

INSIGHT

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College of Veterinary Medicine and Biomedical Sciences



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INSIGHT

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On the cover: Dr. Kursheed Mama, an assistant professor with the Anesthesia Section at the Veterinary Teaching Hospital, helps senior Professional Veterinary Medical Program student Lucas Thomi provide anesthesia to a horse undergoing surgery. Students participating in anesthesia rotations at the hospital enjoy a hands-on environment. The new anesthesia teaching program emphasizes learning through doing while preserving quality of patient care.

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Welcome

Welcome to the Spring 1999 edition of *Insight*. You may notice that this edition is a bit thicker than most, and that's because of the *Report on Private Giving*. Each year, the College of Veterinary Medicine and Biomedical Sciences takes this opportunity to thank and recognize its friends and alumni who contribute so generously to the College's mission of excellence in education, service, and outreach. You'll find the *Report on Private Giving* beginning on Page 15.

You'll also find lots of interesting stories in *Insight*, including articles on pain remedies for companion animals, wildlife toxicology, a student who volunteers as a puppy raiser, the new wing planned for the Veterinary Teaching Hospital, and so much more. We hope there is something here to interest everyone. If not, let us know. We welcome your letters and suggestions. If you have ideas you'd like to send our way, comments on articles, or questions, please send them to:

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Message from the Dean

Dear Friends,

I am delighted to report that the past year has been a relatively quiet one. By that I mean no major weather disasters have flooded us, blown us across the state line, or buried us hip-deep in snow. It's a good thing, too, as we have been occupied with developing fresh ways and means of teaching our students, establishing and growing new and existing research programs, and expanding service and outreach programs that require more people and resources.

Our teaching programs continue to embrace new technology and improved ways of engaging students in challenging studies. This year, faculty teams developed computer-assisted classes primarily through an award from the Colorado Commission on Higher Education. The Anesthesiology Section completely revamped its teaching program to address the complex needs of today's veterinar-

ians (see "Students Staying Awake for New Anesthesiology Program," Page 4). We continue to move many courses to Web-based tools that enable students easy access to syllabi, assignments, chat rooms, faculty help, resource materials, and much more. This communication tool is changing the way our students, faculty, and staff interact within the College and around the world, and we are very excited about the potential Web-based learning holds for us all.

Research at the College continues to expand and develop in ways and amounts that I had once thought impossible. This year, the College received more than \$30 million in research dollars. That is the highest amount we have ever received, and that is also the largest research dollar figure for any college on campus as well as for any veterinary college in the United States and Canada or, for that matter, the world. We are extraordinarily proud of our faculty, graduate and undergraduate students, and the work that they do to bring so many exciting ventures to Colorado State. Research programs help offset the costs of higher education, provide rich learning opportunities for all our students, and enable us to benefit society by answering questions and solving problems.

Our service and outreach programs are helping to meet the needs of Colorado State's constituents, from dairy farmers to local animal shelters. The Integrated Livestock Management Program is helping agricultural producers realize greater potential from their agribusinesses while meeting environmental and land conservancy objectives. In another program, our students neuter

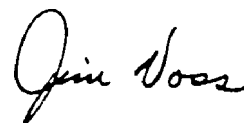
companion animals from a local shelter, greatly increasing the adoption prospects for these animals into loving homes.

Development activities at the College are running along at a brisk pace. I'm glad to report that the 1998 figures are higher than 1997, and we look to be off to a good start for 1999.

Speaking of 1999, we do have more than a few challenges ahead of us. We are rapidly outgrowing our facilities, and we'll be working hard to meet space needs to accommodate new and existing programs. Already, a biocontainment center (level 3) is in the works at the University's Foot-hills Research Campus. We also have received funding for a new horse facility at the Equine Center. Space at the Veterinary Teaching Hospital is at a premium, and this year we will be actively campaigning to gain financial support for a proposed new wing at the hospital that will house the Animal Tumor Center and the Argus Center (see related story on Page 10). Other building projects that need support are the Orthopaedic Research Laboratory at the VTH and completion of projects at the Equine Center. We hope to gain further scholarship support to help students offset the high cost of education, and financial support for our faculty to allow them to excel in research, teaching, and outreach programs.

Thanks to all of you for your generous support over the past year. It makes the work we do especially fulfilling. I look forward to seeing or hearing from each of you in 1999. ■

With Best Regards,



James Voss, D.V.M., M.S.
Dean



Dr. James L. Voss

Students Staying Awake for New Anesthesiology Program

Kelly Gray remembers all too well the terrifying feeling of holding a life in her hands. Although she was well-prepared for the task facing her – providing anesthesia to an animal undergoing surgery – all the preparation in the world could not have reduced the adrenaline that coursed through her body and focused her efforts. In one word, she says, it was “scary.”

Gray, a senior in the Professional Veterinary Medical Program at the College of Veterinary Medicine and Biomedical Sciences, reflects what most students feel about the anesthesiology rotations in their junior and senior years – intense, hands-on, and an incredible learning environment. That learning environment is no accident, but the result of several years’ work by faculty and staff to give students in anesthesiology the best experience possible in the short amount of time allotted for them to learn their craft. By all accounts, the new teaching program in the Anesthesiology Section is working, and working well.

Prior to 1994, anesthesiology students learned the better part of anesthesia in classroom lectures and laboratories that were hard-pressed to reflect the true environment of a surgical room. Students and faculty alike also had concerns on using dogs, and then pigs, as teaching tools in terminal surgeries. Faculty also were concerned about how time was being used when students were in their charge, and if they were doing the best they could to prepare students for their professional careers. Changes were deemed to be in order.

“In Fall 1995, we took the juniors out of the labs and put them in clinical rotations for two weeks,” said Dr. Peter Hellyer, an associate professor of anesthesiology in the Department of Clinical Sciences. “Currently, the third-year stu-



The Anesthesiology Section team at the Veterinary Teaching Hospital works very much as a team to provide students with the best possible experience and education during their anesthesia rotations. Team members include, kneeling, from left to right: Diana Pearson, Pam Vogel, Ellen Shaub, Lisa Horsfall, and Sandy Allen; and standing, from left to right: Scott Larsen, Peter Hellyer, Denise Parker, Ann Wagner, James Gaynor with daughter Sasha, Wendy Demme, Lu Brevard, and Khursheed Mama. Also pictured are the team’s various and assorted four-legged companions.

dents spend one week anesthetizing humane society animals as part of a neuter/dentistry program, and their other week assisting fourth-year students with their clinical cases. We also have rounds, and students spend time on ‘paper’ cases.”

Dr. Hellyer said he and other faculty still wondered if they were doing all they could to prepare students in the best way possible, as well as provide

a reasonable evaluation system to determine their abilities. The faculty decided to call in outside help in the form of Dr. William Timpson, director of the Center for Teaching and Learning at Colorado State University and a professor in the School of Education. Dr. Timpson undertook a semester-long review of the program in the spring of 1997 including student focus groups, lecture reviews, implementation of structural changes, faculty evaluations, and student journal reviews.

