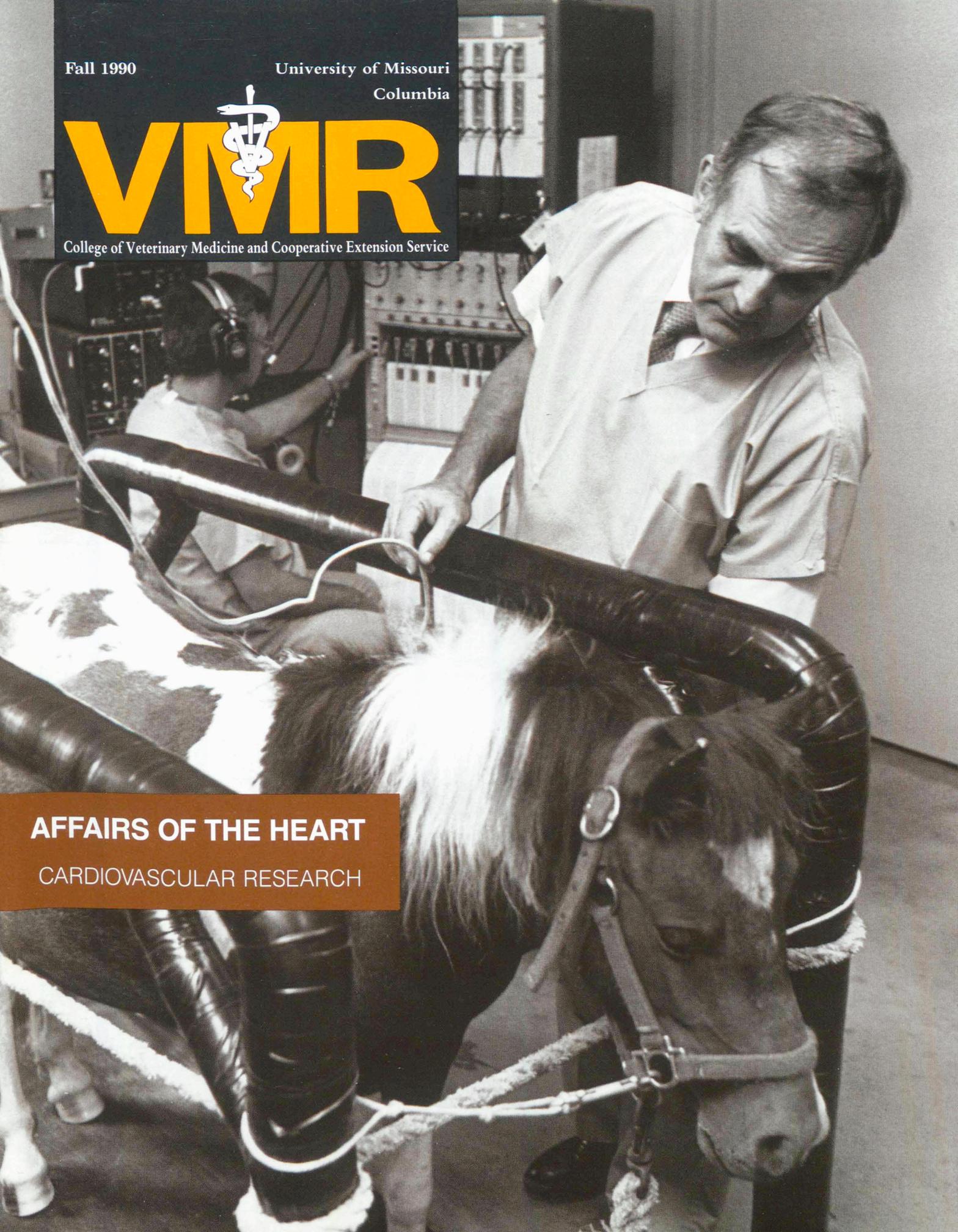


Fall 1990

University of Missouri  
Columbia

**VVIR**

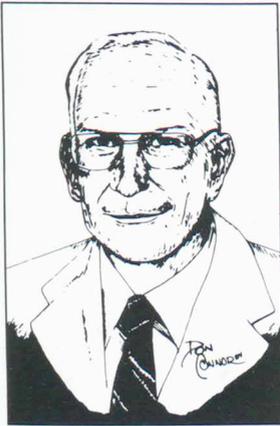
College of Veterinary Medicine and Cooperative Extension Service



## AFFAIRS OF THE HEART

CARDIOVASCULAR RESEARCH

# DEAN'S COLUMN



## *Our new campus-based teaching hospital: the dream is becoming reality*

There has been much activity at Mizzou's College of Veterinary Medicine in recent months.

The ceremonial groundbreaking for the new Veterinary Teaching Hospital on March 31 represented tremendous progress for us. It was not only a fun day and cause for much rejoicing, but also tangible evidence of the great efforts made by alumni, faculty, students and friends to maintain a fine tradition of excellence here at the college.

Bids were opened in July, and in August the Board of Curators approved a bid with a budget that will include the Equine Center in the new campus-based teaching hospital — a dream come true! Construction began on the site in late August, and we should be up and running in two years.

We are, of course, eager to share our good news and progress with the AVMA Accreditation Board's "short team" of visitors expected next fall. You may recall that after their May 1989 visit they noted substantial progress in finances and faculty numbers, leaving facility upgrades all that stands between your college and full accreditation.

I am confident that our substantial gains on the facilities front will satisfy the AVMA Accreditation Board, and that the

college will be contemporary, competitive — and fully accredited — for years to come.

We are grateful to the University, the Curators, public officials, alumni, students and many others who have helped the college through challenging times. We ask your continued support as we work together to ensure a bright future for Missouri's only College of Veterinary Medicine, and we look forward to 1991 with confidence and optimism.

Thank you and best regards,

ROBERT F. KAHRs, Dean

## CONTENTS

- 3 Life on the island
- 5 Affairs of the heart
- 12 Shifting gears
- 16 Around the College
  - 16 Biomedical Sciences
  - 16 Diagnostic Laboratory
  - 16 Medicine and Surgery
  - 18 Microbiology
  - 18 Pathology
- 22 People

**ON THE COVER:** Dr. Harold Garner has spent many years using ponies to investigate the coronary blood vessels' response to blockage. His research is one component of the college's extensive commitment to cardiovascular research. Photo by Ian Sights.



N.S. VOLUME 10

NUMBER 2, 1990

The Veterinary Medical Review is published biannually by the College of Veterinary Medicine and Cooperative Extension Service of the University of Missouri-Columbia. Editorial Office: 1208 St. Christopher, Columbia, Mo., 65203; phone (314) 875-3906. Deborah Beroset Diamond, editor (Marinell Landa will be new editor effective Nov. 1); Bruce Meentemeyer, designer; Dennis Murphy, illustrator; Melanie Brubaker, Marinell Landa, Michelle Stuart, contributing writers; Marinell Landa, Ian Sights contributing photographers.

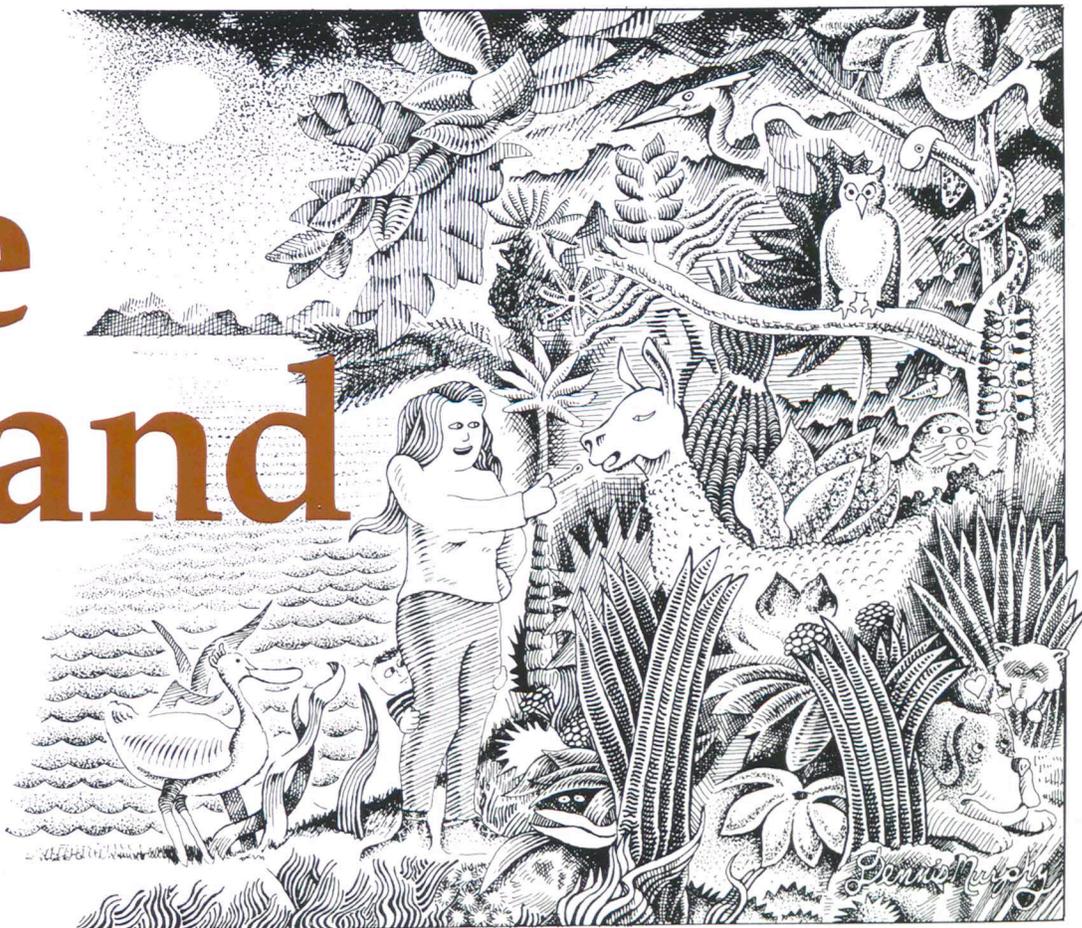
# Life On the Island

by Deborah Beroset Diamond

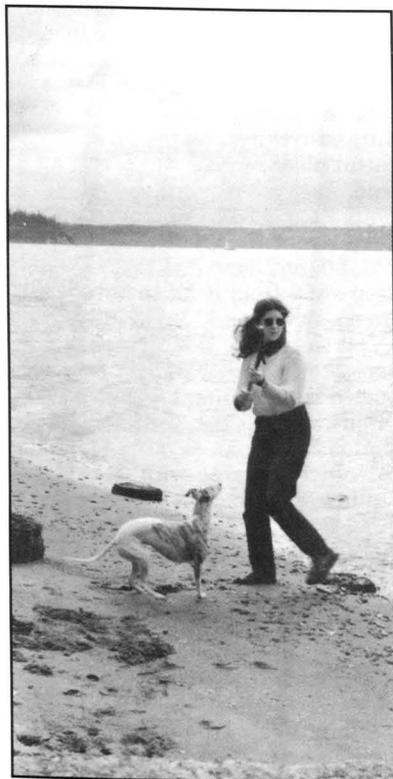
**W**e all have moments when life seems just a bit too fleeting, when the rat race feels more like a treadmill than a journey with some purpose. It's at such quietly desperate times that we fantasize about packing up and moving to some far-off, isolated place — a lush, beautiful travel-brochure type spot where the pace is slower and nature's rhythms assume their rightful place as boss. Like, say, an island.

Sound too good to be true? Don't you believe it. **Dr. Nell Coffman**, DVM '80, has done just that — gotten away from it all to have it all, so to speak. She and her family live on Vashon Island, Washington, where she co-owns Fair Isle Animal Clinic, a mixed animal practice.

"I guess you could say I like isolation," Coffman says. "And being in a wilderness area with lots of mountains is wonderful. The island is a lot less crowded than Vermont." Less crowded than . . . Vermont?



DENNIS MURPHY ILLUSTRATION



*Far from the maddening crowds is where practitioner Nell Coffman is happiest. Here she and one of her dogs take time out for some stick-tossing on Vashon Island's shoreline.*

Clearly Coffman, 37, thrives on low population-per-square-mile ratios. She grew up in North Carolina and Kentucky, and earned a BA in 1974 from Middlebury College in Vermont. When it came to choosing a vet school, Missouri won out over Ohio because of its rural environment. "Columbus, Ohio, is a huge city," Coffman says emphatically, "and I could never live in a city."

Indeed, for the years the young woman attended Mizzou, she chose to live in an isolated cabin on 400 acres south of Columbia. There was no running water, which meant she had to use an outhouse and carry in drinking water from a cistern. But Coffman was in her element.

"The place was practically free, about \$50 a month," she recalls. "I had about 20 chickens and five or six goats and a big dog, and there was a herd of Tennessee Walkers that had been let go in this valley and were running loose. I took care of a white stallion in the herd that had an injured foot.

"Maybe it wasn't a convenient lifestyle, but the place had privacy and a peaceful atmosphere. It was a neat period of my life."

Coffman graduated in 1980 and loaded her dog, two goats and a couple of token chickens in the back of her pickup truck and headed west to Oregon, where she worked as an associate in a practice for about a year and a half. Then Coffman and a colleague decided to strike off on their own and set up the practice they currently co-own on Vashon Island.

The island, a 20-minute ferry ride from West Seattle, is a verdant, hilly piece of land 23 miles long and 17 miles wide heavily forested with towering fir trees and giant ferns. About 7,000 people live on Vashon, most with 5 or 10 acres to call their own. They either commute by ferry to Seattle or work on the island, which boasts a snow ski factory, a tofu factory and a sprout factory. Some are nori (seaweed) farmers, and others are involved in salmon fishing, another local industry.

For reasons unclear to Coffman, llamas enjoy a certain popularity on Vashon. "There are 40 or 50 of these strange animals on the island now," she notes with amusement. "I'm getting to be something of an expert on llamas — fortunately, they're as hardy as they are expensive." Local llama enthusiasts formed the

Vashon Llama Association, she says, and passed the hat to raise money to send Coffman to a llama conference in Davis, Calif.

