Teaching veterinary medicine: Tufts is at the head of the class
No wonder our graduates excel!

As we celebrate our 25th anniversary, this issue highlights our primary mission in educating talented, enthusiastic students to meet successfully the present and future demands for their professional services.

In an educational field dominated by public land-grant colleges, Tufts, as a private veterinary school, is a special place to receive a veterinary medical education. We strive, in a self-determined way, to develop pioneering programs of study that contribute to our understanding of all animals and to our progress as a humane and compassionate society.

Among veterinary schools, Tufts is a leader in identifying and creating new societal roles for veterinarians, and in enhancing animal health. At the same time, ever since the school was founded, we have paid special attention to the links between animals and humans, both their health and well-being. We are committed to focus on the changing status and welfare of animals in society, to safe-guard the health of the environment and the public, and to seek solutions to significant global concerns.

Built upon a sound basic science foundation, our dynamic curriculum emphasizes flexibility and active learning, giving students the opportunities to explore or emphasize their special interests. We offer unique, combined degree programs and a large array of selective and elective courses. We continue to anticipate where the profession needs to evolve.

Our faculty created and nurtured five signature programs and developed clinical specialty programs of exceptional quality. Faculty utilize numerous educational activities and subjects to meet our objectives for the personal growth and professional development of our students. These include problem-based learning, standardized client interviewing, veterinary ethical instruction throughout the four-year curriculum, financial literacy and business skills, active citizenship and public service, serious consideration of human-animal relationships including legal, ethical, social and scientific aspects, and environmental responsibility.

The faculty listened to our students over the years and through this constructive interaction we made changes and improvements. Tufts Veterinary School was the first in the nation to eliminate all terminal animal procedures in teaching. We introduced the client donation program for anatomy and we developed the Tufts Center for Conservation Medicine.

Beginning in 1994, the faculty also pioneered a survey-based approach to evaluate teaching effectiveness and the performance of our graduates. Data are compiled from all alumni/alumnae, all full-time faculty, all known employers of our graduates, all veterinarians in New England, and all the internship and residency directors listed in the American Association of Veterinary Clinicians Matching Program. In addition, we survey all entering and exiting TUSVM students. This vast amount of information tells us a great deal. We’re never complacent, but I must admit I’m proud that our graduates each have multiple job offers and that TUSVM led the country this past year in matching for competitive internship and residency training opportunities.

In my experience, it is the unique learning environment and educational approach at Tufts that makes this a truly exceptional place. Faculty members here are first and foremost student-centered and excellent educators. Our faculty appointment system—including no tenure—demands performance excellence and there is no higher priority than effective teaching. Furthermore, there is a warm and supportive campus atmosphere accommodated by our entire faculty and staff. With all of the above, no wonder our graduates excel!

Philip C. Kosch, D.V.M., Ph.D.
Dean

On the cover:
Dr. M. S. A. Kumar, professor of biomedical science and director of the anatomy course, often uses his own, original drawings to illustrate lectures.
Tufts Veterinary School wins $25-million NIH contract

Tufts University School of Veterinary Medicine received a $25-million, seven-year contract from the National Institute of Allergy and Infectious Diseases, National Institutes of Health (NIH), to enhance the country’s ability to prevent, treat and control diseases caused by infectious agents and toxins that could affect the nation’s food and water supply.

Tufts will establish a microbiology research unit in the new nationwide Food and Waterborne Disease Integrated Research Network. A major focus of the unit will be a Center of Botulinum Therapies Research and Development, the first of its kind in the United States. The veterinary school will work with University of Massachusetts researchers on this portion of the contract, which will focus on developing ways to diagnose and treat botulism poisoning, one of the most dangerous bioterrorism threats facing the United States and the world today.

Dr. Saul Tzipori, Distinguished Professor and director of the infectious diseases division of the Department of Biomedical Sciences, will lead the Tufts team of researchers. They will identify and characterize the human pathogens that can cause disease in food or water suspected of either accidental or deliberate contamination and will rank the pathogens according to their significance.

Paradis named president-elect of ACVIM

Dr. Mary Rose Paradis, associate professor of medicine and director of Tufts’ Marilyn M. Simpson Equine Neonatal Intensive Care Unit, recently was named president-elect of the American College of Veterinary Internal Medicine (ACVIM).

ACVIM is the international certifying organization for veterinary specialists in large animal internal medicine, small animal internal medicine, cardiology, neurology and oncology.