“The anesthesiology faculty take very seriously their role in giving students the best learning experience,” Dr. Timpson said. “Because of the nature of anesthesiology, it’s a balancing act to provide close supervision for students while allowing them autonomy. Students are in the learning process, and because they get to do so much work with animals, they are very excited about their opportunities in anesthesiology. At the same time, it creates a lot of anxiety because of the level of responsibility and gravity of the situation. I don’t think the instructors even realize the additional anxiety they themselves are carrying.”

With Dr. Timpson’s help, the Anesthesiology Section incorporated several more changes into its teaching program to further enhance the learning experience for students. One of the biggest changes was a debriefing session each morning to talk about the day’s cases and prepare for the next day.

“The students really enjoy having the time to share what they are learning and things that happened during the day,” said Dr. Ann Wagner, an associate professor

with the Anesthesiology Section. “It is a time for them to learn from each other, as well as learn from faculty in a setting that is very casual and comfortable. We really have a camaraderie that promotes professionalism and learning in an environment that fits the students’ needs and helps the faculty and students connect.”

In the freshmen and sophomore years, changes have been implemented as well. Didactic lectures are supplemented with problem-based learning cases that challenge the students to use the information they have learned in a practical format. Dr. James Gaynor, associate professor with the Anesthesia Section, said another important part of the students’ training comes from the anesthesia technicians.

“All of our faculty and staff have put teaching at the focal point of all we do,” Dr. Gaynor said. “Technicians are heavily

involved with training students, integrating knowledge from the classroom to the surgical room.”

Dr. Khursheed Mama, assistant professor with the Anesthesia Section, said the anesthesiology rotation demands much of students while insisting on exceptional quality of care for patients, so faculty and staff must be particularly supportive.

“I think this is the hardest rotation of all for our students,” said Dr. Mama. “Our students have to assimilate so much information and rapidly put it to use. They have complex management issues with their cases, and must learn to think critically and quickly on their feet. We do provide a safety net for them. We are always right there or close by so they never feel like they are left hanging, but it is still a lot of pressure. Our current teaching program provides them the founda-

“Because of the nature of anesthesiology, it’s a balancing act to provide close supervision for students while allowing them autonomy.”

tion of information they need, the practice they require before moving on to living animals, and the time in clinics needed to hone their skills and boost their confidence. We ask a lot, but the students have shown us consistently that this is the best way for them to learn.”

Kelly Gray will testify to the fact that the anesthesia faculty ask a lot, but no more than they are willing to give of themselves.

“The learning curve is steep – you have so much to learn in so little time – every day I was mentally spent,” Gray said. “But we knew how much the faculty cared about students learning, without sacrificing the quality of care given to our patients. The faculty is a special group of people who value student input, hear what we say, make changes accordingly, and constantly try to improve their program.” ■

“All of our faculty and staff have put teaching at the focal point of all we do. Technicians are heavily involved with training students, integrating knowledge from the classroom to the surgical room.”



PVM students in the anesthesiology rotation and Anesthesia Section faculty and staff gather together to review the day’s events at a roundtable discussion. The daily “debriefing” session helps students and faculty learn and grow by sharing experiences and providing support to each other.

Finding Relief: Searching for Pain Remedies for Companion Animals

When a person has an ache or a pain, he or she often hits the medicine cabinet for over-the-counter relief like aspirin or ibuprofen. Pain from long-term and recurring illnesses such as arthritis or migraine, warrants treatment with prescription medicines. Surgical pain requires even more potent controlled medications, such as morphine, to make recoveries more bearable.

The notion of not treating pain in humans is absurd. A researcher at Colorado State University's Veterinary Teaching Hospital is now working to provide that same relief to companion animals.

"Pain management largely has been ignored in veterinary medicine thanks to a large number of long-standing misconceptions," said Dr. James Gaynor, an as-

sociate professor in the Department of Clinical Sciences. "Some veterinarians don't believe animals feel pain in the way that humans do, and some don't believe certain procedures – like spaying – are painful. Research is telling us, though, that animals do feel pain and discomfort, and there is a lot we can do to make them more comfortable."

Dr. Gaynor said another misconception is that pain management actually can make medical conditions worse. In fact, Dr. Gaynor said, pain itself left untreated can have severe adverse affects.

"For example, many veterinarians are concerned about giving pain medications to patients with broken limbs," Dr. Gaynor said. "They fear the medication may make the animal feel too good and, by using the limb without the pain, they might hurt themselves again. The reality is that pain medications cause animals to be sleepy and less active anyhow, and using pain to keep behavior in check is morally and ethically unsound. Pain can even kill critically ill pets, just as it would a person. They simply don't have the physiological strength to withstand the weakening influence of untreated pain. The detrimental affects of pain outweigh any benefits from waiting."

Drs. Gaynor, Peter Hellyer, Ann Wagner, and Khursheed Mama form the Anesthesia Section at the VTH and are responsible not only for anes-

To help veterinarians deal with and understand animal pain, the Anesthesia Section has numerous studies underway in both conventional and complementary medicine.

thesia but also for pain management. As a result of their work and research, Dr. Gaynor strongly believes veterinarians have an ethical obligation to provide pain relief to animals suffering from acute pain, or chronic pain that comes as a result of long-term illness.

To help veterinarians deal with and understand animal pain, the Anesthesia Section has numerous studies underway in both conventional and complementary medicine. Dr. Gaynor said one of the first initial studies was an assessment of canine pain. In that study, conducted at North Carolina State University, investigators watched dogs recovering from surgery, noting how differently the animals acted when people were in the room as opposed to being alone. Behavior changes indicated the animal was showing its pain more when people were absent, a common trait in animals that have evolved to hide pain and injury as a survival strategy. When in doubt, Dr. Gaynor said, veterinarians should consider that if something is painful for a human, it's likely to be painful for an animal.

Drug studies completed, underway, or starting soon at Colorado State include:

- Epidural morphine for post-op amputation pain.
- Carprofen given pre-op for post-op orthopaedic pain.
- Nalbuphine for analgesic properties similar to morphine but not a controlled substance, reducing paperwork and hassle.



Dr. James Gaynor uses acupuncture to relieve chronic pain in a golden retriever with arthritis. Acupuncture is just one of many methods of companion animal pain relief and control under study at Colorado State University's Veterinary Teaching Hospital.

- Ketamine given in sub-anesthetic doses during and after surgery.
- Epidural morphine use in horses.
- Determination of opioid receptor existence in horse joints.

In the complementary medicine arena, the Anesthesia Section has several studies, including:

- The effects of acupuncture for post-op pain, specifically with knee surgeries. So far, study results show 85 percent of dogs with acupuncture require no morphine.
- Magnetic field therapy for pain relief.

Dr. Gaynor said that part of the challenge of pain relief in veterinary medicine comes from the variety of species veterinarians see, each of which respond differently to pain and pain medications.

Investigators watched dogs recovering from surgery, noting how differently the animals acted when people were in the room as opposed to being alone.

