How Virtual Reality is Changing Veterinary Medicine

WSU’s VALT (Veterinary Applied Laparoscopic Training) Laboratory

Dr. Boel Fransson, director of the VALT lab
It is always an honor to recognize some of the best and brightest alumni of the WSU College of Veterinary Medicine. This year, four very special alumni received the Distinguished Veterinary Alumnus Award for excellence in research and teaching or veterinary practice.

Dr. Lance Perryman ('70, '75) and Dr. Susan Stover ('76) were the 2010 recipients of the Distinguished Veterinary Alumnus Award for Excellence in Teaching and Research. Dr. Perryman has been a leader in enhancing the quality of veterinary medical education. Over his career he has mentored students and worked collaboratively with colleagues and led by example. I have known Lance since I was a student here and have always valued him as a mentor and friend. Dr. Perryman is currently dean of the College of Veterinary Medicine and Biomedical Sciences at Colorado State University. However, he has no choice but to be a Coug, having received both his DVM and Ph.D. degrees here and having spent the first 20 years of his teaching, research, and academic administration career in our college.

Dr. Stover is an outstanding teacher and an excellent role model for students. Recently, she mentored two students who received the 2008 and 2009 James Wilson Award for Best Equine Publication by a resident or graduate student. She also leads an internationally recognized research program for the study of equine racing injuries, and has testified before the U.S. Senate subcommittee on catastrophic racing injuries.

Dr. Thomas Meyer ('78) and Dr. Charles Sedgwick ('57) received the 2010 Distinguished Veterinary Alumnus Award for Excellence in Practice. Dr. Meyer and his wife Dr. Jean Meyer opened the Mountain View Veterinary Hospital in Vancouver, Wash., where they have practiced for over 20 years. Dr. Meyer has a deep understanding of veterinary medicine and has been a strong supporter of our college through his engagement with the Washington State Veterinary Medical Association and the American Veterinary Medical Association, giving generously of his time and knowledge to advance our profession.

Dr. Sedgwick, who has worked in some of the nation’s top zoos, has devoted his career to zoo medicine and to improving the lives of zoo animals. Over the years, Dr. Sedgwick has helped improve anesthesiology procedures, animal facilities, and other aspects of animal care in order to enhance the well-being of animals living in zoos.

I’m pleased to share with you the very brief but illustrative credentials of these outstanding WSU Cougar alumni.

Go Cougs!

The Awards

The college’s Distinguished Veterinary Alumnus Award is given to honor DVM graduates for veterinary excellence in practice or teaching and research.

The Distinguished Veterinary Graduate Alumnus Award is given to honor M.S. or Ph.D. graduates for excellence in research, teaching, service, or business. [not awarded in 2010]

The Outstanding Service Award is given to an individual who has made extraordinary contributions to animals and/or the WSU College of Veterinary Medicine. Individuals need not be an alumnus of the college to be nominated. [not awarded in 2010]

To learn more about the awards, please visit www.vetmed.wsu.edu/Awards. Nomination deadline for 2011 is February 4.
**2010 Distinguished Veterinary Alumnus Award for Excellence in Teaching and Research**

Dr. Lance Perryman (’70 DVM, ’75 Ph.D.) is currently the dean of the College of Veterinary Medicine and Biomedical Sciences at Colorado State University in Fort Collins. He also serves as the executive dean to the President’s Cabinet. Dr. Perryman first came to WSU in 1964 as an undergraduate and began the DVM curriculum in the fall of 1966. In 1968, he was an NIH predoctoral fellow in the WSU Department of Veterinary Pathology. After receiving his DVM and Ph.D. at WSU, Dr. Perryman served as a professor and later the director of the Animal Health Research Center at the WSU until 1994. That year he took a post as head of the Department of Microbiology, Pathology, and Parasitology at the College of Veterinary Medicine at North Carolina State University in Raleigh. He has published more than 140 refereed scientific publications.

Dr. Lance Perryman

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Dr. Susan Stover (’76) is currently a professor in the Department of Anatomy, Physiology, and Cell Biology at the University of California, Davis. She has an internationally recognized program in equine racing injuries, and her research has helped inform policy changes improving the welfare of racing horses. She was the 2007 recipient of the Faculty Research Award at UC-Davis School of Veterinary Medicine. In 2008 she was selected as an Outstanding Woman in Racing by the California Thoroughbred Breeders Association.