Paradis has been a leader among the large animal faculty for the past 20 years. She was recognized with teaching awards from the classes of 1985 and 1999, the Norden teaching award in 1986, and the Tufts University Faculty Achievement Award in 1999.

Paradis served as the large animal medicine section head from 1987-1998 and was chief of staff for Tufts’ Hospital for Large Animals from 1989-1993.

She organized the international meeting on neonatal septicemia, the Dorothy Russell Havemeyer Foundation Workshop, and publishes on a wide variety of topics in equine medicine, most recently the demographics of diseases of geriatric horses.

Paradis is beginning a two-year fellowship with Tufts University’s College of Citizenship and Public Service. In this, she will work to enhance our Gap Junction Program, where veterinary school students introduce middle and elementary schoolers to clinical sciences such as anatomy and physiology with hands-on, laboratory-based experiences.

Students’ summer research rewarded

Three students earned monetary awards at Student Research Day on October 1, competing for the honors among a pool of 20 researchers.

Stephanie Ryerson, V06, mentored by Dr. Carol Reinisch and Dr. Mark Pokras, V84, won first place and $500 for researching the mechanism of the neurotoxic effects of PCBs (environmental toxicants), using a clam model. Andrea Johnston, V05, mentored by Dr. Cynthia R. Webster, won second place and $300 for studying how to reverse liver cell death caused by various liver cell diseases, such as hepatitis and alcoholism. Leah Stern, V06, mentored by Dr. Jean Mukherjee, won third place and $200 for investigating methods for diagnosing renal kidney disease without having to perform renal biopsies.

Supported by the National Institutes of Health, the Summer Research Training grant to Dr. Sawkat Anwer helps veterinary students solidify their interests in research and familiarizes them with career opportunities for veterinarians in research.

Bridge—to the Northeast Veterinary Conference

More than 800 veterinarians and veterinary technicians from 30 states and Canada attended Tufts Veterinary School’s “Bridge to the Future” Veterinary Conference in August in Providence, R.I.

The conference was also hosted by the Rhode Island Veterinary Medical Association, in collaboration with the five other New England state veterinary medical associations and the New England Veterinary Medical Association.

Also associated with the conference were: The Animal Medical Center, Angell Memorial Hospital, Rowley Memorial Animal Hospital and Becker College.

The event served as the venue for a luncheon birthday party for the 25th anniversary of Tufts Veterinary School and the 100th anniversary of Bide-A-Wee, one of the generous sponsors of the conference.

“The Bridge” was a tremendous success by every measure,” said Dean Philip Kosch. Building on the success of the conference will be the Northeast Veterinary Conference, to be held at the Rhode Island Convention Center and Westin Hotel, August 8-10, 2004.
Veterinary anatomy is a daunting experience that includes 106 hours of lecture and dissection laboratories, countless hours of learning the names of ligaments, muscles, nerves and bones, mastering a 587-page syllabus and the supplemental 132-page workbook of minimum objectives.

“There’s a huge amount of material and not a lot of time to cover it,” said Dr. M. S. A. Kumar, professor of biomedical science, who directs the anatomy course.

For students who arrive at veterinary school eager to treat animals, having to master anatomy’s language, concepts and techniques is the first of many hurdles they’ll encounter. Anatomy is important because it’s “the foundation that gives students the basics so they can move into other areas,” said Dr. Sawkat Anwer, chair of the Biomedical Sciences Department.

The anatomy course also exemplifies the school’s unique approach to veterinary medical education, one that combines concern for animal welfare with commitment to enriching the learning experience of its students.

Six years ago, Tufts Veterinary School established a first-of-its-kind program for anatomy laboratory classes that used deceased dogs and cats whose bodies were donated by their owners (see related story on donor program requirements, page 6). More than a decade ago, Tufts was the first veterinary school in the U.S. to eliminate the use of purpose bred dogs for surgical instruction. The veterinary school now teaches surgery skills by spaying and neutering shelter animals, making them eligible for adoption (see related story on spay/neuter clinic, page 19).

Because Tufts Veterinary School admits students from a wide variety of backgrounds, Kumar and the nine other faculty who teach the anatomy course face a challenge, too: teaching biomedical concepts to students who majored in art history, architecture, and music.
Laboratory is a focal point

Emily Stuart, V06, a sculptor with an undergraduate degree in fine arts, responded to Kumar’s visual approach, which includes ambidextrous and lightening-speed drawings on the board and overhead projector.

