

CEH HORSEREPORT

A publication of the Center for Equine Health, UC Davis School of Veterinary Medicine

The Long Road to Animal Rescue

We live in a world periodically visited by floods, fires, earthquakes, and other natural disasters. During such times, communities have always been responsive to the welfare of their citizens, but historically their animals, equally in peril in these situations, have been left to fend for themselves. Members of the veterinary community at UC Davis, and in particular Dr. John Madigan, have witnessed these disasters locally and found the situation unacceptable. During one Northern California flood, he found that many people wanted to rescue the stranded animals but were prevented by government officials from entering the disaster areas. As Dr. Madigan expressed it, "The experience of being denied access to a flood zone, seeing the plight of the animals left behind, and treating and caring for the animal victims too long after the fact was a wake-up call to me as a veterinarian and a horse owner." The resulting anger and frustration experienced by him and others in the UC Davis community marked the beginning of the road that has led to a significant improvement in animal welfare and, ultimately, our own concept of the humanitarian spirit.

Animal rescue and disaster medicine is a relative newcomer to the realm of veterinary

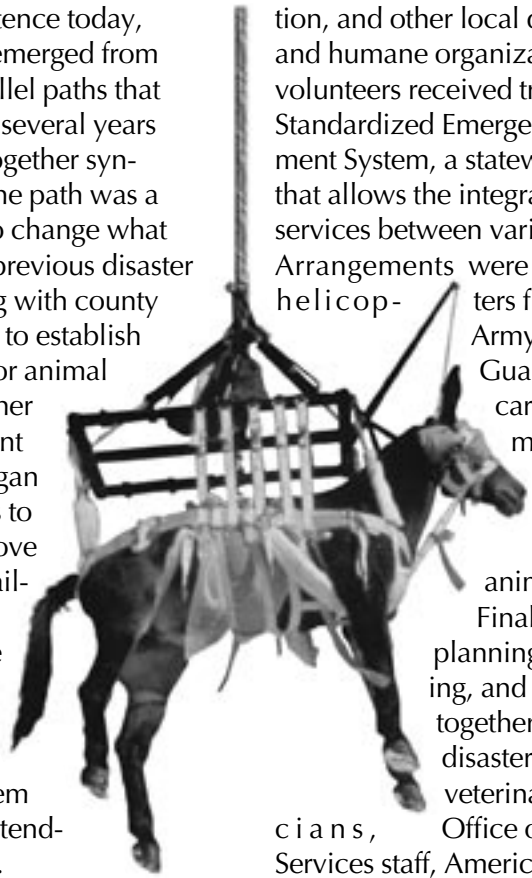
medicine. Its existence today, interestingly, has emerged from divergent but parallel paths that over the course of several years ultimately came together synergistically. On one path was a systematic effort to change what had been seen in previous disaster situations, working with county and state agencies to establish formal protocols for animal rescue. On the other was an independent effort by Dr. Madigan and his colleagues to develop and improve the equipment available for working with horses whose veterinary treatment required a sling that could lift and support them comfortably for extended periods of time.

The Planning Path

One of the first organized efforts undertaken by Dr. Madigan was to assemble an animal rescue team, called the UCD-Veterinary Emergency Response Team (UCD-VERT), comprised of faculty, staff and students from the UC Davis School of Veterinary Medicine. These volunteers were trained not only in animal rescue techniques, but also in how to work in conjunction with such agencies as the Office of Emergency Services, the American Red Cross, the California Veterinary Medical Associa-

tion, and other local disaster relief and humane organizations. The volunteers received training in the Standardized Emergency Management System, a statewide system that allows the integration of rescue services between various groups. Arrangements were made for helicopters from the U.S. Army Air National Guard and private carriers to be made available for veterinary disasters and emergency animal rescues. Finally, all this planning, negotiating, and training came together in a mock disaster drill, where veterinarians, technicians, Office of Emergency Services staff, American Red Cross personnel, and 50 veterinary stu-

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DIRECTOR'S MESSAGE

Going Beyond Familial Stewardship



Dr. Gregory L. Ferraro

In our last issue of *The Horse Report*, we spoke of the individual's responsibility for the care and husbandry of the horses they own and of the Center for Equine Health's role in that process. While this is undoubtedly of primary concern to most horse enthusiasts, there exists beyond this "familial stewardship" a responsibility for the welfare of the horse community as a whole. Much as cities, states, and nations have long taken steps to ensure that their human citizens will be protected from harm during natural disasters or in periods of social disorder, the greater community of animal caretakers is now beginning to realize that they must also engage in such planning to ensure the welfare of all creatures during those periods. In the past, countless animals of all varieties have largely been overlooked and have suffered because of our unpreparedness in extending disaster relief and protective services to them.