Behavior changes indicated the animal was showing its pain more when people were absent, a common trait in animals that have evolved to hide pain and injury as a survival strategy.

“We are pretty good with dogs, cats are more difficult, and horses are very difficult,” Dr. Gaynor said. “But we hope to get additional support to expand our studies to address these challenges.”

Dr. Gaynor’s vision is to eventually have a dedicated pain management service at the VTH that manages care for both

inpatients and outpatients. Veterinarians then could have a source to turn to when they are faced with an animal in pain and are looking for answers. In addition to serving as a source for quick answers, Dr. Gaynor wants to expand continuing education courses offered by the Anesthesiology Section to bring veterinarians up to speed on pain management. In complementary medicine, Colorado State currently offers a certified acupuncture training course that typically has full attendance.

“I think veterinarians are really beginning to pay attention to this issue, and we need to provide them with the information they need to address the concerns of clients and the welfare of companion animals,” Dr. Gaynor said. “Eventually, I hope to catch up to human medicine in the way that we treat pain in animals, but we’ve got a way to go.” ■

Dr. Osguthorpe Selected as Honor Alumnus

The Colorado State University Alumni Association recently announced that Dr. Delbert Osguthorpe has been selected as a 1999 Honor Alumnus. Dr. Osguthorpe graduated from Colorado State (then Colorado Agricultural College) in 1943 with his Doctor of Veterinary Medicine degree, and has spent the last 55 years in his private practice.

“Dr. Osguthorpe has been a true champion of the College of Veterinary Medicine and Biomedical Sciences,” said Dr. James Voss, dean of the College. “He has supported the College and its veterinary students through generous contributions, achieved acclaim as a private practitioner, and brought great honor to the veterinary profession. I am very

pleased that we were able to pay homage to Dr. Osguthorpe by selecting him as the College’s 1999 Honor Alumnus.”

The Honor Alumnus award is presented each year to outstanding alumni – one from each college – who have contributed to or brought honor to Colorado State through personal or professional achievement and service to the University or community. Dr. Osguthorpe has long been a major benefactor to the College, helping students today become the veterinarians of tomorrow.

Dr. Osguthorpe was born in Black Foot, Idaho, and grew up in the Salt Lake City area. He attended Utah State before coming to Colorado Agricultural College to pursue a degree in veterinary medicine.

Thanks to numerous jobs at CAC, including sweeping the music building and raising and lowering the flag on campus, Dr. Osguthorpe was able to graduate debt-free from the veterinary program.

“I look at students now, and I know they can’t do what I did,” Dr. Osguthorpe said. “They are coming out of school \$40,000 to \$50,000 in debt. It’s important to help them out in whatever way we can. They treated me well at Colorado State – they did so much to help me – and that’s why I’m helping now.”

Dr. Osguthorpe and the other 1999 Honor Alumni were presented with their awards at the Alumni Association’s Distinguished Alumni Awards Dinner on April 22, 1999. ■

Student Helps Others Through Guide Dog Program

When Leah Geurts goes shopping, she attracts a crowd. Well, not her, actually, but the cute, four-legged creature who accompanies her. As a guide dog puppy raiser, Geurts has gotten used to all the attention, but it sure doesn't make shopping any easier.

"It takes me about twice as long to go to the store," Geurts said. "People have so many questions, and children especially are drawn to the puppies."

But Geurts, a graduate student in physiology, doesn't mind. Educating the public as well as training the dog is part and parcel of the guide dog program.

Geurts began raising guide dog puppies two-and-one-half years ago after learning about the program at the Longs Peak Scottish Irish Festival in Estes Park, Colorado. She applied with the Kansas Specialty Dog Service, and also has worked with Guide Dogs for the Blind in California. Volunteering as a puppy raiser allows her to enjoy the companionship of a dog and help others in need. Geurts is planning on finishing her graduate work in reproductive physiology this spring, and did not want to commit to a long-term relationship with a canine friend because she isn't sure yet where she will be moving.

Even without the long-term relationship, however, guide dog training is time-consuming. Puppy raisers teach their

charges basic manners as well as extensive socialization. Puppy raisers must be willing to enforce behavior standards with the dogs including not allowing them on the furniture and treating people food as strictly off-limits. The puppies must learn how to behave in the house and outside. They have to learn that squirrels are not to be chased and bicycles can run people over.

"We really have to be very strict with the dogs in their training," Geurts said. "For example, if you put your shoes down by the door and your dog takes off with them, that may not be such a big deal. But for a blind person, that is a big deal. The puppies have to be strictly taught not to make mischief like that, or steal food, or act in ways that could make life harder for their eventual owner."

Puppies are provided by the guide and service dog organizations, which typically breed their own puppies. The breeds most commonly used are golden retrievers, black and yellow Labrador retrievers, and German shepherds. Geurts' current puppy, Furlong, accompanies her to campus and on errands around town, always dressed of course in the requisite green vest. Furlong, a yel-



Leah Geurts, a puppy raiser for two guide dog programs, works in the laboratory while her current charge, Furlong, lies at her feet. Geurts, a graduate student in physiology, enjoys puppy raising for fun and for the positive impact she is able to have on the lives of individuals who benefit from the assistance of guide dogs.

low Labrador/golden mix, goes out to dinner and to the movies. Geurts said the majority of businesses are very supportive of guide dogs in training, and she has never had a problem bringing a puppy with her. On campus, in fact, people often come into Geurts' office for a little bit of "puppy therapy" during busy days.

Assistance dogs typically are trained along three lines – guide dogs, hearing dogs, and service dogs. Once puppy raisers have gotten their dogs into early adulthood, the dogs are returned to the organizations that train them more extensively in the specifics of their tasks. Furlong, for example, will be trained as a guide dog. Furlong will aid a person with a visual impairment and be trained to watch out for obstacles like overhangs, curbs, stairways, tricycles parked on the sidewalk, open manholes, traffic, and other everyday hurdles that can make life and mobility difficult. Service dogs help individuals with other types of physical disabilities. For example, for a person in a wheelchair,

Dogs at Work

Leah Geurts, puppy raiser, has some tips to follow when you see a guide, hearing, or service dog. The temptation for adults and children to pet the dog is great, but Geurts says there are a few rules to keep in mind.

- For puppies in training, always ask the trainer first before petting the animal. Teach your children to ask first as well – this is a good guideline before petting any strange animal.
- If a dog is with its owner, say hello to the person first.
- Check with the owner to see if it's OK to pet the dog.
- Remember, these dogs are working, and attention from others can be very distracting, so don't be upset if the owner says no to petting.
- If you notice the dog is actively working, don't distract the owner or the dog from the task at hand.

the dog is trained to pull the wheelchair, open cabinets, get things out of drawers, aid in counter transactions, and take over many more of the everyday tasks that can be a challenge for a person with a disability. Hearing dogs help hearing-impaired individuals by alerting them to sounds such as the phone, doorbell, or a crying baby.

“Sending the dog back for its more-in-depth training is the toughest part of being a puppy raiser,” Geurts said. “But it’s also very rewarding knowing you are doing something that will really change the life of another person.”