One llama on the island is even named after the veterinarian. She remembers its difficult delivery: "The baby's long head and neck were bent back, and the mother was having a lot of trouble. Eventually we got the little one out, but I wallowed in a lot of mud and llama pee on the winter ground to do it." What did the grateful owner name the lucky newborn? "Nellie Llama."

Coffman and her partner make their living on caring for dogs and cats, but plenty of other creatures make appearances in their examining rooms as well. They've treated several otters hit by cars, as well as owls, a hawk with a broken wing and several Great Blue Herons with leg injuries. One client had a St. Bernard that went through a false pregnancy and lactated and nursed two baby orphaned raccoons that had been brought into the clinic.

One thing is clear when Coffman talks about Vashon Island: the life she has created for herself there is a good one. She and her husband, an environmental health specialist, have 10 acres, two dogs and a cabin on the water. "The extreme tide means either 150 feet of sand outside, or water right under my kitchen window," she says. "I love it."

Almost three years ago they became parents, and baby Colin got in on the act right away. "Colin helped me castrate a llama when he was 2 months old," Coffman recalls, laughing. "I went out on the call with another vet. That was his first farm call — he nursed through the whole thing."

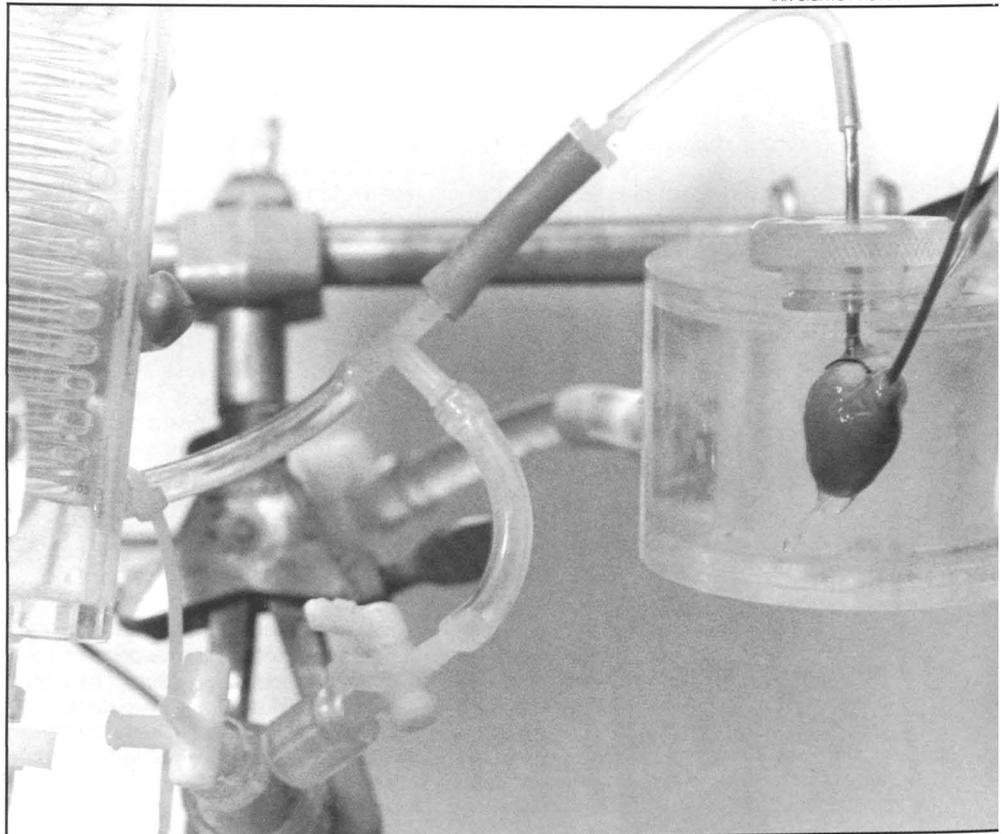
Coffman's mother moved to Vashon Island several years ago and built a house there; Coffman and her husband plan to do the same eventually, when the cabin starts seeming a bit small.

But there's no rush. Coffman and her husband have their work, they have Colin, they have their pets, and they even have running water. What else is there?

"We're happy here," she says firmly, a woman who knows what she wants. "We plan to stay." □

# AFFAIRS of the HEART

IAN SIGHTS PHOTOS



*An isolated guinea pig heart is studied to determine the effects of bacterial infection.*

## CARDIOVASCULAR RESEARCH at the COLLEGE

by Deborah Beroset Diamond

# Affairs of the Heart

The heart is probably one of the most romanticized organs of the body, the physical symbol of the intangible emotions of adoration, love and passion.

But the heart represents a different sort of passion to many scientists eager to unlock its secrets. To them, this muscular organ epitomizes mysteries they fervently wish to solve. The heart, along with the rest of the circulatory system that transports blood to and from all parts of the body, embodies a life's work to these investigators — a quest for answers to the questions it presents.

Mizzou's College of Veterinary Medicine is home to several such individuals. Together, they constitute a cardiovascular research team that is among the strongest of the nation's schools of veterinary medicine.

"The cardiovascular research group at MU is known for its breadth and its multidisciplinary

approach," says **Dr. H. Richard Adams**, professor and chairman of the department of veterinary biomedical sciences.

The work is addressed across species, related to human medicine as well as to several domestic animal species, Adams says. It involves the department of veterinary biomedical sciences; the department of veterinary medicine and surgery; the medical school; and the John M. Dalton Research Center, an institute on campus devoted to cardiovascular research of all kinds.

While the investigators within the group all conduct their research independently, Adams explains, there is much collaboration and sharing of findings.

"The multidisciplinary approach to research has even fed into our teaching programs," he notes. "Faculty from the medical school lecture in some of our courses and vice-versa. Such a strong interaction between a medical school and a veterinary school on both teaching and research levels is relatively uncommon, and is an important attribute to MU."

While cardiac disease is not a major factor with most food animal species, it is a significant primary care problem with companion animals, Adams says. Chronic heart failure is very common in dogs, some of which are on cardiac drugs for years. And cats are prone to cardiac problems as well.

In addition, studies on cardiovascular function related to shock and trauma are important in animal medicine because of the high incidence of automobile accidents, gunshot wounds and other injuries to which animals are subject.

Though research funding for animal diseases is practically nonexistent compared to that

available for human diseases, the college's cardiovascular researchers enjoy a high level of support based on the role of their work with animals as models for human disorders and disease. In 1989, for example, the National Institutes of Health awarded nearly \$1.5 million in grants to five faculty members for their studies of cardiovascular control mechanisms in mammals. Research awards for cardiovascular studies have continued with additional support from the NIH, the National Science Foundation and the American Heart Association.

"We are pleased that these outstanding faculty have obtained these highly competitive grants," Dean Robert Kahrs says of these research support awards. "This is evidence of their productivity and national prominence."

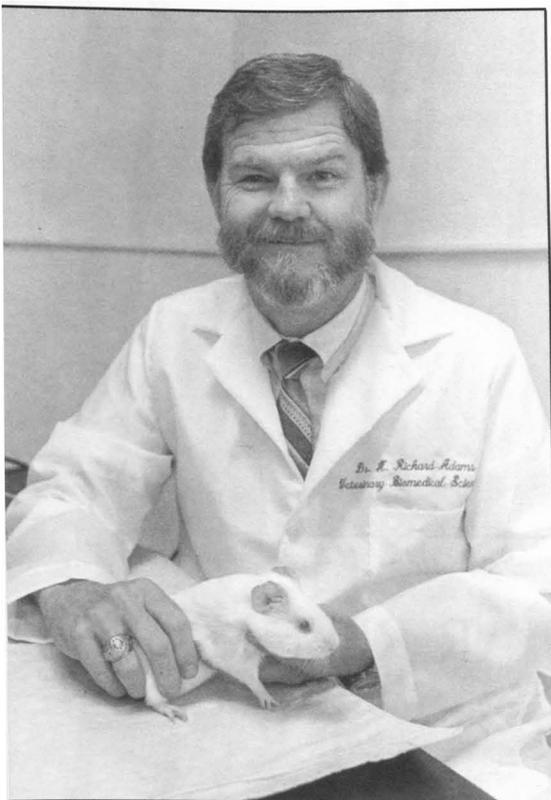
There are several areas of research emphasis within the cardiovascular sciences, including exercise physiology, coronary artery diseases, cardiac cellular mechanisms, nervous system control of circulation and cardiovascular involvement in circulatory shock and trauma.

"One of the unique characteristics of this program is the broad range of individual approaches," Adams says. At one end of the continuum of cardiovascular studies is investigation at the subcellular level. Other researchers concentrate on cellular work, some focus on isolated vessels and organs, and still others are involved in studying cardiovascular matters as they relate to the whole animal.

## TRANSPORT MECHANISMS OF HEART CELLS

Working on the smallest scale is **Dr. Calvin Hale**, assistant professor of veterinary biomedical sciences and research investigator at the Dalton Research Center.

Hale takes a biochemical and molecular approach to cardiovascular research. He is primarily interested in the transport mechanisms that permit some things to pass through the plasma



*A strength of the cardiovascular research program, says Dr. Richard Adams, is its variety of approaches — investigations range from subcellular work through isolated organs, to studies of the whole animal.*

*Dr. Calvin Hale's work involves the transport mechanisms that allow calcium and other substances to pass in and out of heart cells.*



membrane enclosing the heart cell and block others.

"Certain membrane proteins serve as transporters across the membrane, controlling what goes in and out of the cell," Hale explains. "We're interested in the specific mechanism that moves calcium during the resting, or diastolic, stage of the heartbeat — the sodium-calcium exchanger."

Calcium movement in and out of the heart cell is of particular importance, he says, because the heart cell is dependent on calcium to sustain a heartbeat. If you remove calcium, the heart stops beating.

"If we can identify, purify and characterize the transporter's structure biochemically, we could design a pharmaceutical agent or

drug to interact with it," Hale says. "Such a drug would likely have an effect on the strength of the heartbeat, and would probably be very useful in problems like congestive heart failure in animals and humans."

#### **THE HEART'S RESPONSE TO THE NERVOUS SYSTEM**

**Dr. Leona Rubin**, assistant professor of veterinary biomedical sciences, is concerned with how the heart responds to changes in its innervation, or its interaction with the nervous system, during disease states.

"During hypertension or

congestive heart failure, for example, the heart responds in an interesting way," Rubin says. There are two kinds of sites, or receptors, on each heart muscle cell that respond to a nerve transmitter by changing heart rate, altering the force of contraction, or stimulating growth, she explains. According to Rubin, when there is hypertension or heart failure, the heart seems to try to compensate by altering the responses of the receptors — but what is meant to offset the problem ultimately leads to worse heart disease.

"Some receptors that are very active in a normal heart become less active, and others become more pronounced in a diseased heart," Rubin explains. "The mechanism for

# Affairs of the Heart

that is not entirely known.”

Rubin is working on characterizing the relationship between a substance present in the sympathetic nerves that go to the heart — called neuropeptide Y — and the cells’ responses to their receptors. She is using the rat as a model for human hypertension, working with a particular breed born with hypertension that worsens with age.

Isolated muscle cells from the rat hearts are treated with various drugs, then ruptured and biochemically measured to determine both short- and long-term neuropeptide Y effects — to see whether it modulates growth, stimulates changes in the response of the cells to receptors, and so forth.

“The applications of this work would most likely be in human medicine,” Rubin says. “Hopefully we’ll find out something that will be useful in treating human hypertension.”

## BACTERIAL INFECTION AND THE HEART

Adams’ own research is directed at the abnormalities that occur in the heart during bacterial infections and other forms of circulatory shock. In this area, Adams is a co-investigator with Dr. Janet L. Parker, associate professor at the Dalton Research Center and the medical school’s department of physiology. Adams also has joint appointments with the Dalton Research Center and the medical school’s department of pharmacology.

“Research shows that the heart is impaired within several hours of the induction of a systemic infection like septicemia,” Adams says. “Our work

*How does the heart interact with the nervous system during disease states? The answer, says Dr. Leona Rubin, would be useful in treating human hypertension.*

is showing that it’s not only contraction of the heart that’s impaired, but also relaxation. So the heart can no longer fill or eject properly.”

Adams also is involved in examining some of the new drugs being used for heart failure patients.

His experiments involve inducing septicemia in rats and guinea pigs, and then removing the heart at various stages to study the effects of the disease without the complications of circulating hormones and other factors that affect the heart.

A small balloon is inserted into the heart ventricle to measure the pressure and volume relationships inside the chamber — this information reveals how the heart’s ability to generate pressure within its chambers has been influenced by the bacterial infection.

“There are clinical applications of this work in both animal and human medicine,” Adams explains. “This information increases awareness of the need to monitor

cardiac function early on in these types of disorders. And on an experimental level, we hope it serves as a model system to try to discover what mediators alter myocardial function in the septicemic patient, and how the deleterious actions of such mediators can be prevented by the clinician.”

## EXERCISE AND THE HEART

Many studies have shown that an active lifestyle appears to interfere with cardiac disease. Figuring out *why* that’s true is the mission of **Dr. M. Harold Laughlin**, professor of veterinary physiology with joint appointments at the Dalton Research Center and the physiology department at the medical school.

“Basically we’re looking at the influence of physical conditioning on coronary and skeletal muscle blood vessels, their functional capabilities and associated changes,” Laughlin explains.



*Dr. M. Harold Laughlin's NIH-funded research is designed to determine exactly how an active lifestyle interferes with cardiac disease. Here Laughlin and research assistant Donna Baumgartner help an exercise-trained pig off a treadmill.*

While most exercise science experiments involve dogs or humans, Laughlin has chosen to work with pigs. The size of a pig's heart relative to that of its body is closer to that of man's than a dog's, and a pig — unlike a rat — can be trained to run on a treadmill with positive reinforcement.

"Over the past six years we've come up with an exercise training program that produces trained, athletic pigs," Laughlin says. "Within a few months they can run for an hour at a speed of 5 mph, with interval sprints of 15 minutes at 8 mph. They're roughly comparable at that point to a middle-aged human who's been exercising for six months."

