Caudell’s work at go.vetmed.wsu.edu/CaudellThermometer.

HEALTHY COMMUNITIES

As Kenya’s climate has become drier with more frequent droughts, raising camels is increasingly common for pastoral households that traditionally may have only kept cattle or goats as livestock. Dr. Kariuki Njenga, a virologist with the Allen School, and his team are researching brucellosis, an infectious disease caused by the bacteria Brucella. Brucellosis affects many animal species, but because of a camel’s lifespan, they can harbor and spread the disease for years.

“While a family may expect to have a cow for about four years, and a goat for about two years, camels can live 25 years or more,” says Njenga. “That means camels could infect three generations of cows.”

Brucellosis is a bacterial zoonotic infection that is often transmitted to humans from unpasteurized milk. While rarely fatal, the disease can have long-term effects such as recurrent fevers, arthritis, swelling of the heart, and chronic fatigue. Animals infected with the disease produce less milk, abort, can become infertile, and are a risk to other animals in the herd.

Although specific bacteria species generally infect cattle, sheep, goats, or camels, some Brucella species can cross animal species. And there is very little information on the Brucella species in camels. So back in Pullman, Dr. Tim Baszler and a team of scientists in the Washington Animal Disease Diagnostic Laboratory are working with the WSU team in Kenya using genetic analysis to identify different species of Brucella to determine the dominant strains of the bacteria. This will help Allen School scientists better understand how the bacteria transmits from animals to humans, and to develop ways to control the spread of the bacteria.

Because antibiotics are the treatment for brucellosis, knowing how to best prevent the spread of the disease will reduce antibiotic use and decrease the risk of developing new strains of resistant bacteria that can spread globally.
We congratulate our alumni Steven Weisbroth (’64 DVM) and John Middleton (’93 DVM) who each received the 2017 Distinguished Veterinary Alumni Award for Excellence in Teaching and Research. They were honored on April 14, 2018, during a reception and dinner in Pullman.

Steven Weisbroth is now retired but continues with several institutions as a consultant in laboratory animal medicine. Earlier, he served as director of animal care facilities for several major universities where he also pursued a research career in diseases of laboratory animals. Dr. Weisbroth initiated the series of texts sponsored by the American College of Laboratory Animal Medicine, of which the first was The Biology of the Laboratory Rabbit, widely recognized as an authoritative text on the subject and served as editor or contributor to several others in the series.

John Middleton is a professor and assistant director of the Agricultural Experiment Station at the University of Missouri’s College of Veterinary Medicine where he has clinical, teaching, research, administrative, and service responsibilities. His research is primarily focused on the epidemiology, control, and treatment of bovine mastitis as well as other infectious diseases important to veterinary and public health. As an educator, he combines teaching and hands-on learning for students in the classroom and the clinic.

Who Will You Nominate?

Distinguished Veterinary Alumni Award: Honors DVM graduates for veterinary excellence in practice or teaching and research.

Distinguished Graduate Alumni Award: Honors M.S. or Ph.D. graduates for excellence in research, teaching, service, or business.

Outstanding Service Award: Honors an individual who has made extraordinary contributions to animals or to the WSU College of Veterinary Medicine.

Nomination deadline: September 1, 2018

For more information, eligibility requirements, and nomination forms, visit go.vetmed.wsu.edu/AlumniAwards or contact Michelle Mielke at 509-335-1365 or mielke@vetmed.wsu.edu.

Your Gifts in Action

Leaving a gift in her will was an easy way for Tamara Morse to support an exceptional WSU education program.

Story by Marcia Hill Gossard ’99, ’04 Ph.D.

Stretch out in front of the fireplace at their home in Edmonds, Washington, are “Wallis” and “Cole,” Tamara Morse’s recently adopted cats. “I have a soft spot for orange striped tabbies,” she says. Morse has had five orange tabbies since the 1980s. “I love their markings. It looks like someone painted them with a brush.”

Wallis and Cole, named after Morse’s late husband, were up for adoption at Seattle Humane just a few weeks after “Paprika,” her cat of 14 years, died. “I hadn’t thought about having two cats,” she says. But the house seemed quiet without her constant companion, Paprika, who had flown on at least 60 plane rides with Morse. “When I got the call that they were available for adoption, I told them I would be there within the hour.”

Morse, an active volunteer with Seattle Humane, serves on their Planned Giving Council. It was through her volunteer work that she first learned about the Humane Society Alliance Education Program partnership with Washington State University’s College of Veterinary Medicine. “I was drawn to the WSU program with Seattle Humane,” says Morse. “What a perfect combination of education and helping animals.”