Many people within the animal community have now concluded that this is no longer acceptable. The common decency of looking out for the welfare of your neighbor's animals, as well as your own, is a concept well rooted in the American rural tradition. In our most recent times, there has emerged a groundswell of support for the development

of effective animal rescue techniques and officially organized veterinary disaster preparedness. The Center for Equine Health (CEH) and the UC Davis School of Veterinary Medicine is playing an integral role in those endeavors. Combined with many concerned supporters, most notably the McBeth and Glide Foundations, they have developed new equipment and innovative techniques for animal rescue and medicinal care. A UC Davis volunteer veterinary rescue team has been actively engaged in disaster response, and a CEH Animal Rescue and Disaster Medicine Endowment

New and innovative rescue equipment and techniques are described, as are programs for the training of rescue personnel. You will be informed of the need for more research in this area and be challenged to participate. An invitation to attend a symposium on animal rescue and disaster medicine is included. For those concerned about their ability to properly respond to potential threats we include a list of practical tips and advice for preparing your horses should disaster strike.

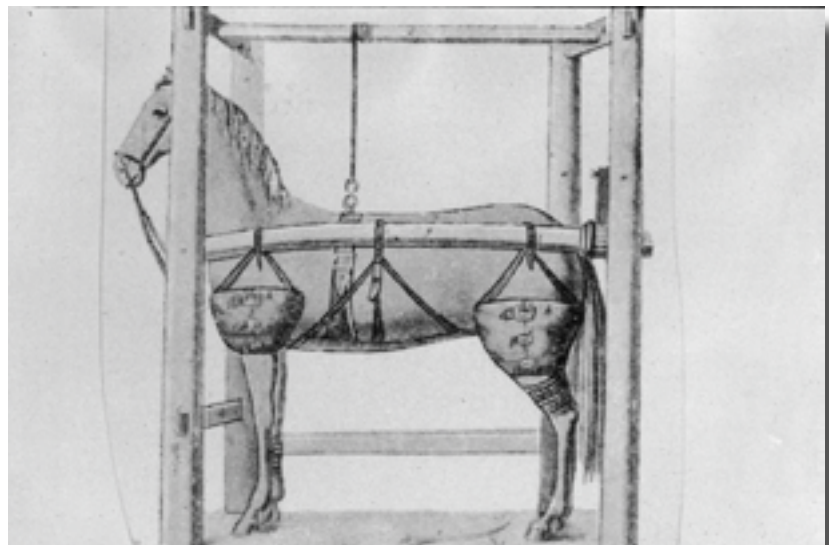
We hope all of these stories and articles will serve to enlighten you regarding this emerging new field

Mankind's true moral test, its fundamental test (which lies deeply buried from view), consists of its attitude toward those who are at its mercy, animals. — Milan Kundera, 1929

has been created to support and promote the development of improved animal disaster relief methods.

What follows in this issue of *The Horse Report* are stories related to our progress in this emerging new field and of the people who have made those advancements possible. You will read of the hard work and dedication of Dr. John Madigan and his colleagues, who are blazing new trails in the field of animal rescue.

of veterinary medical care. Once informed, we hope you will be compelled to act—that you, too, will become an advocate for the responsible treatment of animal disaster victims. Each of us within our local communities must raise the consciousness of our friends and neighbors if the situation is to improve. For in the end, our humanity as a people will be defined by the stewardship we have provided to all living creatures. ✱



Animal Rescue

Continued from page 1



Dr. John Madigan

dents practiced realistic scenarios that might be encountered in a disaster situation, including a marooned herd of cattle, a stranded horse, and two abandoned dogs.