Laughlin and his associates have found that in an exercise-trained animal, the ability of the vascular bed to transport nutrients to the heart is definitely improved. They are currently searching for the reasons behind that improvement — is there growth of vessels, and if so, what size vessels are involved?

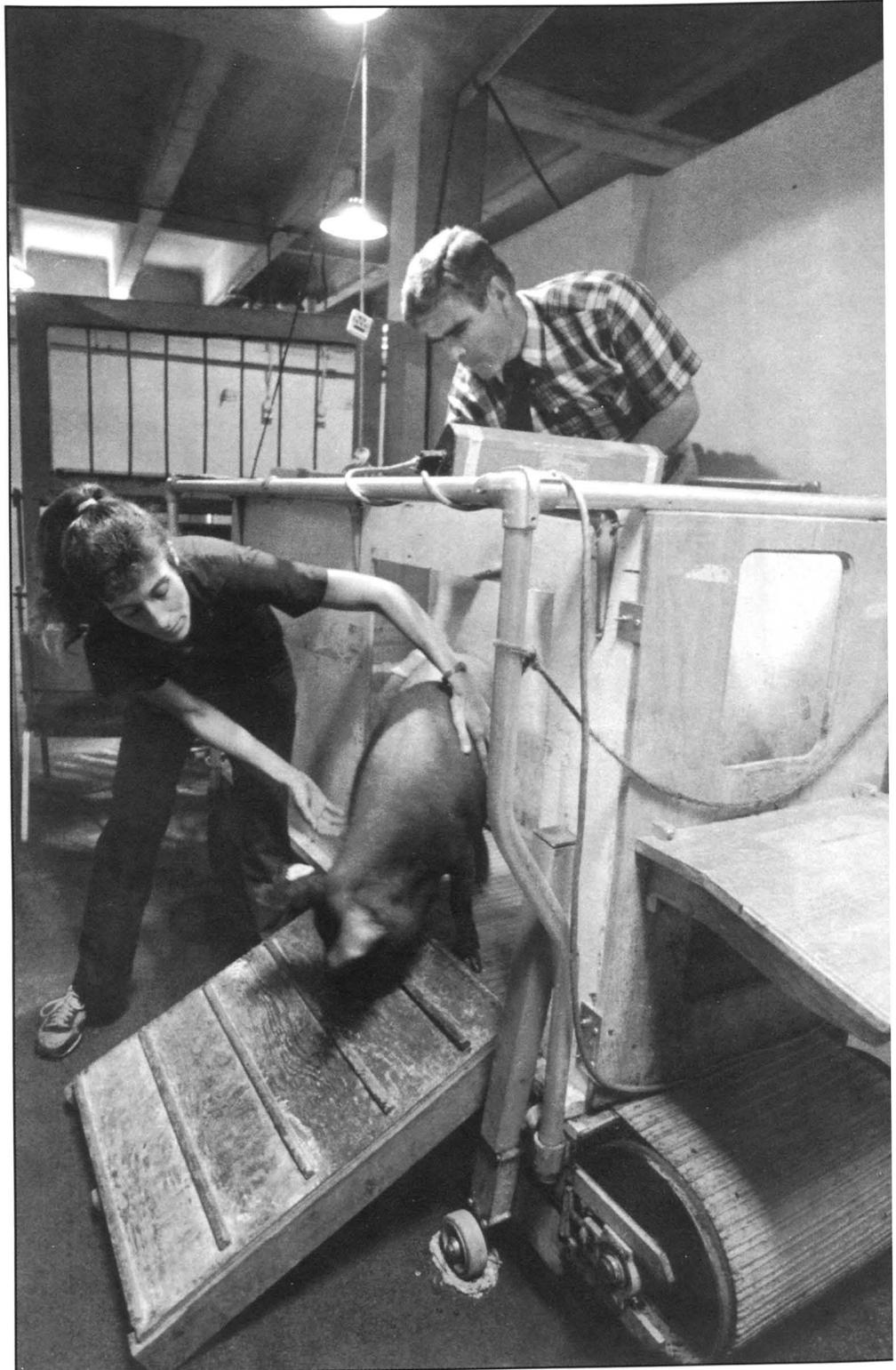
**Dr. John Amann**, assistant professor in the department of veterinary biomedical sciences, is a co-investigator with Laughlin. Amann conducts microscopic anatomy studies to determine if structural changes occur in heart muscle or coronary arteries of the exercise-trained pig.

"We want to know exactly *how* the cardiovascular system becomes more efficient with exercise," Laughlin adds. "I predict that within a few years we'll have an answer to the question."

## REGULATORY MECHANISMS OF THE CARDIOVASCULAR SYSTEM

Examining the regulation of the cardiovascular system is **Dr. Eileen Hasser**, assistant professor of veterinary biomedical sciences.

"I look at things like blood pressure and cardiac output, or how much blood is pumped," Hasser says. Many of the cardiovascular problems that occur in both animals and people, she explains, involve some



# Affairs of the Heart

sort of problem with these regulatory mechanisms. "In congestive heart failure, and even in a situation like hemorrhage, the reflexes that are designed to help for some reason become counterproductive," Hasser continues. "And we don't understand why."

"If we can understand the reflex itself and the things that modulate it, then hopefully we can learn what goes wrong in those situations of hemorrhagic shock, hypertension, and so forth," Hasser adds. "And of course the ultimate goal is to correct those problems."

Much of Hasser's work is concentrated on the hormone vasopressin, which is elevated during hypertension, heart failure and hemorrhage, and which seems to control blood pressure, or baroreflex function.

Hasser also is collaborating with Dr. James Schadt to study what happens to an animal's circulatory

system during hemorrhage.

And a new area of interest to her is the problem of orthostatic intolerance — the dizziness an older or bed-ridden person may experience upon standing.

"One of the things required after an orthostatic challenge, or standing up quickly, is that the baroreflexes kick in and build blood pressure up," Hasser says. She wants to determine whether these reflexes are impaired in people and animals who experience orthostatic intolerance, and then find out what can be done about any malfunctioning that does exist.

"Trying to understand the integrative aspects of any problem is challenging," Hasser concludes. "The results can be confusing, different animals may respond differently, and it's harder to control for outside variables in a whole body than it is in a petri dish. But it's interesting and rewarding to me to try to figure out the body as a whole."

## THE BRAIN'S CONTROL OF THE HEART AND BLOOD VESSELS

During an episode of blood loss, the brain releases compounds that act like heroin or morphine in the body and affect cardiovascular control. These opioids — the term used for opiates formed within the body — are what drives the research of Dr. James Schadt, assistant professor in the department of veterinary biomedical sciences and research investigator at the Dalton Research Center.

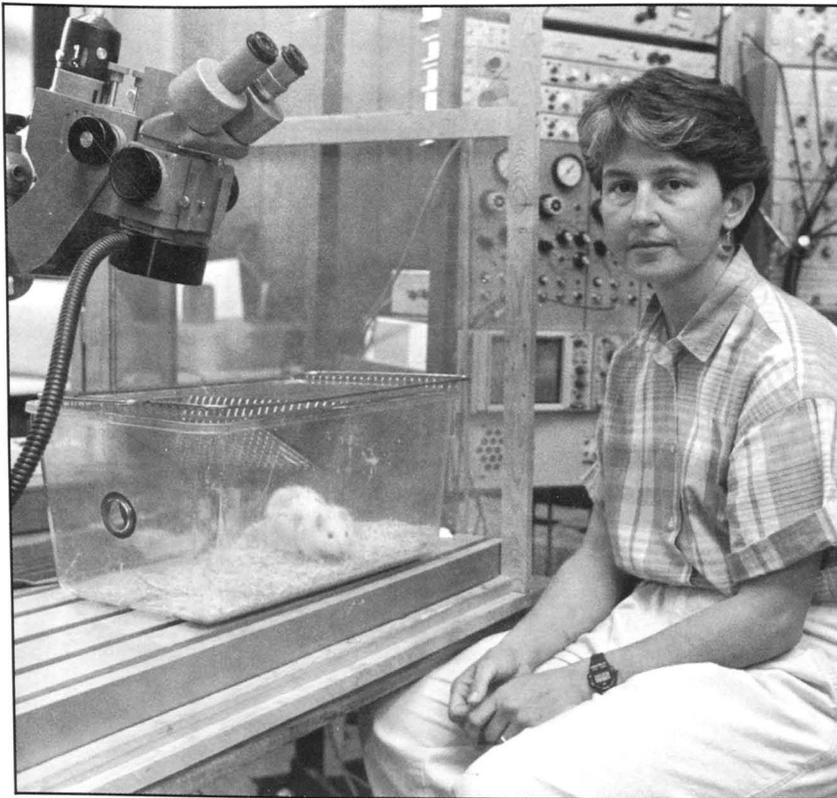
Schadt works with rabbits, and uses the hemorrhage as a means of activating the system that these opioids are involved in. He's come up with some interesting findings.

"The dogma in the veterinary physiology textbooks says if you lose blood, the body activates to try to keep blood pressure up, and still fights to maintain pressure even after it drops," Schadt asserts. "But we've found that while animals maintain blood pressure for a period of time in response to blood loss, suddenly — for some unknown reason — pressure drops. We think it's probably related to the release of these opium-like compounds."

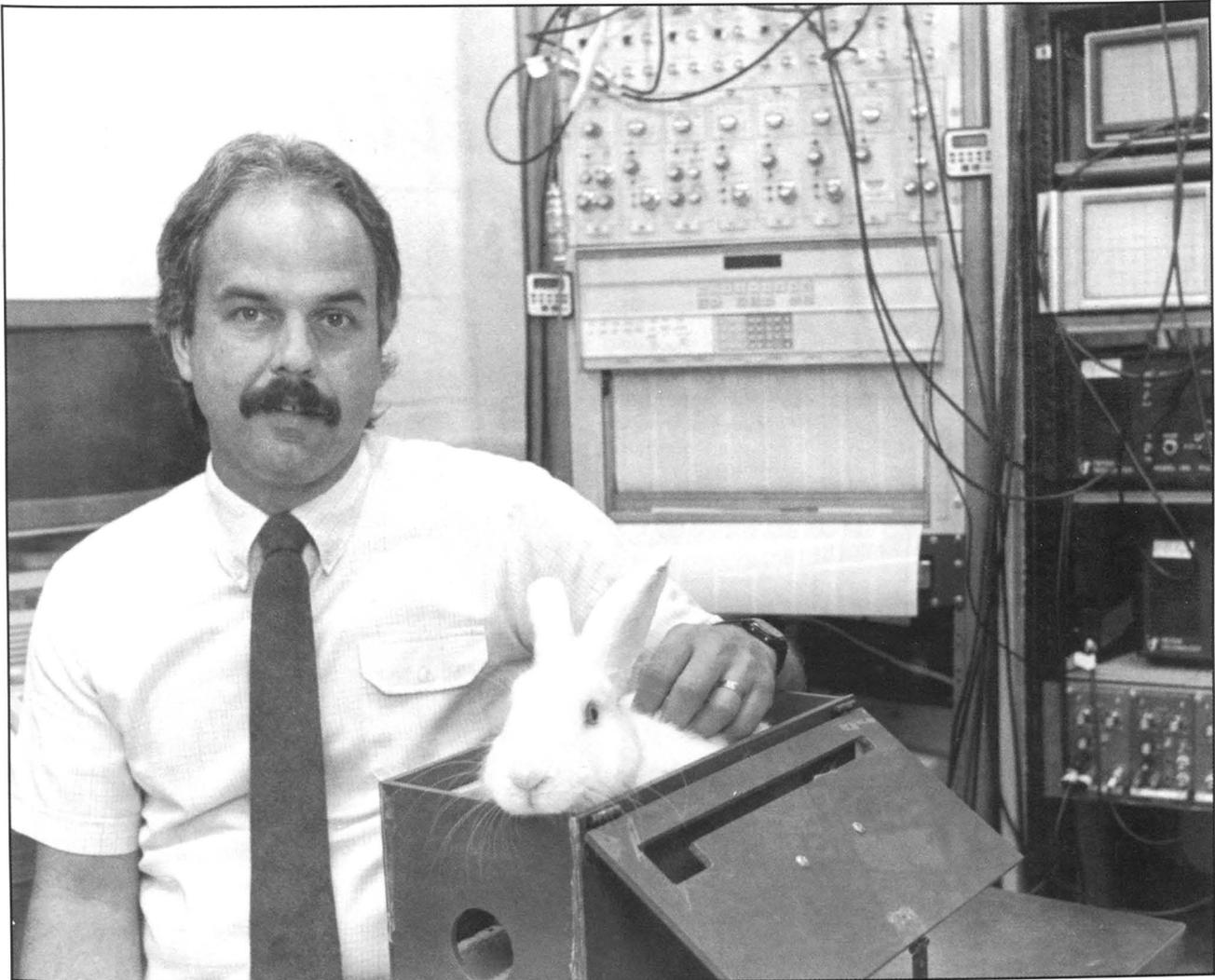
Schadt theorizes that in the wild, it would make sense for an animal's blood pressure to drop to allow clotting to take place before gradually returning to normal levels.

This research could have implications for individuals with hypertension, Schadt says, if the mechanism for lowering blood pressure can be pinpointed. "And," he adds, "it could potentially affect the way humans or animals are treated in an emergency where there's acute blood loss."

*Factors controlling blood pressure become counterproductive during hemorrhagic shock and hypertension — Dr. Eileen Hasser is working to find out why.*



*Dr. James Schadt uses rabbits to explore the brain's role in cardiovascular control in response to blood loss.*



### **CORONARY BLOOD VESSELS' RESPONSE TO BLOCKAGE**

**Dr. Harold Garner**, professor of veterinary medicine and surgery and research investigator at the Dalton Research Center, has spent many years investigating the phenomenon of coronary collateral development.

"Coronary collateral development is what happens when you shut down one coronary artery, and another vascular bed takes over blood supply," Garner explains.

Garner and co-investigator Dr. Doug Griggs, professor in the

department of medical physiology at the medical school, use the pony as a model because the anatomical architecture of the animal's coronary vessels is very similar to that of man.

A rubber tube is placed around a heart vessel and regularly filled with air to temporarily shut down blood flow. The animal's responses to the painless ischemic episodes are measured via an ultrasonic device implanted in the heart.