“I loved the three-dimensional aspect of anatomy class,” she said.

“Anatomy was the most difficult and rewarding class I’ve ever taken,” said Laura Cummings, V05. “Anatomy will forever stand out in my mind.”

Cummings’ memory of her first anatomy laboratory session is still vivid.

“We all gathered around our dogs, terrified even to touch them,” she recalled. “Within minutes, Dr. Kumar, the other professors and the second-year student mentors had us enthusiastically working and exploring.”

The anatomy laboratory, in fact, becomes a focal point for many first-year students. Strong bonds form as they spend long afternoons in the David McGrath Veterinary Teaching Laboratory, and in review sessions with mentors from the second-year class and anatomy instructors. By the end of the year, students have created a community out of their shared experiences.

Kumar’s broad-minded approach prompts exchanges with students that have benefited the entire class. One suggestion from a music student resulted in a helpful addition to the dissection laboratories.

Ginger Browne Johnson, V04, a member of the first class to use the state-of-the-art laboratory, noticed that even though there was plenty of room for students to observe and work on dissections, there was no place to put their workbooks. To someone used to reading from a music stand, the solution was obvious.

Now, music stands are a natural part of the equipment in the dissection laboratory.

“You have to keep an open mind,” Kumar said. “Teaching is a two-way street. I’ve learned a lot from seeing things from the students’ perspectives. We’ve had architects and engineers who explained the way sinuses are constructed by drawing analogies to building bridges.”

Students say Kumar’s own dedication is both an example to them and a reason why they’re able to master the challenges presented by the anatomy course.

“He truly cares about each and every student,” Cummings said, “and modifies his approach to match different styles of learning.”

“I love what I’m doing,” Kumar said. “We have students who are really motivated and that drives me to do better. I make sure I work twice as hard as the students do.”

That means in addition to lectures and laboratories, Kumar is online answering student queries on the class message board. By the end of the semester, he’ll have answered almost 400 questions.

He is relentless in his pursuit of improving anatomy instruction, drawing detailed anatomical illustrations and developing a formula for preserving animal specimens that is less toxic than standard solutions.

Kumar’s latest project—a digital movie to teach his novel embalming methods—is being used by other veterinary schools seeking to develop alternatives to the use of live animals.

Thanks to Kumar’s efforts, veterinarians who graduate from Tufts have a rich appreciation for the basics of their profession.

“Dr. Kumar is amazing in the way that he understands how things work and how willing he is to share his knowledge with us,” said Christianne Magee, V04. “When I think of anatomy, I hear his voice in my head.”
Dr. Kumar’s artistic ability as well as his exemplary teaching captivate students year after year, as these comments from Tufts alumni demonstrate.

Dr. Dean Gebroe, V89, recalled Kumar’s lightning-fast drawings: “Two handed, in different colors and as symmetrical as an architect, he blazed trails of SVA, SSA, and SVE fibers. The class collectively begged for mercy. He turned, smiled and slowed down so we could follow. Dr. Kumar set the benchmark for academic excellence.”

Dr. Douglas Meade, V95, noted, “The fact that our anatomy diagrams were mostly hand drawn by him was also evidence of his interest in having good material to use. Though anatomic memorization was at times very challenging, he nevertheless always made it thoroughly interesting and usually enjoyable.”

Dr. Noelle LaCroix, V97, said she still uses Kumar’s gross anatomy pictures “all the time. I use his notes for my ophthalmology practice.”

The following Tufts Veterinary School faculty lecture in the small animal gross anatomy course:

Dr. Sandra Ayres, V93, Dr. Alan Bachrach, Dr. Joseph Chabot, Dr. Alison Hayward, V99, Dr. Phyllis Mann, Dr. Jay McDonnell, Dr. William Rosenblad, V95, Dr. Mauricio Solano, and Dr. Nancy Thompson, V95.

Donor program aids students’ education

Only animals treated at Tufts’ Henry and Lois Foster Hospital for Small Animals are eligible for the donor program, which is offered as an option at the time of the animal’s death. Clients are informed that donating their pets’ remains is a way of letting the spirit of their pets live through the process of educating future veterinarians.

The animals come with a case history, which offers the students a real-world perspective, Kumar explained.