In addition to the UCD-VERT, a state government program called the California Animal Response Emergency System (CARES), administered by the California Department of Food and Agriculture, was created to work with the Office of Emergency Services in coordinating responses to animal welfare requests. Among the participants involved in CARES are representatives from the California Department of Fish and Game, California Department of Health Services, University of California at Davis, California State Horse Racing Board, California Veterinary Medical Association, and The Humane Society of the United States, to name a few. Although the program's primary function is as a coordinator to assist in providing animals with emergency medical care, evacuation, rescue, and temporary confinement, they also conduct outreach to encourage and support counties statewide in developing an animal emergency plan. For their outreach program, they provide a template that details an animal emergency

plan to serve as a model for communities to develop their own plan. As of 2002, only 26% of California counties had such a program in place. More information on CARES can be obtained from their Web site (http://www.cdffa.ca.gov/ahfss/ah/disaster_preparedness.htm).

The Technological Path

Long before his experiences in the Northern California flood, Dr. Madigan had begun discussing the development of a sling that could be used to raise and hold a recumbent or partially paralyzed horse for veterinary treatment. The old rope slings that had been employed in years past did not work well in the context of modern veterinary care and were clearly uncomfortable for the horse. Dr. Madigan's friend and colleague, Charles Anderson, was a biomechanically minded welder who had founded the organization Care for Disabled Animals. Together they began working on a better support system for raising a horse. Before long, they had a third collaborator—Alice King Chatham, who had a company that produced supports for the space shuttle and harnesses for Hollywood. Mrs. Chatham was emphatic that the sling needed to support the skeletal system and that it needed to be comfortable. Although she passed away before the sling was fully developed, Charles Anderson continued to work at it.

By 1991, he had a prototype and the Anderson Sling was born. The new sling not only supported the skeletal system but distributed the horse's weight evenly and had a head support and restraint system to steady the horse. Considerable padding and leg supports would keep the sling in place, making it comfortable and secure. This sling worked exceptionally well and provided a safe and secure harness that allowed horses to be moved while confined.

John Madigan soon began to visualize other possibilities for its use.

The Two Roads Merge

No sooner was a prototype perfected than the School of Veterinary Medicine Dean's Office received an urgent call for the rescue of five mules and a horse stranded high up in the Sierras. Dr. Madigan quickly assembled the rescue team and prepared to employ his new Anderson Sling in a totally unconventional way. It was a good situation in which to test this unique new airlift-sling evacuation method because the animals were not injured, the overhead access was clear, and the weather conditions were mild. At the end of the day, the animals were successfully airlifted four miles to solid ground. It was a bold new breakthrough in animal rescue! Since then, the Anderson Sling has been used in numerous rescue operations, not only in California, but throughout the country.

A new revelation came to light when this rescue method was again successfully employed, this time considerably farther away in the state of North Carolina. The UCD-VERT had gone there to provide assistance in overcoming an excep-

— Continued on page 4



Dr. Madigan with his rescue team in North Carolina.

Animal Rescue

Continued from page 3

tionally difficult situation during the aftermath of Hurricane Floyd. Aside from fulfilling the responsibility for animal stewardship, this particular rescue operation revealed an unintended consequence of the volunteer effort: that of creating an overwhelming spirit of goodwill among a community of people struggling to cope with disaster. Dr. Madigan poignantly described the essence of this newfound reward:

"The role that animals play in the lives of humans is very important, and what we found is that when we're rescuing a horse, an entire community becomes aware that someone has come in to help them, and that they care enough about them and their animals, which are a big part of their lives, to get them through this disaster. We found that the uplifting of people's spirit and the outpouring of emotion and resulting appreciation for these efforts was very important, not only to us but to the ability of the community to overcome their own suffering."