"We can trigger the process," Garner says, "And we do find an increase in flow to the areas made ischemic. But we don't know whether pre-existing vessels are

enlarged, or new ones are formed."

The researchers are also experimenting with various pharmaceutical agents, searching for what Garner calls "the magic goober" that will stimulate angiogenic factors, or the growth of alternate blood vessels in response to vessel blockage.

"This is a very powerful model to study this phenomenon and what's behind it," Garner concludes. "Down the road we may be able to provide an alternative to the coronary bypass, or perhaps a means of prevention. I think we'd all be glad to see that." □

# Shifting gears

by Marinell Landa

**O**ne day in 1983 **Patrick McCain** decided to change his career. Having completed five years of study at a Catholic seminary, McCain gave up a chance to save men's souls and decided instead to save animals' lives.

**Deborah Sander**, who used to work as an accountant, experienced a similar change of heart. She traded in her ledger for a stethoscope and decided to study veterinary medicine.

Sander, 34, and McCain, 32, who graduated this year, belong to a special group within the college's population. Officially, they and others like them are referred to as non-traditional students; however, in the vernacular of the College of Veterinary Medicine, they're known as "retreads."

"I don't know what else to call them, because they're re-doing their careers," says Dr. Ken Niemeyer, associate dean, who estimates that

retreads make up perhaps 10 percent to 15 percent of the student body.

Niemeyer says the college doesn't pay much attention to a retread's age, except during the initial interview with the student. That's when he discusses the pros and cons of returning to school.

"We don't try to discourage them, but we try to be realistic about what the problems may be," he says.

One such problem he highlights is



IAN SIGHTS PHOTOS

*The life of the non-traditional student isn't easy, says Patrick McCain, but it's worth it.*

balancing school, marriage and family life: "They're going to have two spouses: One is at home, and one is the College of Veterinary Medicine. The college usually wins," he says, adding that children can increase the level of stress.

McCain, who is married and has two children, acknowledges that blending the roles of student, husband and father has been difficult.

"I just had to leave school at school," McCain says. "I'd study after my son went to bed in the evening. Then I'd be tired, and I didn't get a lot of studying in."

He thinks it would have been easier to get through school as a single person. "It would have been a better education, because I would have been willing to devote more time to it," McCain says.

But while it may be easier for a retread without children to put in long hours of study, it seems that sooner or later the decision to have a family must be faced, particularly by non-traditional students who are women.

"I'm getting to the point where if I want to have babies I need to think about doing it," Sander says. "But now that I've changed careers, I want to be able to concentrate on that."

For **Suzanne Suster**, another retread in the class of 1990, the question is not as pressing. Suster, who entered the college in 1986 at age 36, does not discount the possibility of marriage and children. She says, however, that her work is her top priority.

"Having children is something I've never really considered too seriously," Suster says.

Family life — actual or potential — is only one of several concerns for retreads. Another issue Niemeyer asks non-traditional students to consider is the need to develop sound study habits and to re-discipline themselves.

"We advise almost all of our students — even if they may be qualified to enter — to take some general course work for one semester to get back into it again," Niemeyer says.



MARINELL LANDA PHOTOS



*"Veterinary medicine is much more life-oriented than numbers," says Deborah Sander, who gave up an accounting career to become a veterinarian.*

**Ron Blair**, who at 43 was the oldest retread in the class of 1990, confirmed that learning to be a student again can be difficult.

"I was really concerned about going back to school at an older age and competing with younger people."

But he adds that being older has helped him to approach his studies more seriously. "When I was 18, 19 or 20 years old, there was no way I could buckle down and study five or

six hours a night."

Blair, who served in the Army and worked in the Department of Labor before entering vet school, adds that being an older student actually turned out to be an advantage.

"I think people appreciate the maturity and the fact that I've drawn this goal and work toward it," he says.

The other retreads agree that developing good study habits is a vital, but often elusive, goal.

"My study skills were horrible," McCain says. "It was kind of intimidating going in."

Sander, who continued to work fulltime in accounting while she took prerequisites for admission to the college, says that she can no longer stay up late cramming like she did as an undergraduate.

For many non-traditional students, the courseload in vet school precludes the possibility of a full-time job. In fact, a third problem



MARINELL LANDA PHOTOS

*Suzanne Suster, who entered the college at 36, worked several part-time jobs to get through vet school. Student life means few luxuries, she says, but her career in equine medicine gets top priority.*



that retreads face is the amount of money they stand to lose by quitting their present jobs and entering school.

"That's a real shocker, sometimes," Niemeyer says. "The things you take for granted become luxuries, like going to a movie." He warns students to expect a drastic drop in their standard of living.

Suster, who plans to specialize in equine medicine after graduation, confirms that her years as a student have been "tight."

She didn't work fulltime but earned an income by training horses on a free-lance basis and working on call as a technician in the cardiac-catheterization lab at Boone Hospital Center and at Columbia Regional Hospital.

"People at the hospitals were very understanding," she says. "If I needed a night off to study, someone else would take the call for me."

McCain, whose wife has worked fulltime to support the family, says the costs of returning to school are amazing.

"Instead of making an income during those years, I'm putting out money and getting into debt," he says. "I don't think there's any way I could catch up to where I'd be if I'd just gone into the work force."

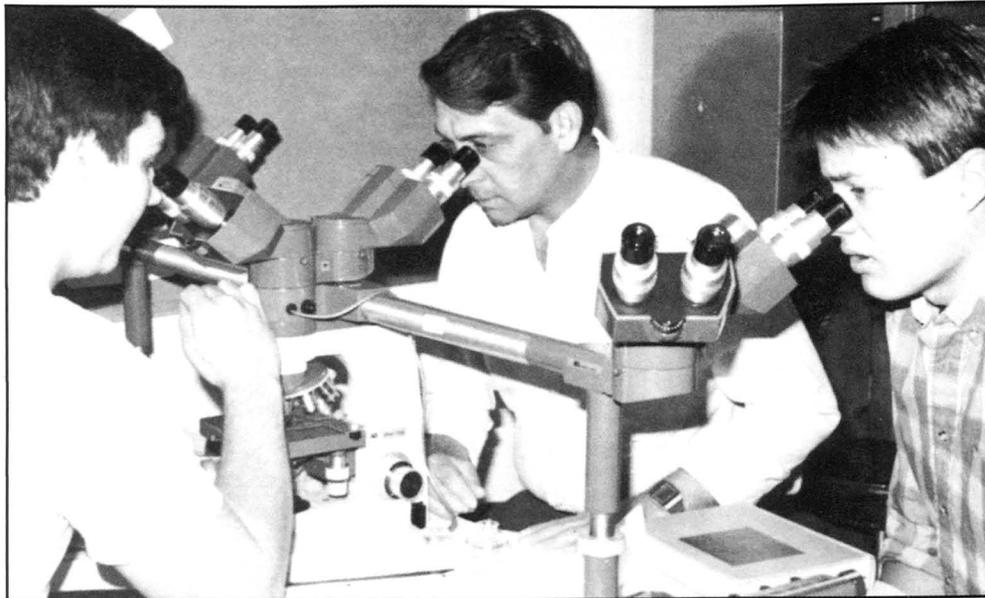
Sander says she took out a student loan, moved in with her parents, tapped into her savings and took odd jobs such as cleaning stalls to finance her way through college.

Blair, who divorced while attending the college, says his former wife's income as a registered nurse, along with savings and student loans, helped him pay for his education.

With such daunting obstacles to surmount, why does a non-traditional student consider a degree in veterinary medicine? According to these retreads, there are plenty of reasons to persevere.

"I consider it a challenging and a rapidly changing field," Suster says. "I find it exciting and rewarding to be part of it."

Suster, who taught riding classes at Stephens' stables for nine years, adds that it's satisfying to see an animal go home healthy.



MARINELL LANDA PHOTOS

*"I was really concerned about going back to school and competing with younger people," says Ron Blair, 43.*

Blair echoes that feeling and claims there is nothing more rewarding than "making a sick critter brand-spanking new."

"The biggest thing is to be able to say 'I know what's wrong with this animal' and relieve the pain and suffering and make it well again," Blair says.

For McCain, who plans to enter small-animal practice, learning has provided incentive. "The rewards are feeling competent, feeling that I've learned something, feeling comfortable in doing surgery or diagnosing a problem," he says.

According to Sander, who plans to go into clinical practice in a rural area, veterinary medicine provided her with something that accounting could not.

"Accounting is just dull and boring," she says. "There are things in veterinary medicine that are basic and routine, but it's a much more vital and challenging job, much more life-oriented than numbers."



Once retreads readjust to the demands of a student's schedule and integrate their studies with the other aspects of their lives, Niemeyer says, such students do quite well.

"You have to recognize that these individuals are mature and once they've made a commitment, they're probably going to make it," he says.

As the retreads of the class of 1990 become practicing veterinarians, they look back on their years at the college without regrets.

"If I had to do it over again, I would," McCain says. "I think it was worth it."

Blair shares that sentiment: "I feel like anything that I may have lost by doing this will be more than made up by my being able to practice veterinary medicine." □

# AROUND THE COLLEGE

## Biomedical Sciences

**Dr. Calvin Hale**, assistant professor, published "Gram-negative endotoxemia: effects on cardiac Na-Ca exchange and stoichiometry" with J.A. Allert, R.S. Keller, H.R. Adams and J.L. Parker in *Circulatory Shock*, Vol. 29, 133-142, 1989. In February he presented "Partial characterization of an endothelin receptor in cardiac sarcolemmal vesicles" with T.R. Shannon at the 34th annual meeting of the Biophysical Society at Baltimore, Md. The work was co-written by J.A. Allert, H.R. Adams and L.M. LeBourveau.

## Diagnostic Laboratory

**Dr. William H. Fales**, professor, published "Antimicrobial susceptibility of *Pasteurella multocida* type D from Missouri swine" with J.R. Turk, M.A. Miller, C. Bean-Knudsen, S.L. Nelson, L.G. Morehouse and H.S. Gosser in the *Journal of Veterinary Diagnostic Investigation*, Vol. 2, 80-81, 1990.

**Dr. Jose Ramos** of Madrid, Spain, is on a 12-month sabbatical in the laboratory. Ramos is a veterinary pathologist at the Veterinary School in Barcelona, Spain. While at MU, Ramos is doing research in the use of immunoperoxidase stains to diagnose viral diseases.

**Dr. James Turk**, associate professor,

## Awards banquet winners

At the awards banquet in May, the Golden Aesculapius Teaching Awards were given to **Drs. James Schadt, Steven Stockham and Donald Schmidt**. Receiving the Norden Distinguished Teacher Award was **Dr. Robert S. Youngquist**. For outstanding research, **Dr. Harold M. Laughlin** received the Beecham Research Award and **Dr. Janet L. Rettenmaier** received the Bojrab Research Award in Small Animal Surgery.

## Alumni meet at AVMA meeting

More than 150 alumni met at the American Veterinary Medical Association's annual meeting July 24 in San Antonio, Texas, for a reception. Jefferson Club plates were given to new members who have

published "Constrictive pericardial disease and aberrant dirofilariasis in a dog" with T.N. Hribernik and C.S. Hedlund in the *Journal of the American Animal Hospital Association*, Vol. 25, 639-642, 1989. He published "Coliform septicemia and pulmonary disease associated with canine parvoviral enteritis: 88 cases (1987-1988)" with M.A.M. Turk, T. Brown, W.H. Fales, J. Fischer, H.S. Gosser, S.L. Nelson, D.P. Shaw and R.F. Solorzano in the *Journal of the American Veterinary Medical Association*, Vol. 196, 771-773, 1990.

**Dr. Susan Turnquist** has joined the diagnostic laboratory as a graduate student in pathology. She received

pledged at least \$10,000 to the University. The college has had nine new members of the Jefferson Club since March.

Alumni receptions will be held at the Eastern States Veterinary Conference in Orlando, Fla., in January, and the Western States Veterinary Conference in Las Vegas in February.

## Mizzou student wins Iams scholarship

**Ruth M. Halenda**, VM4, was a recipient of the 1990 Iams Veterinary Scholarship Award. Halenda, originally of Niantic, Conn., was one of 27 veterinary students from the United States and Canada to receive scholarships.

Participants were required to write an essay on "Canine colitis: etiology, diagnosis and clinical management." Each winner received a cash scholarship and a plaque from The Iams Company, a pet foods manufacturer.

her DVM and PhD from Louisiana State University.

## Medicine and Surgery

**Dr. C.B. Chastain**, professor, published "Endocrine and metabolic systems" as Chapter 9 in the book *Veterinary Pediatrics: Dogs and Cats from Birth to Six Months* edited by J.D. Hoskins and W.B. Saunders, 249-269, 1989.

**Dr. Ross Cowart**, assistant professor, published "*Pasteurella multocida* and *Bordetella bronchiseptica* in atrophic rhinitis

and pneumonia in swine" with L. Backstroml and T.A. Brim in the *Canine Journal of Veterinary Research*, Vol. 53, 295-300, 1989.

**Dr. Grant Guilford**, small-animal medicine resident in 1985-1986, has become board certified in the American College of Veterinary Internal Medicine and has co-authored *Small Animal Gastroenterology*, 2nd ed., with Dr. D.R. Strombeck, 1990.

**Mr. Ron Haffey**, administrative manager of the teaching hospital, attended the Annual Veterinary

Business Officers and Hospital Administrators Meeting of North America in Montreal, Canada, Sept. 22-27, 1989.

**Dr. Allen W. Hahn**, professor, was elected for a two-year term as the Region 5 Representative of the Administrative Committee of the IEEE Engineering in Medicine and Biology Society.

**Dr. Jimmy C. Lattimer**, associate professor, consulted and worked as relief clinician at the Atlantic Veterinary College, Prince Edward Island, Charlottetown, Canada, Jan.

28 through Feb. 10, 1990.

**Dr. Fred A. Mann**, assistant professor, published "Bone healing" with J.T. Payne in *Seminar in Veterinary Medicine Surgery (Small Animal)*, Vol. 4, 312-321, 1989.