People often come into Geurt’s office for a little bit of “puppy therapy” during busy days.

The more in-depth training takes an additional six to eight months and is followed by a one-month intensive training program where the dogs work with their new owners. Of the dogs that enter most

programs, about 60 percent complete the training and are matched with a new owner. Those who don’t quite make it are adopted into loving families. Graduation ceremonies mark the completion of training and the start of a new partnership for life. The cycle then starts over.

For Geurts, it doesn’t look like shopping is going to get easier any time soon. She says puppy raising is somewhat addictive and, while she doesn’t look forward to the time when she and Furlong must part, she is excited about who her next puppy will be. ■

www.Check Out Our Veterinary Jobs Web Site.edu

If you’re searching for the perfect job, wouldn’t it be great to have all the information you need at your fingertips – the job description, salary and benefits, information about the community, how to apply, and everything else you need to know to start your path toward a sound career decision?

If that’s what you’re after, look no further than the new and improved Veterinary Jobs Database now available at the

College of Veterinary Medicine and Biomedical Sciences Web site. The system is up and running and providing up-to-date listings on positions around the country.

“The database is available for alumni as well as for new graduates,” said Ruth White, a career counselor with CVMBS and the Colorado State University Career Center. “We usually have around 350 positions posted in three main divisions: academic, clinical, and industry. We get entry-level positions as well as positions that require a fair amount of experience, so there is something for everyone. We also have just done a major update, so all listings are very date-sensitive.”

White said the new database is easier to use than its predecessor and also has more information.

“We can enter a lot more about each position including re-

sponsibilities, skills, salary, benefits, candidate response vehicle, AAHA certification, specialties, and equipment,” White said. “Our graduates also asked to see information on the community where the listing is from, including population, demographics, and educational institutions, so that information is available as well.”

Getting to the Web site is easy, but to get to the job database you need the password. Call White or Linda Tarnoff at the College to get that information. The number is (970) 491-7053. The Web-site address is: <http://www.cvmbs.colostate.edu/cvmbs/careers.html>.

You’ll find the job database link at that site as well as a link to the Colorado State University Career Services Center with links to job listings for microbiology and environmental health positions, and a variety of other Career Services sites and information.

For employers who want to list jobs, you can do so online at that same address, or fax or call your listing to White at fax: (970) 491-2250, phone: (970) 491-3919. You can also query White at her e-mail address at: rmwhite@laporte.colostate.edu. ■



Ruth White, career counselor with the CVMBS and the Colorado State University Career Center, helps a student with questions about education and career. White manages a new jobs database for the CVMBS that should make it easier for alumni and near-graduates to investigate job possibilities across the country.

New Wing Planned at Veterinary Teaching Hospital

When the Veterinary Teaching Hospital opened in 1979, the vastness of the space seemed able to accommodate any venture. Today, with the VTH bursting at its seams, the College of Veterinary Medicine and Biomedical Sciences has announced plans to build a new wing at the facility.

The new wing, planned to go on the southwest corner of the building, will house the Animal Tumor Center and the Argus Center in 30,000+ square feet of research and education space.

"It's wonderful that our programs have been so successful," said Dr. James Voss, CVMBS dean. "But with that success comes pressure on resources, and new square footage is desperately needed. The new wing, which will be funded entirely through private donations, will enable us to expand into space not currently available in the hospital."

The wing will include a new facade on the front of the hospital to accommodate specialized exam rooms with observation windows and audio-visual teaching equipment. The main expansion will include research space, tumor tissue processing and archiving, offices, conference rooms, a client education center, administrative offices, and a state-of-the-art auditorium. A special suite will include magnetic resonance imaging (MRI) and nuclear medicine. The new wing will allow the ATC to further expand its operations.

The Animal Tumor Center teaches future veterinarians a realistic and compassionate approach to animal cancer diagnosis and treatment. The ATC treats more than 1,000 animals with cancer annually, involving more than 5,000 appointments for diagnosis, treatment, and follow-up care.

Research also is a strong component of the Animal Tumor Center, using natu-

rally occurring tumors in pet animals. Its research programs have been supported by the National Cancer Institute, American Cancer Society, Morris Animal Foundation, Bayer Animal Health Laboratories, Limb Preservation Institute, Mile High Transplant Bank, and countless private donors who have had their companion animals treated for cancer at the Veterinary Teaching Hospital.



Architect's model of the new wing from the southwest corner.

The Argus Center, established in 1995, focuses on the human aspects of veterinary medicine. The center is an outgrowth of much of the work accomplished at the Changes: Support for People and Pets Program. Changes was put in place to help clients of the Animal Tumor Cen-

"It's wonderful that our programs have been so successful, but with that success comes pressure on resources, and new square-footage is desperately needed. The new wing, which will be funded entirely through private donations, will enable us to expand into space not currently available in the hospital."

ter, and to teach veterinary students about grief and loss. The Argus Center expands that mission to help veterinarians understand the human needs created by the human-animal bond and learn how they

can develop practice standards that will enable them to meet the nonmedical needs of their clients.

The Argus Center is developing a curriculum for veterinarians to learn practical and applied aspects of a bond-centered practice. Bond-centered practices examine the spectrum of needs created by the human-animal bond and put in place tools, services, and resources to meet those needs.

In addition, the Argus Center will provide behavioral counseling, develop bond-centered tools and services, conduct research, and provide client and outreach services. Already, associate Argus Center programs touch thousands of people and their pets each year. Changes continues to provide grief counseling and education. The Human-Animal Bond in Colorado provides re-

habilitative services through the therapeutic use of animals. Students for Human-Animal Relationship Education takes its message of responsible pet ownership to dozens of elementary schools each year. The Rocky Mountain Raptor Program provides raptor and environmental education to schools and community organizations, as well as raptor rehabilitation and release.

"The new wing at the Veterinary Teaching Hospital will help the Argus Center and the Animal Tumor Center, as well as all other VTH-based programs, further expand their opportunities and reach even greater success," said Dr. Voss.

Groundbreaking for the new wing is tentatively planned for January 2001 but will depend on when necessary funding is secured. A major campaign currently is underway. For more information on the project, contact Paul Maffey, CVMBS director of development, at (970) 491-3932. ■

Following the Trail of Toxic Chemicals: Sleuths Look for Answers

Imagine trying to solve a puzzle with only a few of the pieces available. And when you did manage to fit two pieces together, the rest of the puzzle changed . . . again and again. The puzzle in this case is the toxic effects of chemicals and chemical mixes on wildlife and their surrounding ecosystems. The answers toxicologists are looking for may mean the difference between life and death for millions of animals.

Dr. Howard Ramsdell, a wildlife toxicologist in the College of Veterinary Medicine and Biomedical Sciences' Department of Environmental Health, is probing certain elements of this puzzle and trying to put together at least a few of the pieces.