The Everyday Need Emerges

While the situations described

above call for extreme measures to accomplish a rescue, it quickly became apparent to animal rescue innovators that there were also many instances that arise in the course of ordinary life in which a horse may need to be helped out of a jam. These situations may be less dramatic, involve the singular animal, and pose less risk to the rescue volunteer, but they are no less important to the welfare of the animal in need. Horses can fall into ravines, ditches, and water, get stuck in mud, be trapped in an overturned trailer, or even be-

ence in equine and bovine rescue, the UC Davis-Veterinary Emergency Response Team began to see the need for the development of a device that could be used to extract large animals from entrapping situations. While horses occasionally require helicopter transport with the Anderson Sling from mountain trails or floodwaters, more often the scenario involves an animal that has fallen into an old well or abandoned swimming pool. These animals need to be lifted or moved only a few feet to safety rather than several

"We found that . . . the resulting appreciation for these [rescue] efforts was very important, not only to us but to the ability of the community to overcome their own suffering."

come injured on show grounds, on a riding trail, or in a field.

The following pieces of equipment have been specifically designed for use in less extreme forms of horse or other large animal rescue and are available through various manufacturers.

UC Davis Large Animal Extractor

After several years of experi-

miles. Additionally, veterinarians are frequently presented with the recumbent animal that is unable to rise and stand.

In response to this obvious need, UC Davis researchers and their collaborators have recently developed the prototype of a new lifting system for large animals of any species. The new mechanism consists of three simple parts: a counter-balance bar and two easily applied sling components. The device is designed so that it can be easily used by anyone, even someone without animal expertise. It can effectively and safely lift or move horses, cows, or other larger animals short distances if any three of the animal's four limbs can be accessed. The device is applied to recumbent animals and, when combined with such construction equipment as backhoes, forklifts, or A-frame winch-driven cranes, can easily lift these animals to the standing position.

The UC Davis Large Animal Extractor is expected to find a receptive audience among animal control



A horse about to be rescued.



Above photo: Fitting a horse with the Large Animal Extractor. Note the counterbalance bar and two sling components.



Above and below photos: When combined with construction equipment such as backhoes, forklifts, or A-frame winch-driven cranes, the extractor can easily lift these animals to the standing position.



officials and fire and rescue units everywhere. The equipment package should be ready for sale and marketing later this year. Check the CEH Web site for future notification of the UC Davis Large Animal Extractor's official release date and marketing information.

Rescue Glide

The Rescue Glide is a lightweight, durable, and portable sled that can be used to move recumbent horses or other large animals short distances. The sled is made of specially compounded plastic that reduces friction, allowing heavy

animals to be glided over all types of surfaces. A battery-operated winch is available which, when combined with the Rescue Glide, provides an efficient system for moving animals out of stalls or pens and into vans or trailers quickly and efficiently. Sturdy nylon straps and ratchet fasteners keep animals secure and immobile during transport. The Rescue Glide is currently available from CDA Products, Potter Valley, CA (telephone 707/743-1300).

Kimzey Splint

The Kimzey Splint is a lightweight aluminum splint for the lower

legs of horses that can be applied quickly and easily. The splint provides protection and immobility to horses with injuries that cause fetlock and pastern instability. It is designed specifically for emergency, short-term leg immobilization and is commonly used by racetrack veterinarians worldwide. The device has application, however, for use at any equine sporting event where acute injuries of the lower leg are a possibility. For further information on the Kimzey Splint contact Kimzey Welding Works, Woodland, California (telephone 530/662-9331). ❄

HELPFUL TIPS

Will Your Horses Survive a Fire, Flood or Earthquake?