Dr. Susan Stover

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Dr. Thomas Meyer (’78) and his wife Dr. Jean Meyer established the Mountain View Veterinary Hospital of Vancouver, Wash. in 1979. In 2004, he received the Veterinarian of the Year Award from the Washington State Veterinary Medical Association (WSVMA). Dr. Meyer chaired the American Veterinary Medical Association (AVMA) House Advisory Committee from 2002 to 2003 and has served in the AVMA House of Delegates since 1995. Because of his interest in leadership development, Dr. Meyer is an advocate for the Veterinary Leadership Experience (VLE), an experiential leadership program for students and faculty that teaches life skills in better communication and collaboration with one another.

Dr. Thomas Meyer

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**WSU’s New Veterinary Specialty Teaching Clinic**

The WSU Veterinary Specialty Teaching Clinic in Spokane, Wash. held its grand opening February 19, 2010. The clinic, located on WSU’s Riverpoint Campus, is a satellite facility supporting clinical teaching and training for WSU’s veterinary program. The facility also serves the specialist referral needs of the greater Spokane area veterinary community.

A long-time veterinary ophthalmologist and owner of the Animal Eye Clinic of Spokane, Dr. Bill Yakely will continue his practice within the new facility with his current staff. WSU veterinary students will be accepted by the practice for ophthalmological training.

“It is a very important and cost-effective benefit for us to have Dr. Yakely and his staff continue to train our students,” said Dr. Bryan Slinker, dean of the college. “His affiliation with teaching ophthalmology in this college extends over many years and we are very grateful.”

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Dr. Lance Perryman

**Spokane Specialty Clinic Ribbon Cutting (from l-r) Rich Hadley of Greater Spokane Inc., Provost Warwick Bayly, Dr. Bill Dernell, Dean Bryan Slinker, and Dr. Harmon Rogers.**

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Dr. Charles Sedgwick

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Dr. Thomas Meyer

**2010 Distinguished Veterinary Alumnus Award for Excellence in Practice**

After Dr. Charles Sedgwick (’57) graduated from WSU, he went on to have a distinguished career in zoo medicine. Dr. Segewick has worked in some of the nation’s top zoos including the San Diego Zoo and the Sacramento Zoo, where he was the director of veterinary services. Most recently he served as chief zoological veterinarian at the Los Angeles Zoo. He has held posts at the University of California, Davis, Tufts University, and was the project veterinarian for Biosatellite (monkeys in space) at the University of California, Los Angeles. He is currently a consultant in zoo medicine. In 2008, Dr. Sedgwick was honored with a lifetime achievement award from the American Association of Zoo Veterinarians.

Dr. Charles Sedgwick

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Dr. Thomas Meyer

**The WSU Veterinary Specialty Teaching Clinic in Spokane.**

The WSU Veterinary Specialty Teaching Clinic is located in a recently renovated building on the WSU Spokane campus. The development and operation of the clinic are aided by a $2.7 million estate gift from WSU veterinary alumnus Bernard Pinckney (‘44). It was Dr. Pinckney’s wish that his gift be used to establish a satellite clinic to offer continuing education opportunities for students and practitioners. The clinic is also supported by a second generous bequest of nearly $1 million from the Charlotte Hays estate. Hays, of Richland, Washington, had a special bond with her animals throughout her life to which the gift pays tribute.
In a small, windowless room, four veterinarians simultaneously tie sutures, biopsy a liver, and perform minimally invasive abdominal surgery. No, this is not a typical operating room. It is a veterinary laparoscopic training laboratory—the first of its kind in the nation.

Nearly four years ago, Dr. Boel Fransson, a board-certified small animal surgeon, designed what is now the Veterinary Applied Laparoscopic Training (VALT) laboratory at Washington State University. Although laparoscopic simulation training has been widely used in human medicine for more than a decade, similar training had not been available in animal medicine. A laparoscope is essentially a telescope used by surgeons to see inside body cavities while doing minimally invasive surgery through tiny incisions, often called keyholes.

“Our laboratory is the first in the country to develop veterinary simulation training in laparoscopic surgery,” said Dr. Boel Fransson, director of the VALT laboratory. “I was very interested in technique development for the additional skills required for the minimally invasive surgeries we perform in clinical practice here at WSU.”

Laparoscopic surgery is being used more often in veterinary medicine because of the same advantages to patients as seen in humans. Risks associated with traditional open surgery are minimized, pain is reduced and easier to control, and patients often recover much more quickly. It is also a valuable tool that allows veterinarians to run diagnostic tests they may not otherwise be able to perform.

Although the American College of Veterinary Surgeons requires training in minimally invasive surgical techniques, there was no other learning platform for surgeons in training except to participate in actual surgeries with a mentoring surgeon. Dr. Fransson and her colleague, Dr. Claude Ragle, a WSU board-certified equine surgeon and pioneer in equine laparoscopy, believe additional training outside the operating room is necessary to achieve higher competency levels. More training also means less risk to the patients.