“The generosity and thoughtfulness of these donations are directly aiding our students’ medical education and the well-being of thousands of patients they will care for in their veterinary careers,” Kumar said, noting that he tells students the best way to show their gratitude is through “dedication and devotion to their studies.”
Advocating for animals
students' proposal spurs Tufts' leadership in humane approaches

Editor's note: Fifteen years ago, Tufts became the first veterinary school in the U.S. to offer humane alternatives in surgery training and today remains a leader in promoting alternatives to the unnecessary use of live animals in teaching. To date, only a few other veterinary schools in the U.S. have followed Tufts' example. The process of reaching the leading edge in veterinary medical ethics, however, was both educational and controversial. It speaks to the culture of open and respectful dialogue on complex issues that is the hallmark of education at Tufts Veterinary School.

It began with a group of 12 students from Tufts Veterinary School's Class of 1990, who proposed using donated cadaver animals in the third-year small animal medicine and surgery laboratories. The request was nothing short of revolutionary. At the time, every veterinary school in the nation taught surgery skills using live animals that routinely were euthanized after the operations.

The Tufts students were outspoken and steadfast in their conviction that basic surgical and medical skills could be taught without using animals that neither required nor benefited from surgery.

Over the course of two years, the students, faculty and administration of the veterinary school laboriously achieved a series of compromises that satisfied the group's concerns and met the teaching goals of the school. Students who elected to follow the alternatives program operated on donated cadaver animals in the surgery laboratory. They were required to spend extra time in medicine and surgery rotations during their fourth year.

“We knew we could get a better education, and as a result of our commitment, it’s now better for everyone,” said Dr. Lorna Grande, V90. “We were fortunate to be at a young, progressive school, and to have the support of Dean Frank Loew,” she added.

At the time, Loew frequently spoke out on the changing role of animals in society and also testified before the U.S. Congress on animal welfare issues.

Since then, there have been more improvements to the curriculum, including donated cadavers for anatomy and pathology courses. Surgery skills are now taught with spay/neuter surgeries on shelter animals to make them eligible for adoption (see related story, page 19).

Student’s commitment and persistence promoted donor program

The donor program for the anatomy and pathology courses resulted from the tireless commitment of a single student, Dr. True Ballas, V00, and the support of Dr. M.S.A. Kumar, professor of biomedical science, who directs the anatomy course.
“The very first day I arrived at Tufts, I spoke to Dr. Kumar about my conviction that animals shouldn’t have to die in the name of education,” Ballas said. “I offered to do what I could to provide donated animals as a substitute.”

Kumar agreed to help; so did Ballas’ advisor, Dr. Robert Murtaugh, who developed a protocol for clinicians to follow in offering clients of Tufts’ Henry and Lois Foster Hospital for Small Animals the option of donating their deceased animals.

“There was a tremendous amount of effort initially to coordinate the donor program,” Kumar said. “But considering the alternative of putting healthy animals to death, the choice was easy.”

At the time, the anatomy laboratory course was taught on the Boston campus (it has since moved to Grafton) and Ballas transported the cadavers from the hospital to the laboratory. She also made copies of the animals’ medical histories, carefully blacking out any personal information.

“It really made the laboratory class so much better,” she said. “The donated animals were much more interesting to study because they died from injury or disease. We were learning pathology along with anatomy.”

ONCE CONTROVERSIAL, ALTERNATIVES ARE NOW COMMONPLACE AT TUFTS

Since their graduation, many of the students who made a difference at Tufts remain active in the cause of animal welfare. Grande, for instance, teaches animal welfare at the University of Massachusetts in Amherst, Mass., and heads the Human Animal Violence Education Network at Berkshire Community College in Pittsfield, Mass. Ballas works for the Albuquerque Animal Emergency Clinic and has approached a local animal sanctuary to develop a blood donor program.

“My dream is to establish a hospital for shelter animals,” she said.

As a result of developing more humane approaches to using animals in teaching, Tufts has become known as a school that fosters ethics and values in veterinary education. In fact, the choices once considered controversial are now commonplace at the school.

“It’s significant that today we take it for granted as being ‘the way it’s done,’” said Dr. Alicia Karas, V89, MS85, assistant professor, Department of Clinical Sciences and vice chair of the Institutional Animal Care and Use Committee.

This past summer, Tufts Veterinary School faculty gave a series of presentations for supervisors of the Animal and Plant Health Inspection Service (APHIS) of the U.S. Department of Agriculture to inform them about how the school developed and maintains its alternatives programs. APHIS is responsible for enforcing the Animal Welfare Act, which governs the care and handling of animals used in research and teaching.