1. **Develop a disaster plan.** Where would you take your horses if an evacuation is necessary? Plan for an alternate exit on foot with your horses if trailer access is blocked. Discuss the plan with everyone in your family, on the farm, or at the stables so that everyone knows what to do.
2. **Post the telephone numbers** of your local animal control services and the county Office of Emergency Services.
3. For evacuation, **keep halters and ropes near the horses so they can be easily retrieved.** Make sure halters are marked/engraved with your telephone number so the horse can be returned if it is lost or separated from you in a disaster.
4. **Have identification tags for all animals.** Consider microchipping for identification; it is easy to do and not expensive.
5. **Take photographs of your horses and prepare written descriptions of each of them.** Put these in a safe place such as a bank safe deposit box so that you can provide identification information to animal control personnel if your horses become lost or separate from you in a disaster.
6. **Keep trailers and vans well-maintained,** full of gas, and ready to move at all times. Be sure your animals will load (see 7 below).
7. **Teach your horses how to get into and out of a trailer.** Spend time loading and unloading them so they are familiar with it.
8. **Have enough feed and water in containers** for 72 hours to take in an evacuation.
9. **If you are evacuated, place an identification tag on the horse itself** with the horse's name, your name, address, and phone number. Cattle ear tags can be secured around the horse's neck and the information written with an indelible ink pen, or write the information on a piece of duct tape and place it on the halter. If all else fails, use a can of spray paint to paint a phone number directly on the side of the horse.
10. **Meet your neighbors.** In a disaster, you will all need to help each other.
11. **Volunteer your services** with the local rescue organizations and shelters.
12. In past disasters, it was noted that many of the horses at the shelters were also suffering from neglect (little or no hoof care, malnutrition) or had chronic, untreated conditions that had no relation to the disaster (laminitis, abscessed teeth, recurrent uveitis). **Every horse deserves routine veterinary and farrier care.**
13. Have a **Disaster Preparedness Kit** on hand, containing:

Portable radio with extra batteries
Cell phone with chargers
Flashlights
Portable generators

Water buckets
Stored feeds
Non-nylon leads, halters, shanks
Leg wraps
Horse blanket or sheet
Hoof pick

Tarps
Shovel
Sharp knife
Wire cutters
Water hose
Soap

Masterful Advocate



Once upon a time there was a handsome Thoroughbred horse named Masterful Advocate. Born in Kentucky in 1984, he embarked on a successful career as a racehorse under the tutelage of a seasoned trainer by the name of Joe Manzi. Joe's stable veterinarian and long-time friend was one Greg Ferraro. Joe and Greg had been working together for years and had combined their efforts to produce several stakes winning horses. Dr. Ferraro attended Masterful Advocate throughout his career and had been quite fond of him; both for his athletic prowess and because of his noble personality.

By 1989, Masterful had won the Grade 2, San Rafael Stakes; the Grade 3, El Camino Real Derby and the Grade 2, Los Feliz Stakes. All told, he had won seven stakes races and earned \$720,000. But alas, all good things must come to an end, and so it was with Masterful's racing days. While he had a very good racing career, his total earnings did not qualify him to become a commercially viable sire within the racing industry. His good looks, however, when combined with his gentle demeanor made him a very desirable sire for pleasure horses. Consequently, his owner, Mr. David Leveton, generously donated him to

the Center for Equine Health.

Fast-forward to 1997. The UC Davis, School of Veterinary Medicine hires a new Director for its Center for Equine Health, none other than one Gregory L. Ferraro. It was old acquaintances reunited, bonds of friendship re-established, and old memories relived. "In the beginning we were young warriors," says Dr. Ferraro, "now we're aging chiefs, looking after each other."

As of 2004, Masterful begins his thirteenth year in the Center's Stallion Barn, producing numerous handsome and good-natured offspring. In our view he is still a Stakes Winner!

The
Center for Equine Health
at UC Davis presents

Equine Emergency and Disaster Response Symposium



**Saturday, April 24, 2004
9:00 am to 4:30 pm
180 Medical Sciences Complex
University of California, Davis**

with presentations by:

**Dr. Gregory Ferraro
Dr. John Madigan
Dr. Larry Galuppo
VMTH Rescue Team
Felton Fire Department
Alta Loma Riding Club
Yolo County Office of
Emergency Services**

Equine Emergency and Disaster Response Symposium

Saturday, April 24, 2004

**with emphasis on
How to Get Your Horse Out of a Jam**

The symposium will consist of three hours of lecture in the morning on rescue techniques and the care and management of critical injuries. Lunch will be provided mid-day, followed by live demonstrations in the afternoon on how to get a "down horse" out of a stall using a sled and slings, extracting a horse from a trailer in an accident, and medical management of an injured horse, including splinting.

The demonstrations will offer a unique opportunity to simulate an actual emergency situation using a newly developed horse mannequin ("Lucky") recently provided to the School of Veterinary Medicine by the Glide Foundation. "Lucky" has articulating limbs, realistic training weight, and a height of 15 hands. It is capable of accepting standard horse harnesses, tack, slides, and gear, thereby avoiding the need for using the live horse. The mannequin was specifically designed for training of emergency search and rescue personnel.