“We want to train better and safer surgeons,” said Dr. Fransson, “before they perform surgery on someone’s beloved pet.”

With proper training laparoscopic surgery can be simpler and safer than other surgical techniques. Training in the VALT lab, surgeons become accustomed to using actual surgical tools in small spaces while watching the magnified procedures on a television screen.

“Training in the lab improves dexterity and familiarity,” said Dr. Courtney Watkins, a WSU small animal surgery resident who has trained in the VALT lab. “It is a good way to practice skills without the stress and urgency of an actual surgery.”

Practicing the precise movements of laparoscopic surgery also helps the techniques to become second nature. Additional training minimizes unnecessary movements, surgery time, and increases accuracy.

“The training builds confidence and better surgeons,” said Dr. Stavros Yiannikouris, WSU equine surgery resident. “In the VALT lab, I have the freedom to explore different surgical techniques to learn what will be most efficient and effective during surgery.”

The VALT lab began training veterinarians in 2008 with very basic equipment, such as a box trainer that teaches hand-eye coordination and practice routine procedures such as suturing. Dr. Fransson later added canine abdomen models that train surgeons in the feel and size of the abdominal cavity and organs. The virtual reality, or VR, trainer was added to the lab earlier this year.

“The virtual laparoscopic trainer has a real feel,” said Dr. Ragle, WSU equine surgeon and VALT lab co-director. “It provides immediate feedback by showing if you’ve made a patient bleed or if you are going out of bounds.”
After working on the VR trainer, surgeons receive printouts to learn how their techniques can be more efficient and safe. The software tracks the surgeon's performance and provides an assessment of the surgeon's skills.

“Sometimes it is that the tools need to be adjusted, or it could be how the surgeon is standing or even holding their arms that makes a difference,” said Dr. Ragle.

One of the criticisms of virtual reality trainers is that they do not provide physical, or haptic, feedback that a surgeon would feel during an actual surgery. Although the canine abdomen model does provide some haptic feedback, the VALT lab will also be adding an augmented reality trainer, a hybrid that combines virtual reality with haptic feedback. As the lab grows, Dr. Fransson would like to expand training to more veterinarians.

“Currently we are training residents and veterinarians at WSU in our lab,” said Dr. Fransson. “Our plan is to open it up to DVM students as an elective. We hope in the future to even invite surgeons from other universities to come train in our lab.”

Since Dr. Fransson has begun training in the VALT lab, WSU veterinarians have gone from having basic skills in laparoscopic surgery to now being at the highest competency level.

“By having everyone trained at this level, it has increased the safety for our patients,” said Dr. Fransson. “Increasing safety means we are offering the best possible care.”

The VALT Laboratory at WSU

Established in 2008, the VALT laboratory's mission is to develop, validate, and implement veterinary laparoscopic training programs. The aim is to bring basic laparoscopic skills training out of the operating room, where different techniques can be practiced and explored. The long-term goal is to create safer surgeons for the benefit of animal patients.

Unlike traditional surgical techniques, laparoscopic surgery can be performed using very small incisions. With minimally invasive procedures, there are fewer risks for the patient and recovery time is much quicker. Also sometimes called keyhole surgery, surgeons look at magnified images on television screens while using long instruments to perform the surgery or diagnostic procedures. Because a very different skill set is used in laparoscopic surgeries, additional training in the VALT lab has shown in research studies to improve skill levels.
On March 21, several members from the college spent a fantastic spring day with our good friends and teaching hospital clients, Dave and Eddylee Scott and their beloved dog, “Cassie.” The Scotts and their friends hosted a fundraiser for the WSU Veterinary Teaching Hospital at Hellams Vineyard in La Conner, Wash. Cassie, a cancer survivor, came to the teaching hospital in the summer of 2008 after the Scotts found a lump on the top of her head (see Cassie’s Story). As a way to give back to the teaching hospital and honor the wonderful veterinary team they worked with in Pullman, the Scotts planned this spectacular event where friends could gather to learn about the good work being done at the college. Guests enjoyed good food, great wine, a silent auction, raffle, and presentations by Dr. Jeffrey Bryan, a WSU veterinary oncologist, and Dr. Annie Chen-Allen, a WSU veterinary neurologist, and me.

In the summer of 2008, while fishing near Juneau, Alaska, Dave and Eddylee Scott found a lump on the top of their 7-year-old Golden Retriever’s head. They made a quick call back home to their veterinarian, Dr. Lance Campbell (’99), who advised them to take “Cassie” to a clinic in Juneau and have the lump removed. The Southeast Alaska Animal Medical Center removed the tumor—a benign multilobular tumor of the bone—but within 3 weeks the tumor returned.