"Most of the research in toxicology has been done in rats, mice, and humans," Dr. Ramsdell said. "To me, the challenges in wildlife toxicology are different and much greater. We are trying to understand the effects of toxic chemicals in other species, and each species is unique in the way it reacts to chemicals in the environment. We practically have to start over each time we look at a new species."

Dr. Ramsdell became involved in wildlife toxicology when he was asked to help develop a basis for estimating the toxic danger to raptors living at the Rocky Mountain Arsenal in Denver. The raptors were seen to be especially at risk because, being at the top of the food chain, they can be exposed to high levels of the Arsenal's witches'-brew of toxic chemicals. Since then, Dr. Ramsdell and his graduate students have been involved with studies of duck populations exposed to toxic levels of copper from gold-mining operations, American dippers, American kestrels, brown trout, frogs, and domestic sheep. The common thread through all of his studies has been the biochemical responses of a diversity of species to contaminant stress.

"For example, when we looked at ducks in the Alamosa River valley, the first problem we had was finding ducks," Dr. Ramsdell said. "They just weren't there.



Dr. Howard Ramsdell investigates the toxic effects of chemicals in many different species of animals, including sheep. Here, Dr. Ramsdell and Dr. Cleon Kimberling, a professor in the Department of Clinical Sciences, prepare a sheep for a blood draw.

Then we had to ask ourselves the question, 'Are they not here because the habitat is no good, or is this area too badly contaminated?' It's hard to tell which came first."

Dr. Ramsdell said toxic chemicals affect animals in many different ways. Many times, toxic exposure doesn't kill an animal outright, but can decrease its ability to survive in a competitive ecosystem. Toxic contaminants can cause reproduction problems, lower disease resistance, reduce an animal's ability to evade predators, and decrease its normal life span. Similar levels of exposure can have a varied affect in even closely related species. For example, Alaska marine ducks seem little affected by extremely high levels of copper in their systems, but those same levels would be lethal to mallards.

"These differences make it very, very treacherous to predict how one species will react to chemical exposure based on the reaction of a closely related species," Dr. Ramsdell said. "What we have found more reliable is to look at the ecological

niche a species occupies and compare it to other species that occupy the same or similar niche. For example, American dippers nest on land but occupy the same ecological niche as trout. We can learn a lot about contamination of streams and trout by studying this bird."

Dr. Ramsdell's work not only examines the toxic affects of chemicals in a variety of species, but also looks at concerns surrounding cleanup of toxic sites. With the help of his research, and that of others, cleanup agencies are learning when to leave well enough alone, and when to bring out the heavy equipment.

"At the Arsenal, some parts are very badly contaminated, but most of the Arsenal land is not," Dr. Ramsdell said. "If we go in and bulldoze and move every bit of topsoil, there won't be any habitat left. Part of what we have to learn is restraining cleanup. We know where the problems are. Toxicologists now are spending a lot of time interpreting how bad is bad and how clean is clean. Oftentimes, wildlife is better off if areas not too badly contaminated are simply left alone. That, of course, is much easier said than done when you involve politics, legislation, and public perception."

Dr. Ramsdell, who came to Colorado State in 1990, strongly believes that humans have a responsibility to be good stewards of the land that supports them and all life on the planet. While much damage has been done, he sees the dedication of those who want to understand and repair what's been harmed.

"In Colorado especially, many of these contaminated sites are not close to people and affect mostly wildlife," Dr. Ramsdell said. "But that doesn't mean we're off the hook. We made these problems, and now we have to fix them."

The toxicology puzzle may never be solved, as long as humans keep adding chemical pieces to ecosystems. But Dr. Ramsdell hopes through his work, and that of others, our nonhuman neighbors on this planet won't have to live with a toxic dump in their backyard. ■

New Center Fighting Infectious Diseases on All Fronts

The technology to transfer large animal embryos was developed and perfected at Colorado State University. While embryonic transfers are used increasingly around the world, some parts of the globe prohibit the importation of embryos from the United States because of blue tongue disease.

Some foreign countries consider the United States to be endemic for blue tongue, a serious viral disease that can be latent in the reproductive system. Questions abound. Can science be used to certify that an embryo or semen is free of blue tongue? Can research find a way to eradicate blue tongue in this country? Will countries accept certification of blue tongue-free embryos and semen? In the world of agriculture, where science ends and trade barriers begin, policy makers craft treaties that often are not based in scientific validity but rather political desires. Helping these diverse worlds come together is just one of the goals of the new Center for Economically Important Infectious Animal Diseases at Colorado State University.

The center is building a collaborative team of faculty and federal and state scientists, as well as experts in the field of political science, agricultural economics, USDA infectious diseases, and agri-

cultural research.

“We wanted to start an effort in infectious diseases that transcends biology and looks into costs and social aspects, bringing economists, policy makers, and basic scientists together,” said Dr. Ralph Smith, associate vice president for research at Colorado State and, along with Drs. Barry Beaty and Mo Salman, one of the initiators of the center. “In our work, we saw a huge disconnect between science and policy. Policy often gets in the way of progress toward controlling diseases, and we were concerned we may be opening doors to foot and mouth disease, as well as not responding properly to perceived threats of our own exports.”

Infectious animal diseases directly impact production agriculture, the domestic and international sale of animals and their products, and have the potential to spread disease to humans.

In the spring of 1998, the center received a \$250,000 appropriation to begin work on creating a program that would bring together science, economics, and politics, to move forward on several fronts. Among the center’s goals are:

- Identify diseases with a major impact on agriculture.
- Determine what research needs to be done.

Infectious animal diseases directly impact production agriculture, the domestic and international sale of animals and their products, and have the potential of spreading disease to humans.

- Determine how diseases are spread, especially with regard to how trade leads to transmission.
- Develop policy that makes sense.

The center held its first symposium in August 1998, “The Economic Impact of Infectious Animal Diseases,” with more than 50 participants from across the country. The participants reflected the scope of experts and government representatives necessary to make real changes in agricultural policy and progress in the fight against infectious diseases.

“We were very pleased with the turnout and with the enthusiasm exhibited by the symposium participants,” said Dr. Smith. “We came up with an action plan that will lead us into the next phase of development of the center, as well as some specific research and policy goals.”

Dr. Salman, the center’s first director, reported that vesicular stomatitis and bovine tuberculosis were selected for the first studies. As more funding becomes available, scientists will expand their research into other diseases, including blue tongue disease. Center participants hope that through their work, science and policy can come together to help make the agricultural marketplace accessible, safe, and productive in all countries. ■



Students and staff use ultrasound to determine the sex and stage of development of a calf fetus.

C ontinuing Veterinary Medical Education

Please call the Department of Clinical Sciences at Colorado State University at 1-800-457-9715 or (970) 491-8373 for further information on all course offerings. Courses are sponsored by the Department of Clinical Sciences and the Colorado Veterinary Medical Association.