**Dr. Robert B. Miller**, associate professor, was recertified as a Diplomate of the American Board of Veterinary Practitioners. The ABVP is the only specialty board requiring diplomates to recertify to maintain diplomate status, and administers the same specialty examination to recertify diplomates as that taken by

(Continued on page 18)

## Marketing MU to prospective veterinarians

by Marinell Landa

She calls herself a potpourri of information.

**Barbra Horrell**, coordinator of student recruitment, travels to junior and senior high schools and to colleges across the country, armed with a warm smile, stacks of pamphlets and brochures, and a huge black exhibit case the size of a folding table. Her goal is to attract students to MU's graduate programs in medicine, both human and veterinary.

"I feel fortunate that I can be out there as a representative of the University," Horrell says. "I see my role as just one more sign that the University is trying to serve all of its constituents and educate all the people."

Horrell is employed jointly by the schools of Medicine and Nursing and the College of Veterinary Medicine. Her work involves not only persuading students to choose MU, but also, in many cases, educating them about the programs.

"Particularly in the area of veterinary medicine, I want to see to it that the word is out there that students can have a successful profession," Horrell says.

While she targets all types of students in her recruitment efforts, Horrell says that minorities receive special emphasis. The College of Veterinary Medicine, she says, is committed to including minority students in the program, adding that the term minority denotes a broad range of people.

Horrell says that black students, the traditional minority, have been



Recruiter Barb Horrell

joined by others: Hispanics, Asians, Pacific Islanders, Native Americans, non-traditional students and the economically disadvantaged of any race.

"How do we get these students here and keep them?" Horrell asks. "How do we service all students? We have to change how we market so we don't market to just one type."

Horrell adds that the University must be willing to back up marketing with money, "to commit the kind of bucks that are necessary to do a top-notch job," she says.

Regardless of her audience, Horrell's basic approach is honesty.

"My theory is, don't tell them anything that you can't give them," she says. "I don't give them false hopes and I don't give them maybes."

What Horrell does give students is information and common sense perspectives. She begins at the junior-high level with career days

and vet weeks, which serve as an introduction to a field students sometimes overlook when exploring career options.

Part of her work involves clearing up students' misconceptions about veterinary medicine.

"They don't understand that it is a real profession, that you just don't walk in and take care of pets." Horrell says she explains the requirements to the students and discusses their goals.

Horrell, who used to market medical education programs to hospitals and nursing homes, enjoys her work despite long days on the road.

"It used to be that people just sat around and waited for students to come, but now we're more proactive," she says. "If we do the job the way it's supposed to be done, we will get the students and everyone will be a winner."

MARINELL LANDA PHOTO

(Continued from page 17)

ABVP candidates for initial certification.

**Dr. Clifton Murphy**, assistant professor, attended the embryo transfer program in Mexicali, Mexico, Nov. 6 through 10, 1989. He attended the embryo transfer meeting at College Loma de Zumara in B.A. Argentina, Nov. 14 through 26, 1989.

**Dr. Craig L. Sweeney**, assistant professor, received the Clinical Sciences Teaching Excellence Award at the American Veterinary Medical Association meeting in San Antonio, Texas, in July.

## Microbiology

**Dr. John N. Berg**, professor, was in Liverpool, England, July 11 through Aug. 1 to attend the Sixth International Symposium on Disorders of the Ruminant Digest.

**Dr. James G. Thorne**, associate professor, was recertified as a Diplomate of the American Board of Veterinary Practitioners. The ABVP is the only specialty board requiring diplomates to recertify to maintain diplomate status, and administers the same specialty examination to

recertify diplomates as that taken by ABVP candidates for initial certification.

## Pathology

**Dr. Linda L. Collier**, associate professor, published "Keratoconjunctivectomy with application of a corneal-scleral conformer for treatment of symblepharon in a cat" with C.P. Moore and T.L. McCalla in *Transactions of the Twentieth*

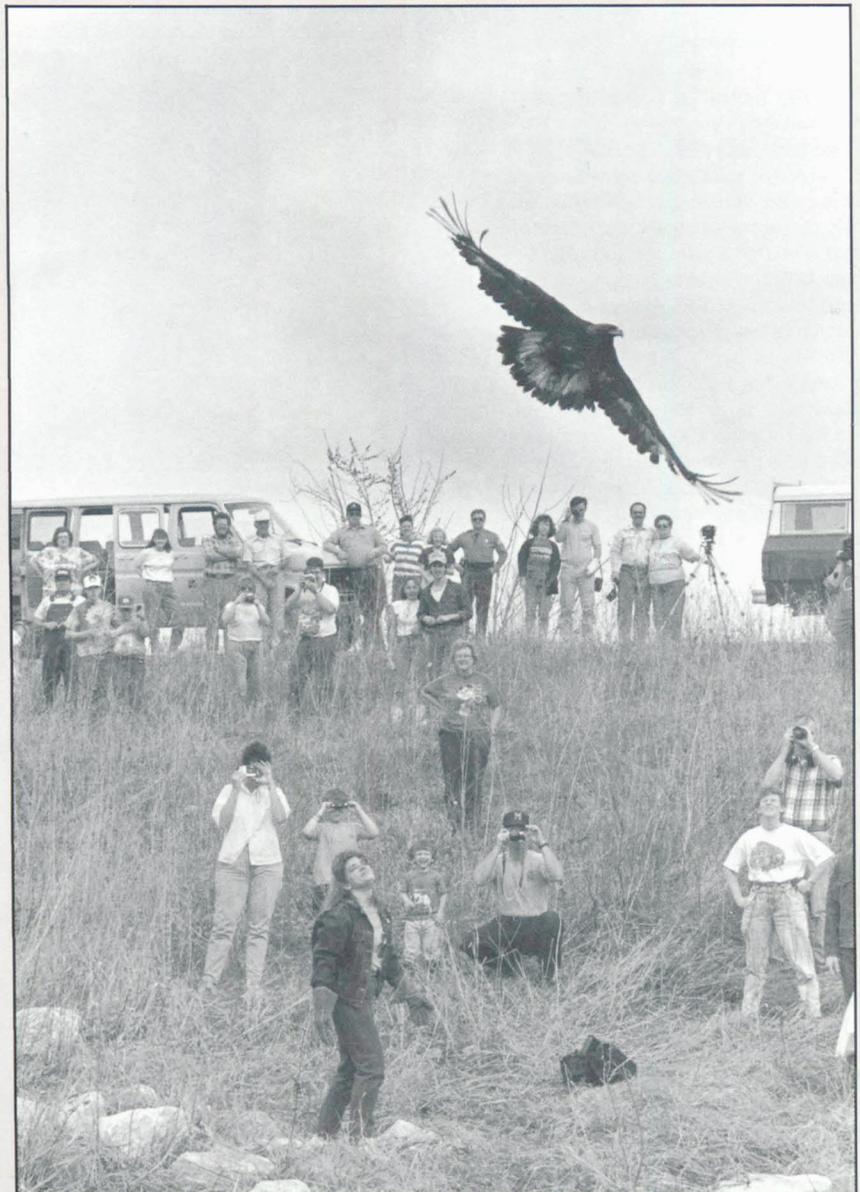
## Flying the friendly skies

by Melanie Brubaker



IAN SIGHTS PHOTOS

*When Karat the golden eagle was deemed ready to return to the wild, there were many onlookers wishing him well. Students in the college's raptor program had treated the bird's broken leg.*



*Annual Meeting of the American College of Veterinary Ophthalmologists*, 180, 1989. She published "Anterior lens luxation with glaucoma in Queensland heeler (Australian cattle) dogs" with T.L. McCalla and C.P. Moore in the same publication, 198, 1989.

**Dr. Susan V. Gibson**, instructor, published "Cholangiohepatitis in Syrian hamsters" with C.L. Franklin, J.E. Wagner, C.J. Caffrey and T.R. Shannon in *Lab Animal Science*, Vol. 39, 497, 1989. She published "Renal tubular syncytia associated with retrovirus infection

in a cynomolgus monkey (*Macaca fascicularis*)" with L.A. Terril in *Lab Animal Science*, Vol. 39, 497, 1989. She published "Naturally acquired enterin adenovirus infection in Syrian hamsters (*Mesocricetus auratus*)" with A.A. Rottinghaus, J.E. Wagner, H.F. Stills Jr., P.L. Stogsdill and D.A. Kinden in the *American Journal of Veterinary Research*, Vol. 50, 143-147, 1990.

**Dr. Gary S. Johnson**, associate professor, published "Von Willebrand's disease in dogs" with K.H. Kraus in *Current Veterinary Therapy X*, edited by R.W. Kirk,

446-451, 1989. He published "Desmopressin acetate (DDAVP) shortens buccal mucosa bleeding times and increases plasma von Willebrand factor in Doberman pinscher dogs with von Willebrand's disease" with K.H. Kraus, M.A. Turrentine and A.E. Jergens in *Veterinary Surgery*, Vol. 18, 103-109, 1989.

Johnson published "Von Willebrand's disease in washed-platelet lysates from mongrel dogs and Doberman pinschers, some with von Willebrand's disease" with M.T. Parker, M.A. Turrentine, M.W.

(Continued on page 20)

At first, the huge bird looked a little startled, then merely hostile as the top of his cage came off. He had just completed a 100-mile trip in a van, and he stared angrily at the clicking cameras, his muscles flexed.

Then **Linda Patton**, now a fourth-year student, heaved him into the air. With a few flaps of his broad wings, seven feet from tip to tip, he was soaring above the trees near Swan Lake, a federal wildlife refuge in Chariton County, Mo. His white tail feathers flashed in the sunlight.

Karat, a golden eagle, had returned home.

Hunters at the refuge in November found the bird. He had a broken leg and was severely emaciated and dehydrated. The eagle was brought to the college, where a group of Mizzou's veterinary students revived him, then repaired his injured leg.

Karat is the newest success story for the Raptor Rehabilitation and Propagation Project at MU. More than 1,000 birds of prey have been treated since the program started in 1972.

Patton, president of the project, looked at the bird with pride as it sat in a nearby tree on the day of its release, March 10, 1990.

One of the most difficult parts of Karat's treatment was staying away from him, Patton says. The bird needed to have as little human contact as possible so that he wouldn't become tame, Patton explains.

After two weeks of tube feeding, Karat became stronger and lived on a diet of rats, mice, chicken and turkey.

During 2½ hours of surgery, a lightweight metal plate was placed on his femur to straighten it out. After regaining his weight and getting some flying practice, he was ready to go.

**Joan Coates**, then a fourth-year student and vice president of the program, says Karat weighed only 4 pounds when he first arrived at the college. He was up to about 9 pounds when he was released.

Karat managed to escape once, Coates says. In February, he got free from his pen and flew to a tree in a front yard on Morningside Drive. He perched there and stayed for two

days. Finally, the students had to call the Columbia Fire Department to bring him down.

"We thought about letting him go when he escaped," Coates says. But the students realized he needed more rehabilitation time before entering the wild. "We had to give him a chance. I think he'll do fine."

The raptor program's patients have included falcons, hawks, owls and vultures. Currently, about 35 students are in the program, which is funded by an endowment and private donations. Each volunteer is assigned to care for at least one bird for about 10 hours a week.

Jim Wilson, an ornithologist for the Missouri Department of Conservation, says the golden eagle isn't an endangered species, but there aren't many in Missouri. Their primary habitat stretches from the western plains to the Pacific coast.

Swan Lake conservation agent Doug Purcell says few of the 50 or so eagles that frequent the area are golden eagles. Agents positively identify only a handful of goldens every year, he says. But Karat is in good company. More than 11,000 acres of lakes and marshes make the area an ideal habitat for birds, Purcell says. Every year, nearly 150,000 wild geese and 40,000 other birds descend on the refuge.

Now that population count includes one more eagle. Says Purcell, "He looks like he's doing a good job."



Karat was released at Swan Lake, a federal wildlife refuge.

Condensed version reprinted with permission of the *Columbia Daily Tribune*.

(Continued from page 19)

Moritz, J.F. Holliday, D.R. McCarroll, D.C. Waters and T.P. McDonald in *Veterinary Clinical Pathology*, Vol. 18, 15, 1989. He published "Afibrinogenemia and a circulating inhibitor to fibrinogen in a Bichon Frise" with M.J. Wilkerson, L.K. Riley and M.G. Mikiciuk in *American Animal Hospital Association, Scientific Proceedings*, 662-663, 1989.

**Dr. Darrell A. Kinden**, associate professor, published "Isolation of campylobacter-like organism from healthy Syrian hamsters (*Mesocricetus auratus*)" with H.F. Stills Jr. and R.R. Hook Jr. in the *Journal of Clinical Microbiology*, Vol. 27, 2,497-2,501, 1989.

**Dr. LeRoy D. Olson**, professor, published "Clinical evaluation of TGE vaccines and vaccination procedures for inducing lactogenic immunity in sows" with R.A. Moxley in the *American Journal of Veterinary Research*, Vol. 50, 111-118, 1989. He published "Relationship between TGE antibody titers in serum, colostrum and milk from TGE vaccinated sows and protection in their suckling piglets" with R.A. Moxley and R.F. Solorzano in the same publication, Vol. 50, 119-125, 1989.

Olson published "Relationship between anti-*Pasteurella multocida* antibody titers after CU vaccination and survival after challenge" with G.T. Schlink in *Avian Diseases*, Vol. 33, 506-510, 1989.

**Dr. Lela K. Riley**, assistant professor, received a continuation grant of \$58,469 from DHHS-NIH to study the "Molecular basis of Tyzzer's disease in research animals."

Riley published "Comparison of rat serum antibody responses in experimental infections with various mycoplasmas and *Acholeplasma laidlawii*" with C.M. Matherne and J.E. Wagner in *Laboratory Animal Science*, Vol. 39, 471, 1989. She published "Identification of cross-reactive antigens among strains of *Bacillus piliformis*" with C. Besch-Williford and K.S. Waggie in *American Society for Microbiologists, Scientific Proceedings*, Vol. 89, 1,164, 1989.

**Dr. Larry P. Thornburg**, associate professor, received \$5,000 from a private donor to study "Karyotyping: preliminary investigations into methodology appropriate for characterization of canine chromosomes." He published "Copper metabolism defect in West

Highland white terriers" in *Kirk: Current Veterinary Therapy-X*, 889-890, 1989. He published "Copper poisoning in llamas" with R.E. Junge in the *Journal of the American Veterinary Medical Association*, Vol. 195, 987-989, 1989.