Through the program, WSU veterinary students spend two weeks at Seattle Humane. Students become more confident and skilled surgeons because they perform nearly 10 times the number of surgeries during their last year of veterinary school.
than they would have before the program began in 2013. Students also see a range of illnesses and injuries requiring diagnosis and treatment, which makes them better prepared to enter the workforce. “More than half our students, about 75 per year, go to Seattle Humane for a rotation,” says Bryan Slinker, dean of the college. “Over the course of a two-week rotation, each student will perform 25–30 spay and neuter surgeries.”

“It is important for students to get the best education they can,” says Morse. “This program sets them apart from the average veterinary medicine students.”

THE ROAD TO WSU
Morse grew up 2,000 miles from Washington State University in West Lafayette, Indiana. The daughter of a mechanical engineering professor at Purdue, she was raised to value the importance of education and real-world life experience.

She earned a bachelor’s and master’s degree in education from Purdue and taught for several years before going back to school to earn an MBA in 1978. Morse moved to Seattle that same year, and it was then she first met WSU alumnus Wallis Cole (’43) while they were both working at Chevron. Cole grew up in Pullman where his father was a professor of chemistry. He attended WSU and earned a bachelor’s degree in agriculture, human, and natural resource sciences. Cole married his first wife, Betty Lou and they had three sons together, Wallis Jr., Richard, and Randal.

After Betty Lou’s death in the early 1990s, Cole picked up the phone to call Morse. “We had known each other from work. He called and asked me out for dinner and the rest was history,” says Morse.

“A great love story.” Cole and Morse were married nearly 17 years before Cole’s death in 2009.

Although her allegiance with Indiana is still strong, after nearly four decades in Washington state, Morse admits she started thinking of herself as a Washingtonian. “I have never lived anywhere that long,” she says. “The state of Washington has been really good to me, so I thought why not do something for animals and Washington state.”

“**You don’t have to be a WSU grad to benefit WSU.**”

—Tamara Morse

Morse was formally adopted as a Cougar in December 2017. This special recognition is given to those who exhibit “Cougar Spirit” and genuine loyalty and affection for WSU.

“Wally would have been very pleased to know that I have room in my heart to be a Purdue Boilermaker and a Cougar,” she says.

A LASTING LEGACY
More than 30 years ago in 1986, Morse founded a successful financial planning business, and she has been running it single handedly ever since. “My first clients were retirees I had known from Chevron,” she says. Today, Morse still serves some of her earliest clients and also the children of many of her clients, making it a multigenerational business. “I have been very fortunate in my life.”

Morse says there are hundreds of organizations that she could have given to, but the program with WSU and Seattle Humane brought together her love of animals and the values instilled in her: the importance of education and real-world experience.

So, much as she’s advised many of her own clients, she decided to leave an estate gift naming the college in her will. “You have to think about the footprint you are going to leave and align it with your passions,” she says. “Deferred giving is a comfortable way to leave an impact.”

While she is still devoted to Purdue, she knows her loyalties can be in two places. “Wally’s sons told me that their dad would be really pleased if he knew I had given to WSU,” she says. “You don’t have to be a WSU grad to benefit WSU.”

To learn more about how your gift can make a difference, please visit [www.vetmed.wsu.edu/GiftsinAction](http://www.vetmed.wsu.edu/GiftsinAction).
Look for Gatherings of WSU Alumni, Friends, and Students at these Upcoming Events!

Mark your calendars

**Peter A. Zornes Memorial Golf Tournament**
The 11th annual Peter A. Zornes Memorial Golf Tournament will be held on **Saturday, July 14, at the Colfax Golf Club** to benefit the Peter A. Zornes Memorial Neuroscience Scholarship at WSU. To register, visit vetmed.wsu.edu/Zornes or contact Lynne Haley at lhaley@vetmed.wsu.edu or 509-335-5021. Remember to invite your friends to play!

- **July 13**  Alumni reception at American Veterinary Medical Association in Denver, Colorado
- **July 14**  Peter A. Zornes Memorial Golf Tournament in Colfax, Washington
- **September 29**  College hosts Homecoming pre-game (vs. Utah) and CE events in Pullman

*CE courses at WSU and online are offered year round; visit [www.vetmed.wsu.edu/CE](http://www.vetmed.wsu.edu/CE) for more information.*

*For more information about upcoming events visit [www.vetmed.wsu.edu/Events](http://www.vetmed.wsu.edu/Events).*