For Equine Sciences Continuing Education Schedule, contact the Equine Sciences Program, Colorado State University, Fort Collins, CO 80523; (970) 491-8373. Web address:

http://www.colostate.edu/depts/equine/continuing_ed/index.html

June 1999

June 3-4, 1999 • Medical and Surgical Emergency Course (Small-Animal Program)

Instructors: Dr. Eric Monnet, Dr. James Gaynor, Dr. Tim Hackett
Cost: \$300 non-CVMA member; \$270 CVMA member

This course is divided into three sections: emergency medicine, emergency anesthesia, and emergency surgery. Dr. Tim Hackett will review the diagnosis and treatment of the different shock syndromes. Dr. James Gaynor will review the specifics of anesthesia for the emergency patient, which presents a real challenge in private practice. The surgical aspect of abdominal trauma, emergency intestinal surgery, and peritonitis will be presented by Dr. Eric Monnet. Management of basic orthopedic emergencies will be reviewed (presenter to be announced).

June 17-18, 1999 • Problems Based Approach to Practical Fracture Management Using Pin and Wire, and External Fixators

Instructors: Dr. Erick Egger
Cost: \$500 non-CVMA member; \$450 CVMA member

Using examples of problematic and failed fracture cases, we will present realistic techniques for managing fractures commonly seen in the practice setting. In the first morning lecture, we will start the discussion of how to assess fractures. Then we will progress to principles of pins, wire, and external fixator application. The second morning will be spent in a topographic approach to discussing fractures and indications for the specific fixation techniques. Afternoons will be spent in the lab using models, bones, and limbs to develop skills using these techniques. The seminar will conclude with a discussion of post-operative management strategies and fracture healing.

June 21-22, 1999 • Small Animal Herbal Medicine

Instructors: Dr. Narda Robinson, Dr. Cheryl Schwartz
Cost: \$300 non-CVMA member; \$270 CVMA member

As part of the advanced training in acupuncture, CSU is offering a program in small animal herbal medicine. Cheryl Schwartz, DVM (author of *Four Paws, Five Directions*), is the main instructor and will present a combination of Chinese and Western herbs and how to integrate them into a small animal practice. Prior exposure to Chinese medicine principles is essential. Prerequisites include completion of the Colorado State University basic course in acupuncture or an equivalent course.

July 1999

July 7-9, 1999 • Canine and Feline Urinary/Endocrine Update

Instructors: Dr. Greg Grauer, Dr. Deborah Greco
Cost: \$350 non-CVMA member; \$315 CVMA member

Urinary Program: Overview of the most recent developments in the prevention and treatment of acute renal failure, management of chronic renal failure, and protein-losing nephropathies. Emphasis will be placed on new therapeutic agents such as calcitriol, erythropoietin, ACE inhibitors, and thromboxane synthetase inhibitors. Updates on the management of complicated lower urinary tract infections, micturition disorders, and feline lower urinary tract inflammation also will be presented.

Endocrine Program: Updates on the latest developments in pathogenesis, diagnosis and treatment of common endocrinopathies with particular emphasis on treatment of diabetes mellitus, and diagnosis of hyperadrenocorticism and canine hypothyroidism.

August 1999

August 12, 1999 • Exotic Animal Clinical Pathology*

Instructors: Dr. Terry Campbell, Dr. Duane Lassen
Cost: \$200 non-CVMA member; \$180 CVMA member

Morning lectures will cover basic avian, reptilian, and small exotic mammalian (pocket pet) hematology and clinical chemistries. These lectures will focus on techniques, cell identification, and interpretation of the hemogram. Clinical blood chemistries also will be discussed. Afternoon sessions will present clinical cases involving the interpretation of exotic animal blood profiles.

August 13, 1999 • Advances in Drug Therapy for Small Animals*

Instructors: Dr. Deborah Greco and various Colorado State University faculty
Cost: \$200 non-CVMA member; \$180 CVMA member

This course will focus on new drug development and products that recently have been introduced or soon will be on the market. Emphasis will be on practical uses for new drugs or new ways of using old drugs (insulin) to improve pharmacologic management of small animal internal medicine cases. Drug dosages will be provided, and indications and contraindications for specific drugs will be discussed.

* Above two courses may be combined for a cost of \$300 non-CVMA member; \$270 CVMA member

Continuing Veterinary Medical Education

August 24-27, 1999 • Pet Perception Management (mornings) †

Instructor: Dr. Rolan Tripp

Cost: \$200 non-CVMA member; \$180 CVMA member

This course involves managing the pet's perception of the veterinary visit. Solving behavior problems by learning how the pet perceives its environment makes it possible to manage the pet so that it responds in the manner desired by the owner. This approach uses a minimum of punishment through maximizing understanding of the nature of the species, so that behavior can be managed.

August 24-27, 1999 • Responding to Pet Owners During Emotional Times (afternoons) †

Instructors: Dana Durrance, Ashley Harvey, Carolyn Butler

Cost: \$200 non-CVMA member; \$180 CVMA member

This course will show participants how to help pet owners within the framework of a "bond-centered" veterinary practice. Participants will learn basic paraprofessional grief interventions, how to introduce the euthanasia topic, and ways to facilitate end-of-life decisions. Specific methods and protocols for small animal client-present euthanasia are presented. Nonverbal and verbal communication skills are demonstrated. Additional strategies for helping in special situations and for managing personal stress are discussed.

† Above two courses may be combined for a cost of \$300 non-CVMA member; \$270 CVMA member

September 1999

September 1-3, 1999 • Diagnosis and Treatment of Lameness in the Horse

Instructors: Dr. Ted Stashak, Dr. Wayne McIlwraith, Dr. Gayle Trotter, Dr. Richard Park, Dr. Gary Baxter, Dr. Dean Hendrickson

Cost: \$500 non-CVMA member; \$450 CVMA member

This course is designed to cover the various causes of lameness in the horse. It will cover each condition and its diagnosis in detail (including diagnostic nerve blocks and radiographic features).

The treatment (medical and surgical) of each condition will be presented and the various surgical procedures will be performed by the participants in the lab.

September 9-11, 1999 • Equine Dentistry

Instructors: Dr. Pat McCue, Dr. Jack Easley, Dr. Leon Scrutchfield

Cost: \$500 non-CVMA member; \$450 CVMA member (lecture and lab); \$400 non-CVMA member; \$360 CVMA member (lecture only)

This program will consist of lecture and slide demonstration on anatomy and physiology of the mouth, including examination of the mastication process, procedures for floating teeth, removing wolf teeth, removing retained deciduous premolars, creating bit seats, treating malocclusion and abnormal wear, hook removal, dental extraction, incisor realignment, leveling teeth, cutting teeth, and the use of power tools. In the laboratory, groups of three to

four veterinarians will work closely with the faculty in gaining hands-on training to perfect their skills in equine dentistry using cadaver skulls and live horses. The latest dental equipment will be exhibited or demonstrated. In addition, participants are requested to bring their own dental equipment so that the best way to use it can be demonstrated.

October 1999

October 14, 1999 • Beginning Arthroscopy ‡

Instructors: Dr. C. Wayne McIlwraith, Dr. Gayle Trotter

Cost: \$425 non-CVMA member; \$385 CVMA member

This course will give thorough instruction in arthroscopic instrumentation and the techniques for its use.