**Dr. Joseph E. Wagner**, professor and chairman, published "Diagnostic exercise: fetal death in guinea pigs" with S. L. Motzel in *Lab Animal Science*, Vol. 39, No. 4, 342-344, 1989. He published "Procine mast cell leukemia and systemic mastocytosis" with D.E. Bean-Knudsen, C.M. Caldwell and H.F. Stills in *Veterinary Pathology*, Vol. 26, 90-92, 1989.

Wagner's book, *Guide to Infectious Diseases of Laboratory Rats and Mice*, written with J.R. Lindsey, C.K. Hsu, J. VanHoosier, G. Boorman and R. Orcutt, was published by the National Academy of Sciences, U.S. Government Printing Offices, 1989.

Wagner received \$120,859 from the DHHS-NIH Division of Research Resources for the Research Animal Diagnostic and Investigative Laboratory, of which he is principal investigator. He received \$100,000 from the NIH National Cancer Institute for "Operation of an animal disease diagnostic laboratory."

## Students volunteer for emergency duty by Michelle Stuart, VM3

In July 1989, the college's small animal emergency and critical care team (SAECCT), originally referred to as the "trauma team," was formed.

The volunteer program, headed by **Dr. F.A. Mann**, assistant professor of medicine and surgery, is comprised of second-year veterinary students interested in small animal emergency and critical care.

Participation on the team, he says, gives students structured exposure to the intensive care unit and provides an early introduction to the clinics. And the presence of the volunteers means extra personnel to relieve some of the demands on clinicians and third- and fourth-year students when things get busy.

Students attend an orientation program in which they become familiar with the ICU and procedures such as the TPR (temperature, pulse, respiration), and restraint techniques. Students



*Sandra Turner, VM3, right, and technician Barb Collins examine a dog.*

are required to perform specific procedures at a minimum competency level before their first ICU duty.

Team members spend two or three hours in the unit on afternoons when they are not scheduled for lectures or laboratories. Two team members are always on call for emergency cases admitted outside of regular shift hours.

The team's first year has seen some changes. The group has obtained a beeper for use during

"on-call" hours, and it is sponsoring visiting lecturers to speak on subjects related to emergency medicine. Another refinement has been the addition of "rounds," or informal group discussion of cases seen by team members while on ICU duty. These discussions, modeled after the rounds conducted in the clinics, help prepare students for their clinical rotations.

"I really like having the trauma team students around, because it is so beneficial having extra hands to help out after hours," says **Dr. Janet Rettenmaier**, resident. "I hope they are learning something, because I appreciate the work they do."

Students in the program say they are learning a great deal. "The time I put into the program will be well worth it in the long run," says **Cary Buckman, VM3**. "It will be a big advantage in the clinics or if I ever want to apply for a job in an emergency clinic."

## Looking forward to life after retirement



Dr. Everette Corley



Dr. Esther Brown



Dr. Bonnard Moseley

Retirement can take varied forms, as many as there are retirees, and **Dr. Everette Allen Corley, Esther M. Brown, and Bonnard L. Moseley** have their own versions.

Corley, who retired from the University in September 1989 after 23 years of teaching and research in radiology, says he resents the word retired.

For him, retirement has "nothing to do with quitting veterinary medicine or dropping out." He continues to work as project director at the Orthopedic Foundation for Animals, a position he has held for nine years.

The OFA is a private, not-for-profit organization dedicated to the study of genetic bone disease in animals, particularly in dogs. The OFA was affiliated with MU until 1988 and oversees research projects at various colleges nationwide.

"My role today is no different than what it was on the faculty," Corley says. "I'm still teaching, but it's in a different mode. I don't think I can stop teaching."

He observes that his student body has changed from veterinary students to practitioners, scientists and professional dog breeders.

Looking back on his years at MU, Corley recalls that he and his colleagues blended together as a team. "It was one big team, and the students were tremendous."

Corley says he'll miss the atmosphere of intellectual growth and the interplay between faculty and students.

He received a DVM from the University of Georgia in 1957 and a PhD in radiation biology and

radiology from Colorado State University in 1966.

Of his many publications, he believes one of his most significant contributions to his field is a monograph he co-wrote on canine hip dysplasia. The monograph, which has gone into its second edition, is one of the most widely used and quoted by breeders and practicing veterinarians.

Corley has no intention of slowing down and looks forward to new research projects.

"Good Lord willing and the creek doesn't rise, I'll continue growing and continue doing the things I enjoy," Corley says. "The future is still out there."

Dr. Esther M. Brown looks forward to the future as well, but with a different scenario in mind. In January, she and her husband moved to Williamsburg, Mich., to a house on a lake. Her plans include fishing, boat riding and enjoying life.

Brown received a PhD from Michigan State University in 1955. She came to MU in 1970 and taught either veterinary histology or microscopic anatomy during her 20 years with the college.

The highlight of her teaching career was her students. "The best thing is the privilege to teach a lot of good and nice students," she says. "The students were so well-motivated."

In addition to teaching, Brown thinks that one of her biggest contributions to education is a textbook on veterinary histology that she co-edited in 1976. It was the first book in English on the subject, and has since been translated into

Japanese, Spanish, Italian and Portuguese. The third edition of the text was published in 1986. Besides her duties as editor, Brown wrote three full chapters and co-wrote three others.

Brown says she'll probably do some travelling once the newness of the lake wears off, but other than that, she has no specific plans or projects in mind.

"I'll probably just do things as they come along," she says.

Unlike Brown, Dr. Bonnard Moseley hasn't quite settled into a retirement lifestyle yet. Although he officially retired in August 1989, Moseley continues to work with University Extension as the director of Veterinary Medicine Continuing Education while the college seeks his replacement.

Moseley describes his 23 years of extension work as gratifying, and says he is always surprised at the number of people who are familiar with his research.

"I think I've served a useful purpose and have been of benefit to animal owners," Moseley says.

Moseley became interested in veterinary medicine while running his own farm and says that the droughts of the 1950s made him think seriously about vet school.

He received a DVM from Mizzou in 1962. He was appointed to the faculty as an instructor in 1963, was awarded tenure in 1968, and retired as associate professor. He describes his years at MU as rewarding and enjoyable.

Moseley says his master's research into a fluorescent antibody technique used in the diagnosis of rabies was one of his most useful contributions to the field. In addition to academic research, Moseley has written articles for farm magazines and prepared radio and television tapes on controlling and preventing disease in livestock.

Moseley's plans for retirement include the possibility of starting a small business or conducting self-improvement seminars.

"I think I could relate to people at a younger age some of the things they can do to improve their lives," Moseley says, adding that he would draw upon his own life experiences.

# PEOPLE

*Mizzou alum Dr. Kathleen Gentry produces television news segments on pets and animal medicine for syndication around the world. Combining her broadcast work with practicing veterinary medicine gives her the best of both worlds, she says.*



## The Pet Doctor makes broadcast news

She's the vet set's answer to Dr. Art Ulene, giving the television public everything they ever wanted to know about pets and animal medicine but were afraid to ask.

**Dr. Kathleen Gentry**, DVM '80, of Las Vegas, Nev., is a practicing veterinarian who doubles as a broadcast journalist reporting on pet health and behavior, as well as the impact animals have on daily life.

Each week Gentry, 33, produces two brief segments for News Information Weekly Service Productions Inc., a LORIMAR company that is part of the TIME-Warner stable. The syndicated video news service distributes the news feeds via satellite and video tape to 110 U.S. and Canadian television markets and more than 40 foreign countries. Gentry, known as The Pet Doctor, is one of six specialists producing the segments. The well-known Ulene covers family health and breakthroughs in human medicine for the syndication service.

"I really like the integrity of NIWS," Gentry says. "We're not subsidized, so we can cover newsworthy subjects in an unbiased manner. We try to do something that gets people's attention, but not cover

something so unusual that they can't relate it to the dog or cat sitting in the living room with them."

Gentry's segments run under two minutes, "which is a long time when you have to come up with pictures for everything that's said," she explains. Her subjects range widely, from reptiles as good pets for kids to equine botulism.

She is particularly proud of a series she did on zoonotic diseases, or diseases humans can catch from animals. She got a call from one viewer who said if she'd seen Gentry's report on toxoplasmosis when she was pregnant, she would have been able to avoid getting infected and passing the disease on to her unborn daughter.

"I like doing these stories in a news format, using something that's happening now to generate interest in something else," says Gentry, who started her television career in 1988. "Take the disease laminitis, for example — unless you have a horse with that particular problem, who cares? But when Secretariat died of it, I said, 'Hey, did you know this disease is one of the most common lameness problems in horses?' I interviewed Secretariat's trainer, and

it was very emotional. That all brought the story home."

Gentry's foray into journalism began in 1983, when she was a guest on a radio program and got so many calls from listeners, the station asked her if she wanted her own show. For three years she was "Dr. Kat," doing a weekly hour-and-a-half call-in show that reached 11 western states.

"I'd go in expecting some real difficult questions," Gentry recalls. "But week after week, people would call in asking the same basic questions, on things we veterinarians take for granted people know."

The questions about pet nutrition and skin problems were second only to inquiries about basic dog and cat behavior — the "why does my dog do that?" type of question.

And, too, there were listeners who would ask Gentry's opinion of their own veterinarians' recommendations. "They'd ask me stuff they weren't comfortable asking their regular veterinarian," she explains. "People would say things like, 'My doctor said I have to brush my dog's teeth — isn't that crazy?' And I'd say, 'No, it's not, and

here's why...' Other veterinarians were extremely supportive of the show, because it provided confirmation from somebody in the media. I could give people information and help my colleagues at the same time."

Shortly after Gentry started her radio show, she began doing public service spots on veterinary medicine for CNN. When she heard NIWS was looking for someone to cover veterinary medicine, she sent them

a tape and landed the job.

But just as important as her work in television, Gentry emphasizes, is the time she spends actually practicing veterinary medicine. She is an associate at a small-animal hospital in Las Vegas and does emergency work at another practice. Gentry is particularly interested in exotic animals and surgery.

Gentry also is a consultant to the University of Nevada, where she promotes veterinary medicine as a

profession, counseling students and developing pre-professional seminars and media presentation programs.

"I feel like I've got two full-time jobs going," Gentry says, laughing. "But I really love veterinary medicine and am very proud to be a part of this profession. This way I get the excitement of daily practice and get to do the creative part, too.

"People want to know how to take care of their pets," she adds. "And it's up to us to teach them how."

## Professor emeritus Bierschwal wins top honors

**Dr. C.J. "Bush" Bierschwal**, professor emeritus of veterinary medicine and surgery, has earned top honors in the field of theriogenology, the science of animal obstetrics and reproduction.

Bierschwal is the sixth annual recipient of the David E. Bartlett award, which rewards a distinguished theriogenologist who has made important contributions to the field. The award is sponsored jointly by the Society for Theriogenology and the American College of Theriogenologists.

The David E. Bartlett honorary address was established to honor the charter diplomates of the American College of Theriogenologists and particularly the first president and prime mover of the college's organizing committee, Dr. David Bartlett.

Bierschwal gave his presentation, "The Clinical Theriogenologist — A Second-Rate Academic Citizen?" on Sept. 30, 1989, at the society's fall conference in Coeur d'Alene, Idaho.

"I used the term 'second-rate' in the title, because in the academic world the emphasis tends to be more on research than on clinical ability and teaching," Bierschwal says. "The guy who generates the most grants seems to be the guy who gets the recognition."

Bierschwal received a DVM from Iowa State University in 1950 and an MS degree from Mizzou in 1956. He practiced in Excelsior Springs, Mo., from 1950 to 1951 and joined the staff at Mizzou in 1951. When he retired in 1986, he was chief of the theriogenology section.

Bierschwal was instrumental in



*Dr. C.J. Bierschwal, known as "Bush" to his colleagues, is a pioneer in theriogenology.*

forming the Society of Theriogenology and later the American College of Theriogenologists. One of his major contributions to the field was the development of the veterinary teaching program in theriogenology at MU.

"Mizzou's theriogenology section has produced more diplomates of the American College of Theriogenology than any other school in the United States," the professor emeritus notes. "I think that speaks very highly of the program, and I feel very, very good about that."

Dr. James Creed, professor and chairman of veterinary medicine and surgery, recalls his former teacher:

"He taught me when I was a student here, and he was an excellent instructor — very enthusiastic and upbeat.

"Bush is one of the pioneers in the development of the field," Creed adds, "and the theriogenology section here is well-recognized on an international basis."

Awards and professional recognition are nothing new to Bierschwal. In 1983 the MU Alumni Association honored him with its highest tribute, the Distinguished Alumni Award. He was the first faculty member in the college to be accorded that honor. In addition, Bierschwal has received a Faculty-Alumni Award and has earned the Norden Distinguished Teaching Award twice.

Bierschwal fulfilled his duty to his country as well as his students. He served in the U.S. Marine Corps in World War II and was commissioned in the U.S. Army Veterinary Corps in 1950, where he attained the rank of colonel. He received the Army Meritorious Service Medal in 1983, 1987 and 1988, and the Army Commendation Medal in 1983.

Bierschwal and his wife, Beryl, have two daughters, both of whom chose careers in medicine. Betsy Ann is a dentist, and Beverly, DVM '83, is a veterinarian practicing small-animal medicine. Both live in Springfield, Mo.

But their parents are firmly settled in Columbia, Bierschwal adds. "Columbia is the fifth-best city in the United States," he says, referring to *Money* magazine's 1990 ranking of the nation's communities, "but as far as I'm concerned, it's No. 1!"

# Alum of the Year gets high marks for leadership



*Dr. Robert "Bud" Hertzog, 1989 winner of the Alumnus of the Year award, manages to combine extensive community service with a busy practice.*

"You know you're a lucky man when you can do what you love and make a living doing it," says **Dr. Robert "Bud" Hertzog**, BS Ag '52, DVM '56.

"I see so many people who have a job but don't like what they're doing," he adds. "I've stayed in the same field all my working life, and I love what I'm doing. There's no routine — no two days are the same. I'm a very lucky man."