On the advice of Dr. Campbell, they traveled to Washington State University’s Veterinary Teaching Hospital in Pullman, Wash. An MRI showed the tumor was growing from Cassie’s skull and pressing on her brain. Dr. Jeffrey Bryan, a board-certified veterinary oncologist, organized a treatment plan for Cassie in conjunction with the neurology service and radiation oncology. After seven hours of surgery, and a course of radiation therapy that included 20 daily sessions, Cassie spent 10 months enjoying life with Dave and Eddylee as they boated and played golf. Her follow-up required only periodic exams.

The following June, an MRI revealed regrowth of the mass. With all standard options exhausted, Cassie required a creative plan for further treatment. Following three more doses of radiation, she received a radioactive drug (radiopharmaceutical) to deliver a strong dose of radiation directly to the tumor through her bloodstream in August 2009. She was the first dog in Washington to ever receive this type of drug. Cassie began a Palladia (toceranib phosphate) regimen, a new cancer drug therapy, and pamidronate, an osteoporosis treatment, in September 2009. These new therapies combined to keep her symptom-free and enjoying life.

“Cassie is a great dog owned by a fantastic couple,” said Dr. Bryan. “Our hope here is that we can provide palliative care and maintain her quality of life.”

Editor’s note: After this story was written, Cassie lost her nearly two-year battle with cancer. “Our goal all along was to keep her happy and comfortable,” said Dr. Jeffrey Bryan, WSU veterinary oncologist. “She broke new ground that will benefit future dogs in Washington, wagging her tail the whole time.”

To read more about Cassie visit www.vetmed.wsu.edu/PetMemorial
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**Veterinary Executive Report**

**Awards and Achievements**

**Your Gifts in Action**

Patients at WSU’s Veterinary Teaching Hospital can now receive on-location cardiovascular diagnosis thanks to a new portable echocardiograph from a generous friend of the college.

“We are very grateful to have this machine,” said Dr. Lynne Nelson, a WSU veterinary cardiologist. “This echo is the latest, state-of-the-art, portable machine. Because it is portable, we can take it to a sick horse, kitten, or any animal.”

An echocardiograph is used to diagnose cardiovascular conditions in animals using ultrasonic sound waves. The machine can help visualize heart disease symptoms, measure the size and shape of the heart, and locate tissue damage.

But, until now, patients had to come to the WSU Veterinary Teaching Hospital for testing. Veterinarians and technicians can bring the new portable echocardiograph to a sick or downed animal and make a diagnosis in remote locations.

“It has the same quality as a larger, stand-alone machine,” said Nelson. “And it is very versatile. It can be used on small exotic animals or large animals like horses. We love it.”

**Lynne Haley,**
Director of Development

(following text)

**Regents Professor Dr. James M. Krueger**
received the 2010 Eminent Faculty Award from Washington State University. A neuroscience professor in Veterinary and Comparative Anatomy, Pharmacology, and Physiology, Krueger was honored during the annual Showcase celebration on March 26, 2010. The Eminent Faculty Award, the highest honor bestowed by WSU upon faculty, was created in 2000 to honor career-long excellence within WSU’s academic community.

**Your Gifts in Action**

(following text)

**Lynne Haley,**
Director of Development

To learn more about how your gift can make a difference visit www.vetmed.wsu.edu/Giving.
Look for a WSU Alumni, Friends, and Students Gathering at these Upcoming Events!

Mark your calendars

**Peter A. Zornes Memorial Golf Tournament**

The third annual Peter A. Zornes Memorial Golf Tournament will be held on **Saturday, June 26, 2010, at the Colfax Golf Club** to benefit the Peter A. Zornes Memorial Neuroscience Scholarship at Washington State University.

The event includes a box lunch, a putting contest, BBQ dinner, and awards. Register at [www.vetmed.wsu.edu/Zornes](http://www.vetmed.wsu.edu/Zornes) or contact Lynne Haley at lhaley@vetmed.wsu.edu or 509-335-5021. Remember to invite your friends to play!

**Other important dates to remember:**

- **July 31-August 3** AVMA in Atlanta, GA
- **August 2** CVM Alumni Reception at AVMA in Atlanta, GA
- **August 21** Bill Johnson’s Fourth Annual Bicycle Ride for WSU
- **October 1–3** WSVMA in Spokane, WA
- **October 9** CVM Homecoming BBQ (vs. Oregon)
- **October 8-10** CVM Class Reunions (’70, ’80, ’90, ’00)

CE courses at WSU and online offered year round: [www.vetmed.wsu.edu/CE](http://www.vetmed.wsu.edu/CE)

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