The in-depth use of arthroscopy for diagnosis of disease and surgical treatment of fractures and cartilaginous lesions will be presented in the morning lecture and practiced by course participants in an afternoon laboratory. Instruction will be given primarily in the use of hand instruments, but the use of motorized equipment will be demonstrated. Video tapes, as well as animals, will be used to provide instruction in the surgical treatment of various lesions. A major portion of the time will be given to training participants in carpal and fetlock surgery; instruction also will be given in arthroscopic surgery of the hock and stifle joints.

October 15-16, 1999 • Advanced Arthroscopy ‡

Instructors: Dr. C. Wayne McIlwraith, Dr. Gayle Trotter

Cost: \$450 non-CVMA member; \$405 CVMA member

This will be a two-day course covering all areas of arthroscopic surgery that are considered advanced. The following topics will be included: advanced equipment and instrumentation update, results of arthroscopic surgery of the carpus, management of slab fractures in the carpus, arthroscopic surgery of the palmar and plantar aspect of the fetlock, arthroscopic surgery of the tibiotarsal joints, arthroscopic surgery of the femoropatellar and femorotibial joints, arthroscopic surgery of the shoulder, arthroscopic surgery of the elbow, arthroscopic surgery of the coffin joint and pastern joints, arthroscopic surgery for synovial osteochondroma, arthroscopic surgery of the hip, and arthroscopic surgery of tendon sheaths.

‡ Above two courses may be combined for a cost of \$725 non-CVMA member; \$640 CVMA member

October 20-22, 1999 • Current Topics in Feline Medicine

Instructors: Dr. Dave Twedt, and various Colorado State University faculty

Cost: \$450 non-CVMA member; \$405 CVMA member

This course will provide discussion in selected areas currently relevant to feline medicine.

The intent will be to provide clinically useful, practical information in the following subject areas: endocrine and metabolic diseases, dermatology, cardiology, urology, oncology, reproduction, neurology, and infectious diseases.

Scholarships Help Native American Student Realize Ambitious Goals

When Germaine Daye stops to think about her life as a child on the Navajo reservation in New Mexico, it is the mixed messages and cultural tug-of-war that speak the most loudly to her. Daye, now a professional veterinary medical student at Colorado State University, recalls how her grandparents hid her aunt from the authorities to keep her from going to school. Her aunt's job was to care for the sheep, not to get an education.

She remembers a school system rife with inadequacies from texts to supplies to teachers. As a child, her culture en-

“I wanted to go to college all my life, but it was terrifying because I knew nothing about it. That’s how it is for most Native American students going off to college.”

couraged quiet obedience, with no room for discussion. She was not read to or encouraged to read. She saw the Navajo culture at a crossroads: Parents knew their children needed an education, but education was not a Navajo tradition. Most parents and grandparents did not have formal educations, especially after high school, and didn't know how to show their own children the way. For Germaine and other Native American students, they had to find their own path.

“I wanted to go to college all my life, but it was terrifying because I knew nothing about it,” Daye said. “That’s how it is for most Native American students going off to college. The drop-out rate is enormous because the challenges both culturally and academically can be overwhelming. Many students wind up back at the



Germaine Daye, shown here with her two horses, hopes one day to return to her Navajo reservation in New Mexico, where she will practice veterinary medicine and share her experiences with other young people interested in continuing their educations.

reservation. I did enjoy the advantage of having an incredible mother who started school late and graduated from high school at the age of 21. She is a true example of pure determination.”

With the same determination, Daye made her way to Colorado College in Colorado Springs, where she had a full scholarship, which she supplemented with other scholarships. Her persistence in applying for scholarship dollars allowed her to graduate debt-free in four years with a degree in biology. Scholarships helped her overcome the financial barriers to education, enabling her to focus her mind on academic and cultural challenges. Her professors encouraged her to apply to professional school, and Daye decided to pursue a D.V.M. degree at Colorado State. She took a year off to study at the University of Southern Colorado to bolster her writing skills with English courses, and take advantage of science courses that could give her a step up in the professional program.

Daye began the PVM program in 1997 and continued to apply for scholarships that could help her reduce her debt at the time of graduation. She has received numerous scholarships, including ones from the Navajo Nation Tribal Government, Albuquerque Veterinary Association, American Indian Graduate Center, and the American Indian Science and Engineering Society.

When she graduates, Daye will return to the reservation to be a role model, do public education, and practice veterinary medicine, most likely for the tribal government.

“There is so much work that needs to be done. I’m very excited about the impact I can have in my own community,” Daye said. “I’d like to start writing columns for local papers on pet care and perhaps put on public seminars. The need for education about the care and husbandry of large and small animals is great. Even simple things like vaccinations and spays and neuters, often are overlooked. I’d also like to get into the schools and

“I did enjoy the advantage of having an incredible mother who started school late and graduated from high school at the age of 21. She is a true example of pure determination.”

talk with students about college and help them understand what it will be like. I’d like to better prepare them so they can be successful.”

Scholarships help students like Germaine Daye realize their aspirations. And Germaine Daye can go far in helping other students like herself begin to dream. ■

Kingman Gift Supports ILM Program

The Integrated Livestock Management Program is fairly new to Colorado State University, but has its roots in a veterinary ethic that took shape more than 70 years ago. As homage to those roots, Dr. Harry Kingman Jr. has donated \$24,000 to the program in memory of his father, Dr. Harry Kingman Sr., perhaps one of the earliest veterinarians to practice integrated livestock management.

“Back in the 1930s, my father helped to manage an award-winning Guernsey cattle herd that belonged to Robert Roemer and was kept at the Rigden Ranch,” said Dr. Kingman. “My father was involved with every aspect of that herd, from managing feed to controlling disease outbreaks. What he did really reminds me of what the ILM program is trying to accomplish today, and is also why I want to support their efforts.”

The ILM program trains animal agriculture specialists with focused expertise and an understanding of the complex nature of modern production agriculture. Areas of teaching, research, and service include food safety, economics, animal well-being, land use, and environmental health. The ILM program builds on the successful course set by the Integrated Resource Management program at Colorado State and targets university-level student training in the process.

“Student projects are designed to incorporate field work and producer communication so that the production setting is a significant component of the education program,” said Dr. Frank Garry, ILM coordinator. “We work closely with

producers to prioritize activities, target training opportunities, and focus on the problems that really matter. We solve problems through a team approach that includes a multidisciplinary faculty group, animal health and production specialists, State Diagnostic Laboratory personnel, and Cooperative Extension resources.”