Hertzog, 59, has made a lot of his own luck along the way, however. The veterinarian has combined activities as practicing clinician with running farming operations and being actively involved in the political spectrum. A glance at his CV reveals why this busy individual won the prestigious Alumnus of the Year Award, given by the Veterinary Medicine Alumni Association for leadership in the professional area of veterinary medicine and leadership in the community.

The question is, how does he do it all?

"I work with the finest people in the world," exclaims Hertzog, "and they shoulder enough of the load so that I'm freed up to do all these other things." Hertzog owns Lee's Summit Animal Hospital, a general practice in Lee's Summit, Mo. His three associates are all Mizzou grads as well: **Dr. Venton Goodnight**, BS Ag '54, DVM '54; **Dr. David Theiss**, DVM '79; and **Dr. David Doris**.

"What can I say?" Hertzog says, chuckling. "MU graduates good people." He estimates that about 40 or 50 Mizzou students have done their preceptorships at his hospital over the years.

The veterinarian has maintained a high professional profile over the years. Hertzog is past president of the Kansas City Veterinary District Association and the Missouri Veterinary Medical Association, and was voted Veterinarian of the Year by the Missouri Association in 1973.

In addition, Hertzog was clinical veterinarian for the Kansas City Zoo from 1956 to 1982, and has acted as consulting veterinarian for the zoo since 1982.

Hertzog has several farms in western Missouri, and was involved in the dairy business extensively — with about 800 cows — until four years ago. Now the operations are centered on cattle and sheep, with sons Bob and Doug running the show. "My sons do all that," Hertzog says proudly. "I'm active in the management side of things."

Serving his community has always been a high priority for Hertzog, who seems to attract leadership positions like a dog does fleas. He has been bank director from 1970 to the present, served two terms on the University of Missouri Jackson County Extension Council, is a charter member and past president of the Rotary Club, and has served as vice-chairman of the local school board. Hertzog has also been active in the Lee's Summit chamber of commerce.

But one of his biggest challenges, Hertzog says, has been his involvement in local government. Since 1979 he has represented the 6th District in the Jackson County Legislature, acting as what is commonly referred to as county commissioner. Hertzog's district is a populous boom area that includes 12 cities — the veterinarian answers to about 125,000 people and is responsible for a \$100 million annual budget.

Things have never been dull for Hertzog on the home front, either. He and his wife of 38 years, Betty, have five children: Bob and Doug are farmers, Julie works at a local bank, Joe is a student at Northwest Missouri State University, and **David Hertzog**, VM3, is studying veterinary medicine at Mizzou.

"We were thrilled about David going into veterinary medicine," Hertzog says, "He made that decision entirely on his own."

"And I feel good about him attending MU," the proud father continues. "I have nothing but great admiration for the University of Missouri, and I'm grateful for the education I got there. It makes me very happy to think my son is getting that great education, too."

# Pet tag sales benefit college

Thanks to Best Friend Pet Tags of Las Vegas, Nev., practicing veterinarians can effortlessly help their clients and their alma mater at the same time.

For each mail-order tag sold through a veterinary practice, Best Friend Pet Tags donates \$1 to the veterinary school of the practitioner's choice. Tag displays are placed in hospital or clinic lobbies, and the choice of donor school is registered with the company.

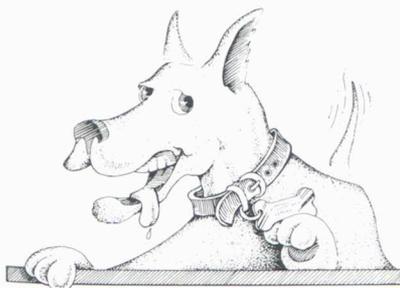
**Dr. M. Joseph Bojrab**, former professor at Mizzou's college of veterinary medicine and now practitioner in Las Vegas, serves as the company's donation program director.

When an order is received by the company, the donation is sent to the school. Clients fill out the forms themselves, eliminating any paperwork for busy practitioners.

A number of Mizzou graduates are participating in this program, and, to date, the college has received more than \$5,500. In all, nearly \$50,000 has been donated to colleges of veterinary medicine nationwide.

MU will continue to benefit, Bojrab says, as more alumni support Best Friends, either by giving space for displays or by buying tags.

For information on joining the program, alumni should write Dr. M.J. Bojrab, 6995 Alamitos Circle, Las Vegas, Nev. 89120.



DENNIS MURPHY ILLUSTRATION

*"... have general education to enable every man to judge for himself what will secure or endanger his freedom."* Thomas Jefferson

## Jefferson Club

Individuals sharing Thomas Jefferson's commitment to quality public higher education make up the College of Veterinary Medicine's Jefferson Club. Its members are dedicated to promoting interest in and support of the University and the College of Veterinary Medicine. The Jefferson Club's newest members include:

**Dr. George D. Bilyea**  
DVM '56  
**Marian Bilyea**  
BS '53  
Overland Park, Kan.

**Dr. Gerald E. Carey**  
BS Ag '66, DVM '68  
**Donna Carey**  
BS Ed '68  
Blue Springs, Mo.

**Dr. Dennis F. Cloud**  
DVM '68  
**Sharon A. Cloud**  
BS Ed '67  
St. Louis

**Dr. Larry T. Gillig**  
BS Ag '65, DVM '68  
Raytown, Mo.

**Dr. Joseph E. Haught**  
MS '60, DVM '64  
**Carolyn Haught**  
Cedar Grove, N.J.

**W. Edwin Hartford**  
**Hazel Hartford**  
Lake St. Louis, Mo.

**Dr. Robert E. "Bud" Hertzog**  
BS Ag '52, DVM '56  
**Betty Hertzog**  
Lee's Summit, Mo.

**Dr. G. Dean Lindsey**  
BS Ag '57, DVM '57  
**Ruth Lindsey**  
BS Ed '57  
Carmel, Ind.

**Dr. M. Andrew Love**  
BS Ag '64, DVM '64  
**Ethel Love**  
BS Ed '60  
Webster Groves, Mo.

**Dr. Norman F. Manning**  
DVM '86  
**Sue Manning**  
Raleigh, N.C.

**Dr. Van B. Ricketts**  
BS Ag '65, DVM '68  
**Norma F. Ricketts**  
BS '64  
Louisiana, Mo.

**Dr. Randall C. Umphlet**  
DVM '74  
**Mrs. Randall C. Umphlet**  
Carlsbad, Calif.

**Dr. Clifford R. VanKopp**  
**Carol VanKopp**  
Bakersfield, Calif.

For more information on how you can join the Jefferson Club and invest in Mizzou's College of Veterinary Medicine, write Michael Tarry, Director of Development, W203 Veterinary Medicine, UMC, Columbia, Mo. 65211, or call (314) 882-3768.

# ALUMNI

## News

### *The Fifties*

**Harry J. Forrest**, BS Ag '49, DVM '54, notes that after 36 years of practice in Clinton, Iowa, he is "still hanging in there day after day and enjoying every minute of it."

**Richard A. Binder**, DVM '56, and his wife, Bettye Jo, of St. Louis, Mo., announce the birth of their second granddaughter, Kirsten Caye, on Dec. 4, 1989.

### *The Sixties*

**Urban L. Kramer**, BS Ag '60, DVM '60, of Cape Girardeau, Mo., retired from practice in August 1989.

**Charles Gary Hoover**, BA '63, DVM '67, has recovered from the kidney transplant surgery he underwent in 1987 and has returned to small-animal practice. Hoover is owner of Clear Creek Animal Hospital in Seabrook, Texas.

**Harold N. Engel**, BS Ag '69, DVM '69, of Albany, Ore., was selected by his students for the Nordon Award for Outstanding Teaching in 1989. Engel, who is associate professor at Oregon State University's College of Veterinary Medicine, earned the Nordon teaching award in 1985 as well. He is president of the

American Association of Veterinary Anatomists.

### *The Seventies*

**Gabrielle L. Hoepfner**, BS Ag '68, DVM '70, of Hartsburg, Mo., is a regular veterinary columnist for the *Saturday Evening Post*. Hoepfner has published a book and many other articles on a freelance basis.

**John M. Koch**, BS Ag '68, DVM '70, of Cape Girardeau, Mo., was sworn in as the 1990 president of the Missouri Veterinary Medical Association (MVMA) Jan. 27 at the 98th MVMA Annual Meeting in Osage Beach, Mo.

**Gary M. Stevens**, DVM '72, of Branson, Mo., was re-elected vice president of the Southwest Missouri Veterinary Association in October 1989.

**Allyn Dietzel**, BS Ag '70, DVM '73, is director of production, broiler operations, at Hudson Foods in Rogers, Ark.

**David K. Peters**, DVM '74, earned a master's degree in aquatic veterinary medicine in 1989 from the University of Florida. Peters is currently employed by the Laboratory Animal Center in Kansas City.

**Michael B. Vaughn**, BS Ag '70, DVM '74, sold his practice in Canton, Mo., to return to Mizzou, where he is pursuing a master's degree in veterinary food animal production. Vaughn is employed by the University as a teaching associate.

**Gary W. Deppermann**, BS Ag '74, DVM '76, and his wife, Peggy, announce the birth of their first child, Nicole Marissa, June 16, 1989.

**Lance Allen**, BS Ag '75, DVM '77, is president of Agri-Risk Services

Inc., which specializes in equine mortality insurance and also offers insurance on exotic animals. Allen also is president of International Livestock Adjusting Co., a livestock loss adjusting firm that handles indemnification cases for insurance companies worldwide.

**John Middleton**, MS '73, DVM '77, is owner of a two-person small-animal practice in Bellevue, Ky.

**Arlen Mills**, DVM '77, of Coshocton, Ohio, sold his clinic and small-animal practice, Pleasant Valley Veterinary Clinic, in 1989. He now is engaged in large animal medicine exclusively, with a primary interest in dairy herd health.

**Glendell Lee Snider**, DVM '77, and his wife, Helen, of Gainesville, Fla., announce the birth of their first grandchild, Joshua Thomas Snider, Jan. 16, 1989. Snider is employed by the USDA as assistant area veterinarian.

**Douglas Baker**, BS Ag '75, DVM '78, and his wife, Rebecca, of Hartville, Mo., announce the birth of a son, Aaron Robert, Oct. 20, 1989. Aaron joins a sister, Laura, and a brother, Jonathan.

**Monica Ann Laffin**, DVM '78, of Cardiff, Calif., and Norman A. Smith were married March 18, 1989.

**Beverly J. Scott**, DVM '78, and her husband, Frank Huppenthal, of Gilbert, Ariz., announce the birth of a son, John Franklin Huppenthal, Sept. 11, 1989. Scott, president of the Arizona Veterinary Medical Association, owns Gilbert Veterinary Clinic, a small-animal practice with two other veterinarians on staff.

**Karen L. Campbell**, BS Ag '77, DVM '79, and her husband, Larry Motsinger, of Urbana, Ill., announce the births of their daughter, Sarah, Nov. 22, 1986, and their son, Jason, Aug. 4, 1989. Campbell is associate professor of small-animal medicine

### *Stay in touch*

Have you changed jobs? Gotten married? Had a baby? Won an award? Help us keep your classmates and colleagues abreast of your news. Take a moment to fill in and mail the Class Note postcard inserted in this issue. Your friends will appreciate it.

and dermatology at the University of Illinois. She was board certified by the ACVIM in 1983 and by the ACVD in 1989.

## *The Eighties*

**Ken H. Shaddox**, DVM '80, announces the birth of a son, Sage Hunter, Jan. 22, 1990. Shaddox, who owns Chestnut Small Animal Clinic in Conway, Ark., in 1989 opened Greenbrier Animal Clinic in Greenbrier, Ark.

**Margaret J. Dillender**, MS '82, DVM '81, completed a PhD in microbiology/immunology at the University of Iowa in 1989, and took a postdoctoral position with the USDA in Beltsville, Md., in December 1989.

**Mark T. Higgins**, BS Ag '77, DVM '81, and his wife, **Betty Bassett Higgins**, BS Ag '77, DVM, of Tulsa, Okla., announce the birth of a son, Brian Theodore, Sept. 14, 1989.

**Michael Lairmore**, DVM '81, is chief of the clinical biology section's retrovirus diseases branch at the Centers for Disease Control in Atlanta. Lairmore is a diplomate of the American College of Veterinary Pathology.

**Bill Stehnach Jr.**, DVM '81, joined Veticare Animal Hospital of St. Charles in St. Charles, Mo., in October 1989.

**Jane F. Brawley**, DVM '82, in 1989 opened Picture Hills Pet Hospital, a small-animal practice in Kansas City.

**Mike C. Muhlbauer**, DVM '83, received an AAEP research scholarship to pursue a master's degree project related to evaluating equine skeletal disease in December 1989. Muhlbauer accepted a

radiology/nuclear medicine residency at the University of Illinois. Previously, he practiced for five years at a companion animal hospital in St. Louis.

**R. Dustan Sarazan**, DVM '83, PhD '90, finished his doctoral program in cardiovascular physiology in May and has accepted a position as a research scientist and cardiovascular toxicologist with Lilly Research Laboratories in Greenfield, Ind.

**Michael C. Waid**, DVM '83, started a mixed practice, Cedarwood Animal Hospital, in Yankton, S.D., in July 1989.

**Lynn Allen Hawley**, DVM '84, and her husband, Steve, announce the birth of their first child, Christopher Andersen, Dec. 25, 1989.

**Michael J. Joyner**, DVM '84, of Killeen, Texas, announces the birth of a daughter, Julia Marie Joyner, May 1, 1990.

**Jean A. Wright**, BS BA '73, DVM '84, announces the birth of a daughter, Lindsey Lovell Wright, Jan. 28, 1990. Wright is an associate at Horton Animal Hospital-Northeast in Columbia.

**Benn W. Doyle**, BS Ag '80, DVM

'85, and Ann Krakora were married Nov. 4, 1989. Doyle is an associate with Summit Dog and Cat Hospital in Summit, N.J.