To pre-register, please call the Center for Equine Health at (530)752-6433 or e-mail Laurie Christison at ljchristison@ucdavis.edu. Registration fee is \$65.00 prior to April 15, and \$75.00 thereafter, and includes a box lunch. Fees can be paid by credit card or check made payable to "UC Regents." If paying by check, please send registration information and fees to:

**Center for Equine Health
Attention: Laurie Christison
University of California
One Shields Avenue
Davis, CA 95616**

For more information contact the Center for Equine Health at (530)752-6433 or visit our Web site (www.vetmed.ucdavis.edu/ceh). A registration form for this symposium is available from the Web site.

The Center for Equine Health's animal rescue activities and this symposium are supported in part by The McBeth Foundation.

AGENDA
Equine Emergency and Disaster Response Symposium
Saturday, April 24, 2004
9:30 am to 4:30 pm

9:00 am	Welcome and Introductions	Dr Gregory L. Ferraro
9:15 am	Road Accidents & Trailer Rescue	Felton Fire Department
9:45 am	Equine Rescue & Emergency Medical Procedures	Dr. John Madigan
10:30 am	Break	
10:45 am	Organizing a Community Rescue System	Alta Loma Riding Club
11:05 am	Equine Splinting & Bandaging Techniques	Dr. Larry Galuppo
11:25 am	Care of the "Down Horse"	Dr. John Madigan
11:45 am	National Disaster Planning	Dr. John Madigan
12:05 pm	Statutory Requirements & Regulatory Organization for Yolo County	Office of Animal Disaster Response Emergency Services
12:30 pm	Lunch	
1:30 pm	Trailer Rescue Demonstration	Felton Fire Department
2:15 pm	Moving the "Down Horse"	VMTH Rescue Team
3:00 pm	UC Davis Large Animal Extractor Demonstration	VMTH Rescue Team
4:00 pm	Helicopter Rescue Demonstration	VMTH Rescue Team
4:30 pm	Adjourn	



2004 Peray Award Winner



Dr. Peter Heidmann

The Center for Equine Health is pleased to announce that the winner of the 2004 Peray Memorial Endowment Award goes to Dr. Peter Heidmann for his research project entitled, "Hyperactive Airway Syndrome in the Foal." Dr. Heidmann's investigation will define and characterize a newly recognized "asthma-like" disease in foals. Foals affected with this condition often require long-term, intensive therapy, including systemic and inhaled antibiotics, bronchodilators, and corticosteroids. These animals may experience poor growth rates and an increased

risk for developmental bone diseases as well. Since this syndrome can initially be confused with other types of respiratory distress, Dr. Heidmann hopes to outline definitive diagnostic markers that can assist veterinarians and foal managers in the early recognition of the condition. Recognition of risk factors for "Hyperactive Airway Syndrome" will, hopefully, also identify changes in farm management techniques that could limit or prevent the development of the disease. Congratulations to Dr. Heidmann on his award and best wishes for success with this important research endeavor!

The McBeth Foundation Issues a Challenge!

For the past several years, the McBeth Foundation of Laguna Beach, California, has provided generous financial support to the Animal Rescue and Disaster Medicine Endowment here at the Center for Equine Health. This endowment provides continued long-term funding for disaster response and animal rescue activities, as well as for the development of new animal rescue equipment and techniques. Funding from this endowment is also available for research to improve the veterinary medical care and management of animals involved with disasters of all types.

The McBeth Foundation recently informed us that, in addi-

tion to their 2003 contribution, they want to do something to encourage others to follow their example. Consequently, they are issuing a challenge to all other animal lovers in which the McBeth Foundation will match every new dollar contributed to the Animal Rescue and Disaster Medicine Endowment up to a limit of \$15,000.

That's right! The McBeth Foundation will double your donation! Your gift of \$25, \$50, \$100 or more will be matched dollar for dollar. Think about it: your gift will generate two times more assistance for animals affected by forest fires, earthquakes, and floods. Your contribution will bring twice the

benefit to the animals that are so often overlooked during emergency situations and disasters.