When Dr. Kingman learned of the ILM program, his interest was piqued and he



The Roemer herd. From The North American Veterinarian, Vol. 14, No. 1, January, 1933. The Roemer herd of purebred Guernsey cattle won the official trophy for the highest producing herd of dairy cattle in the United States. The article “A Veterinarian’s Work with the National Record Dairy Herd” by Robert Roemer, published in the 1933 issue, chronicles Dr. Harry Kingman’s involvement with the herd’s health and production capabilities.

researched his father’s work with the Roemer herd. His search uncovered an article written by Robert Roemer in the January 1933 edition of *The North American Veterinarian*. The article details the dynamic impact of Dr. Kingman Sr., who was then head of the veterinary hospital and professor of veterinary surgery. The article, as this excerpt shows, proved enlightening:

“I had heard of Bang’s disease! I had even read a circular on it, put out by some quack indicating that it could be cured by certain medicated salts. So when Doctor Kingman started his broadside on abortion I was smug and satisfied with the consoling knowledge that these medicated salts could save me from the pitfalls of contagious abortion. You men of veterinary training may well laugh at my expense here. I hope you do! Yet how much by the laity was known of this dread disease seven short years ago?”

“From the time he convinced us on contagious abortion, Doctor Kingman has had a free hand in the herd. His role has been more of a counselor and preventor rather than that of a corrector of disease and trouble. Yet, through the years, crises have come where Doctor Kingman has made as many as three trips in a day, or remained for more than half the night, to save a valuable animal.”

Students and faculty with the ILM program carry on Dr. Kingman Sr.’s work today. The program has a wide range of projects including beef cattle and rumen-generated toxins, cow-calf economics, neonatal calf survival, wildlife concerns, dairy cattle and coliform mastitis, Johne’s disease, and locoweed poisoning. Participants include the colleges of Veterinary Medicine and Biomedical Sciences, Agricultural Sciences, and Natural Resources; the United States Department of Agriculture; and the Colorado State Diagnostic Laboratory. ■

The ILM program trains animal agriculture specialists with focused expertise and an understanding of the complex nature of modern production agriculture.

Kodak Gift Gives Raptor Program a Wing Up on Presentations

When Mike Stahl joined the Rocky Mountain Raptor Program as a volunteer, it didn't take him too long to learn that the financial lifeblood of the organization was donations and fundraisers. What Stahl would soon learn, as well, is that these gifts can come from unexpected places and people.

Stahl, an employee at Eastman Kodak Company's Colorado Division in Windsor, learned of a corporate-wide charitable program called Dollars for Doers. If a Kodak employee volunteers for a non-profit organization, he or she can apply for grants to benefit that organization. The grants, from \$300 to \$500, are meant for a specific project. Stahl and Raptor Program director Judy Scherpelz determined a new slide projector would be a wonderful addition to the program's educational component. The Raptor Program gives raptor and environmental presentations to schools and community groups across the state.

Although the gift was, by Donald Trump standards, a small one, it made a big difference.

"They had been lugging around an old slide projector, with no remote, where you had to push the lens in and out," Stahl said. "A new projector would really improve the quality of the presentations, and help the Raptor Program with its educational objectives."

Stahl applied for and received a \$500 grant toward a new projector. KCD's Film Sales helped out by knocking a few dollars off the price of the desired projector, but Stahl still came up \$185 short. He went ahead and ordered the projector, determined to come up with the extra money

somewhere, even if it was out of his own pocket. And every day, when Stahl went to get his morning coffee at Joyce's Java, he would complain about the shortage. One morning, when Joyce Block was tired of hearing Stahl's complaining, she told him to tell her mother, Emma Miller, about it, instead.

"It turns out that Emma and her husband Harold are bird lovers," Stahl said. "When I told her about the Raptor Program and the projector and the money, she wrote me a check for \$185 right there. I guess it pays to complain, complain, complain!"

The Raptor Program now has its new heavy-duty projector, with a snappy "clicker" and a self-focusing lens. Although the gift was, by Donald Trump standards, a small one, it made a big difference. ■



New Lab Enables Innovative Diagnostic and Treatment Techniques

What once seemed possible only within the realm of science fiction books and movies is now commonplace in human medicine and increasingly available in veterinary medicine. "It" is endoscopy and, thanks to a generous donation from the Karl Storz Veterinary Endoscopy-America, the Veterinary Teaching Hospital is now home to one of the most advanced veterinary endoscopy centers in the nation.

The endoscopy center, which opened in November, was created with a \$30,000 grant to renovate space in the VTH and was outfitted with \$120,000 worth of equipment, both provided by Karl Storz Veterinary Endoscopy-America. The company donated equipment and accessories for a two-station surgery and diagnostic facility that will enable faculty to make advances in endoscopic techniques and improve veterinary medical care of patients.

"The opening of the endoscopy center represents the beginning of a new era

for continuing education in minimally-invasive procedures for animals," said Dr. Christopher Chamness, director of Karl Storz Veterinary Endoscopy-America and an alumnus of Colorado State. "Now veterinary practitioners will have even more opportunities to develop the skills necessary to perform these procedures."

Endoscopy is the viewing of internal organs and cavities through an endoscope. An endoscope is a tube – either flexible or rigid – that is equipped with fiberoptics, a miniature television camera, and a light source. A well-established, noninvasive technique in human medicine, endoscopy is now being used more often in veterinary procedures, said Dr. David Twedt, a professor in the Department of Clinical Sciences and a specialist in endoscopy.

"Endoscopic techniques often provide a quick and relatively non-invasive means of obtaining answers that would otherwise require major surgery or ex-

pensive diagnostic testing," said Dr. Twedt. "Further advantages for the patient include shortened anesthesia, better patient comfort, and a more rapid recovery."

Dr. Twedt added that many endoscopy procedures can be done with the animal going home the same day, helping to reduce stress. Endoscopy also can be used for therapeutic veterinary procedures such as arthroscopic surgery, in which microsurgery is performed inside joints, and laparoscopy, which allows surgery using only a small slit in the skin.

"Enhancement of the endoscopic capabilities by the generous contribution of Karl Storz Veterinary Endoscopy-America has greatly improved our ability to provide excellent educational opportunities in endoscopy," said Dr. Wendell Nelson, director of the VTH. "The enlarged facility and increased diversity of equipment will benefit our patients and our students." ■

Veterinary Teaching Hospital Holds 1999 Open House

Colorado State University's Veterinary Teaching Hospital held its annual open house April 9, 10, and 11, inviting the public to take a look at veterinary medicine behind the scenes.

The event, particularly popular with school groups, had something for everyone, from educational exhibits for children to informational programs for adults. The open house is an opportunity for all to tour and observe the inner workings of a veterinary teaching hospital. Visitors also had the rare opportunity to visit and tour the Rocky Mountain Raptor Program, located at the hospital, and learn about that program's raptor rescue efforts.

The open house included mock surgeries, a petting zoo, displays, and presentations on a wide variety of animal-related topics. In addition, numerous organizations set up booths to provide interested individuals with information about volunteer opportunities, community programs, veterinary education, and more. We give our thanks to all who volunteered to make this special event such a success, and add a special thanks to all who visited. We hope to see you again next year. ■



Students visiting the Veterinary Teaching Hospital open house get a chance to learn about the hospital's more "exotic" side. Exotic animals, including birds, reptiles, fish, and unusual pocket pets, are a growing part of the pet population and of veterinary medicine, as these children found out firsthand.