**Connie Frances Heaton-Heistand**, DVM '85, and her husband, Harry Heistand, of Ramsey, Ill., announce the birth of a son, Brandon Tyler, Sept. 20, 1989. In 1989 Heaton-Heistand opened her own clinic, Heaton-Heistand Veterinary Hospital, in Vandalia, Ill.

**Andrea Marie Morgan**, BS Ag '82, DVM '85, joined the import-export animals staff with the USDA in Hyattsville, Md., in September 1989. She is employed as an export veterinarian, and negotiates import health requirements with foreign countries for the exportation of U.S. livestock, semen and embryos.

**Axel Volker Wolff**, DVM '85, is chief veterinarian for the Ungulate Unit at the NIH Animal Center in Poolesville, Md.

**John K. Barnstorff**, BS Ag '84, DVM '88, and his wife, Lori, announce the birth of a daughter, Elizabeth Anne, June 8, 1989. Barnstorff is employed by the Green Bay (Wis.) Animal Hospital.

### **Join the Alumni Association**

Be an active member of the Mizzou Alumni Association. Your \$25 annual dues make you a member of the College of Veterinary Medicine Alumni Association, plus you will receive other benefits. Part of your membership dollars will support Mizzou's Homecoming, student recruitment, reunions, spirit squad and seminar weekends.

Send your payment to the Alumni Association, 132 Alumni Center, Columbia, Mo. 65211.

# Party animals



IAN SIGHTS PHOTO

*Which way to the punch bowl? College mascots Hilda and Louise were unfazed by the hoopla surrounding the March 31 groundbreaking ceremony for the \$19.5 million teaching hospital. Dean Kahrs was first in line among officials holding the reins as the mules snagged the sod with a ground scraper.*



## Veterinary Medical Review

College of Veterinary Medicine  
and Cooperative Extension Service

W203 Veterinary Medicine Building  
College of Veterinary Medicine  
University of Missouri-Columbia  
Columbia, MO 65211

Address Correction Requested



Supported in part by the Extension Division  
University of Missouri is an equal opportunity institution

NON-PROFIT ORG.  
U.S. POSTAGE  
**PAID**  
COLUMBIA, MO.  
PERMIT NO. 31

**What's new  
with you?**

**What's new  
with you?**

PULL OUT  
AND  
SAVE

VETERINARY MEDICINE

# TELEPHONE LIST

## Diagnostic Laboratory

- Dr. Stan W. Casteel, assistant professor ..... 882-5995  
*Toxicology*
- Dr. William F. Fales, professor ..... 882-5981  
*Bacteriology*
- Dr. John R. Fischer, resident ..... 882-2204  
*Pathology*
- Dr. Harvey S. Gosser, professor and director ..... 882-5975
- Dr. Gayle C. Johnson, assistant professor ..... 882-5980  
*Pathology*
- Dr. Joe D. Kendall, resident ..... 882-2212  
*Toxicology*
- Dr. John M. Kreeger, assistant professor ..... 882-4190  
*Pathology*
- Dr. Carol W. Maddox, assistant professor ..... 882-6242  
*Bacteriology*
- Dr. Emmett L. McCune, professor ..... 882-5976  
*Avian diseases*
- Dr. Margaret A. Miller, associate professor ..... 882-5982  
*Pathology*
- Dr. Lanny W. Pace, assistant professor ..... 882-6814  
*Pathology*
- Audrey Rottinghaus, research specialist ..... 882-4139  
*Virology*
- Dr. Robert F. Solorzano, professor ..... 882-5987  
*Serology, virology*
- Dr. Susan Turnquist-Kreeger, resident ..... 882-4139  
*Pathology*
- Dr. James R. Turk, associate professor ..... 882-5977  
*Pathology*

## Equine Center

- Dr. Eleanor M. Green, associate professor ..... 449-3121  
*Equine medicine*
- Dr. Nat T. Messer, clinical associate professor  
and director ..... 449-3121  
*Equine medicine*
- Dr. Craig L. Sweeney, assistant professor ..... 449-3121  
*Equine surgery*
- Dr. David A. Wilson, assistant professor ..... 449-3121  
*Equine surgery*

## Food Animal Medicine and Surgery

- Dr. Ross Cowart, assistant professor ..... 882-4342  
*Swine medicine, herd health*
- Dr. Robert B. Miller, associate professor ..... 882-6433  
*Infectious diseases, beef cow-calf, herd health*

- Dr. Laurie L. Mills, assistant professor ..... 882-6886  
*Food animal medicine and surgery*
- Dr. A. David Weaver, professor ..... 882-6877  
*Surgery, bovine lameness*
- Dr. William A. Wolff, clinical associate professor .... 882-3229  
*Food animal medicine and surgery, sheep and dairy  
cattle diseases*
- Dr. Terry L. Morris, resident ..... 882-6857  
*Food animal medicine and surgery*

## Medical Services

### Anesthesiology:

- Dr. Frankee Eliot, clinical associate professor ..... 882-3039  
*Anesthesiology*
- Dr. Marjorie E. Gross, assistant professor ..... 882-7445  
*Anesthesiology*
- Dr. Julie Smith, instructor ..... 882-7821  
*Anesthesiology*

### Radiology:

- Dr. Everett Aronson, associate professor ..... 882-2666  
*Radiology*
- Dr. Louis A. Corwin Jr., professor ..... 882-3521  
*Radiology, radiation therapy, nuclear medicine*
- Dr. Jimmy Lattimer, associate professor ..... 882-7679  
*Radiology, radiation therapy, ultrasonography,  
nuclear medicine*
- Dr. Diane Stuckey, resident ..... 882-7821  
*Radiology*

## Small Animal Medicine

- Dr. C. B. Chastain, professor ..... 882-6810  
*Dermatology, endocrinology, infectious diseases*
- Dr. Allen W. Hahn, professor ..... 882-6543  
*Cardiology*
- Dr. Brent D. Jones, associate professor ..... 882-7821  
*Gastroenterology, respiratory medicine, endoscopy*
- Dr. Dudley McCaw, associate professor ..... 882-2846  
*Cardiology, oncology*
- Dr. Margaret R. Kern, resident ..... 882-7821  
*Small animal medicine*
- Dr. Douglas R. Santen, resident ..... 882-7821  
*Small animal medicine*

### Neurology:

- Dr. Dennis O'Brien, assistant professor ..... 882-2434  
*Neurology*

Dr. Robert A. Kroll, resident ..... 882-7821  
*Neurology*

**Ophthalmology:**

Dr. Linda Collier, associate professor ..... 882-6728  
*Ophthalmology*

Dr. B. Keith Collins, assistant professor ..... 882-3950  
*Ophthalmology*

Dr. Cecil P. Moore, associate professor ..... 882-6849  
*Ophthalmology*

Dr. Lana L. Linton, resident ..... 882-7821  
*Ophthalmology*

**Small Animal Surgery**

Dr. Fred Anthony Mann, assistant professor ..... 882-4985  
*General surgery*

Dr. John T. Payne, assistant professor ..... 882-6471  
*General surgery*

Dr. Eric Pope, assistant professor ..... 882-8257  
*General surgery/reconstructive, G.I.*

Dr. James Tomlinson, associate professor ..... 882-7020  
*Orthopedic surgery*

Dr. Mark Anderson, resident ..... 882-7821  
*Small animal surgery*

Dr. Janet L. Rettenmaier, resident ..... 882-7821  
*Small animal surgery*

Dr. Mark C. Roachat, resident ..... 882-7821  
*Small animal surgery*

**Theriogenology**

Dr. Clarence J. Bierschwal, professor emeritus ..... 882-6859  
*Theriogenology*

Dr. William F. Braun, associate professor ..... 882-2032  
*Theriogenology, small ruminant medicine*

Dr. V. K. Ganjam, professor ..... 882-7830  
*Endocrinology*

Dr. Cliff N. Murphy, assistant professor ..... 882-7373  
*Bovine and equine embryo transfer,  
cryopreservation of embryos*

Dr. Robert S. Youngquist, professor ..... 882-2628  
*Theriogenology*

Dr. Jeanette Floss, resident ..... 882-6857  
*Theriogenology*

Dr. Hernando Plata-Madrid, resident ..... 882-7821  
*Theriogenology*

Dr. Manoel Tamassia, resident ..... 882-6857  
*Theriogenology*

## HOW TO REFER A PATIENT

Practitioners may need to refer difficult cases to the Veterinary Teaching Hospital. The hospital can provide second opinions, expertise in performing difficult surgeries and special equipment not available in a practitioner's clinic. The hospital also can provide care for animals unresponsive to previous treatment or help make a definitive diagnosis.

Referrals not only help practitioners solve problems, but they also provide valuable experience for students, interns, residents and faculty.

When a case is referred, the clinician involved should be notified of the referring veterinarian's perception of the problem, treatment and course of disease.

It is optimum for the referring DVM to call a clinician to discuss the case and its probable arrival time; an estimate of costs incurred can also be determined then. Such an estimate is especially important if the client questions what charges will be. Under no circumstances should an estimated fee be quoted to the client without prior consultation with a clinician.

Regardless, a patient referral form (see next page) should be forwarded with the client. A map is provided

on the back to help the client find the Teaching Hospital. Using the case history section of the referral form, the practitioner should indicate duration, symptoms, test results, treatment and diet — suggestions and comments are also welcome.

The referral form becomes part of the patient's medical record. Relating information via phone is helpful, but it does not become part of the medical record unless the clinician at the Teaching Hospital makes notes and transcribes them later. This shifts responsibility from the referring DVM to the clinician prematurely.

When referring cases, the practitioner should not tell the client what type diagnostic or therapeutic regimen the Teaching Hospital clinician will provide. The clinician may arrive at a different diagnosis or recommend another mode of treatment.

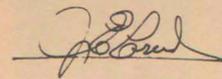
Once a referred case has been accepted, the responsibility has shifted from the referring DVM to the Teaching Hospital clinician. A postcard will be mailed within 24 hours of admission, indicating the clinician in charge of the case. Referred cases often are cared for by interns or residents, as such cases represent the mainstay of their training program. Nevertheless, a

third-year resident or clinician is responsible for each referral.

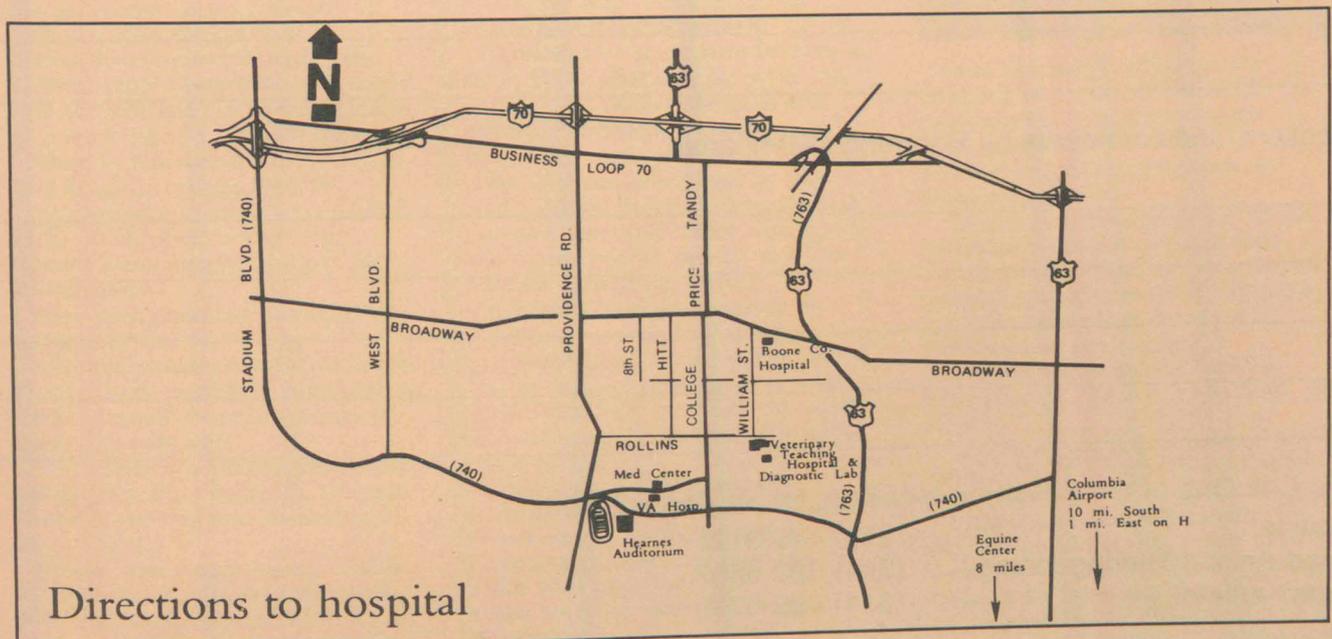
Typically, the referring DVM will be called by the clinician at least once during the patient's hospitalization, and the client is usually called daily by the student. At dismissal, a copy of the discharge summary, prepared by the student and reviewed by the clinician, will be forwarded to the veterinarian. A hospital goal is to also forward a letter and two patient referral forms for subsequent use within three working days. If the patient should die and subsequently be necropsied, the response time may be delayed.

If any problems arise with any aspect of a case, please contact the senior clinician or department chairman, if the clinician's name is not available.

The Teaching Hospital exists to teach students, interns and residents, and to serve the public and referring veterinarians. We appreciate every opportunity to join the referring DVM in providing optimum diagnostic and therapeutic care.



DR. J. E. CREED  
Professor and Chairman,  
Veterinary Medicine and Surgery





Please help the magazine staff keep your friends informed. Send us a Class Note. Fill in this coupon and drop it in the mail. **Alumni want news about other alumni.**

# What's new with you?

TEAR OUT AND MAIL

Name \_\_\_\_\_

Address \_\_\_\_\_

Date of Birth \_\_\_\_\_ Degrees and dates \_\_\_\_\_

Day Phone \_\_\_\_\_ Evening Phone \_\_\_\_\_

Check those that apply:

New job                       Award                       Achievement                       Promotion

Wedding                       Birth                       Transfer                       Book

Prizes                       Honorary                       Retirement                       Other

Details \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

PLACE  
STAMP  
HERE

**VMR Editor  
Marinell Landa  
1208 St. Christopher  
Columbia, MO 65203**