Of course, the Center for Equine Health wants to take full advantage of the McBeth Foundation's generosity. This means that every gift, regardless of size, is very important. Please take this opportunity to respond to the McBeth Foundation's challenge by sending your tax-deductible donations to:

**Animal Rescue and Disaster
Medicine Endowment
Center for Equine Health
University of California
One Shields Avenue
Davis, CA 95616**

Congratulations to New Faculty Member, Dr. Nicola Pusterla

Congratulations are in order to Dr. Nicola Pusterla, who was recently appointed Assistant Professor of Equine Internal Medicine at UC Davis after completing his postdoctoral work, residency, and fellowship at the Veterinary Medical Teaching Hospital. Dr. Pusterla hails from Switzerland, where he attended the University of Zurich School of Veterinary Medicine, receiving his DVM in 1991. After working for a few years in large animal internal medicine, he completed a Master's degree and then started thinking about pursuing a Ph.D. His first mentor, Dr. Hans Lutz, Director of Laboratory Diagnostics at the University of Zurich, had known John Madigan at UC Davis for many years and was responsible for introducing the two. Unbeknownst to Dr. Pusterla at the time, that was only the beginning of a long collaboration with Dr. Madigan.

It was Dr. Lutz who encouraged him to spread his wings and go elsewhere for a year to gain new insights and perspectives. As it turned out, the connection he had established with Dr. Madigan in Switzerland served him well, for the opportunity arose for him to work for a year in Dr. Madigan's lab on infectious and vector-borne diseases in horses. According to Dr. Pusterla, his work with Dr. Madigan has been a life-altering experience—not only because he is still here in California after originally planning to come for no more than a year, but also in terms



Dr. Nicola Pusterla with Cajun Rum, a former patient.

of the perspective he has acquired in his approach to research. By the grace of opportunity combined with the freedom to investigate a scientific problem at hand, he and Dr. Madigan and their colleagues have made significant strides in developing a quantitative diagnostic assay to detect equine herpesvirus and in determining the source of transmission of Potomac horse fever. He considers this approach to research unconventional because the work has been undertaken during the course of treating sick animals, rather than starting out with a predefined research plan. He also has appreciated the opportunity to

tackle these veterinary problems in a multidisciplinary manner, working as a team with numerous scientists in diverse disciplines, from entomologists to bacteriologists to molecular biologists.

Dr. Pusterla relishes the field of infectious diseases partly for the struggle it requires over scientific problems, and partly because the field is so dynamic in its involvement of clinical, laboratory, and prevention aspects. He will be a true asset to passing on his enthusiasm for his work to new generations of veterinarians. Congratulations Dr. Pusterla!

CEH Has New Animal Resources Supervisor

Paul Mickel is the Center for Equine Health's new Animal Resources Supervisor, responsible for the day-to-day care of all horses at the CEH facility. Paul has had a long-standing interest and affiliation with horses, having worked as a trainer of Western performance horses and working cow horses, as a breeder of Quarter Horses and Thoroughbreds, and as a ranch manager. He also has had experience working on the medical side of things, having worked at the Veterinary Medical Teaching Hospital as a nuclear medicine/CT technician and in veterinary reproduction in the embryo transfer program.

His work as a CT technician was especially interesting because it included a vast array of small and large animals, from horses, cows, and dogs to snakes and frogs. With this kind of experience, it is no wonder that he was offered a job at the University of North Carolina School of Veterinary Medicine to help run their nuclear medicine and CT program! But after two years he decided to return to California. Paul takes pride in having this diverse background that encompasses not only training, breeding, managing, and veterinary medicine, but a variety of animals as well.

CEH

HORSEREPORT

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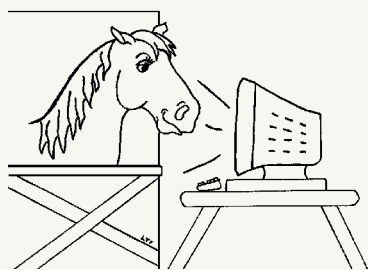
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