The USDA supervisors said they “applaud Tufts’ efforts in looking for viable alternatives to animal use, whether it is in reduction, refinement or replacement of animals.”

The school’s ethical stance has also made it more attractive to students.

“For a lot of students, the issue of using alternatives is the most important factor in deciding on a veterinary school,” said Amy Richardson, V04. “That’s why we are at Tufts Veterinary School.”
How to succeed in the business of veterinary medicine

Tufts veterinary students are an eclectic group, with undergraduate degrees in a variety of disciplines, from art to zoology. Almost none of them, however, were business majors when they were in college.

“A lot of us never took an economics course,” admitted Jennifer O’Sullivan, V04, “and now we’re all trying to get out of debt.”

That’s why the debut of a new class in economic and financial literacy last fall was such a success, garnering rave reviews from students. The course was developed by Joseph McManus, M.B.A., associate dean for administration and finance, who sought the advice of the curriculum committee. O’Sullivan is a student member on that committee.

“The qualities that make caring veterinarians aren’t necessarily the same ones that will make veterinarians a success,” McManus said. “It’s my goal to give students the financial knowledge that will help them succeed in the business of veterinary medicine.”

Working with the National Commission on Veterinary Economic Issues, McManus is trying to promote the economic skills, knowledge, aptitude and attitudes necessary for financial success in the veterinary profession.

This commission was established by the American Veterinary Medical Association, American Animal Hospital Association, the Association of American Veterinary Medical Colleges and the Canadian Veterinary Medical Association.

“Tufts Veterinary School always has had a veterinary economics course as one of the core courses,” McManus explained. “This new class focuses on personal financial management.”

Students learn how to manage credit and debt as well as how to evaluate a veterinary practice before joining or purchasing it.

Assisting McManus is Dr. Lowell Ackerman, a veterinary dermatologist, author and management consultant to Tufts’ six clinical practices, including those at the Henry and Lois Foster Hospital for Small Animals, the Hospital for Large Animals, the Wildlife Clinic, the Ambulatory Service in Woodstock, Conn., and the Veterinary Emergency Treatment Services (TuftsVETS) in Walpole, Mass.

Tufts received support to help expand its curriculum in economics, management and life skills from Hill’s Pet Nutrition.

Steve Marton, E06P, president and chief operating officer, said: “Tufts should be applauded for aggressively developing these cutting edge courses.

“Veterinarians can’t practice good medicine unless they are good business people,” Marton said. “If their practices aren’t well managed, it means they can’t afford to hire qualified staff or buy a critical piece of equipment. We want to help prepare students for the best possible degree of success in their veterinary careers.”

Hill’s supports the teaching of economics, finance and life skills “because we want to see the profession remain vibrant, healthy and attractive to the best of students,” he added.
Tufts Veterinary School is justifiably proud of its leadership role in veterinary medical education. As we celebrate the 25th anniversary of the school, we acknowledge the important educational “firsts” that occurred here.

- Tufts was the first veterinary school in the U.S. to include core courses in ethics and values, wildlife medicine and international veterinary medicine in its curriculum.
- Responding to concerns of students in 1989, Tufts became the first veterinary school in the U.S. to offer alternatives to the way animals are used for surgery training.
- The first textbook in veterinary ethics, *Veterinary Ethics*, by Jerrold Tannenbaum, then a faculty member, was published in 1989.
- The first combined DVM/Masters degree in public health in the U.S. was conferred here in 1998.
- The multi-disciplinary field of “conservation medicine,” linking human health, animal health and ecosystem health, originated at Tufts Veterinary School in 1996.
- Tufts was the first to teach veterinary students communications skills by adapting the medical school model of client interviews in 1993.
- The first Internet-based, interactive and inter-disciplinary curriculum materials for veterinary students were offered here in 2001.

**Tufts’ education “firsts”**

Dr. Mark Pokras, V84, is director of Tufts Center for Conservation Medicine.

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**Professional Continuing Education**

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All courses located at the Grafton campus unless otherwise noted

**VISITING PRACTITIONER PROGRAM**

Practitioners who wish to receive training in one or more clinical disciplines, learn new techniques, or switch areas of clinical practice are assigned to a Tufts mentor for varying periods of time. Visiting practitioners work alongside a mentor, learning as the caseload of the service is managed, but they do not have primary responsibility for patient care. A formal program with specific goals is developed for each candidate by the department/mentor. Space and faculty time are restricted, so entry into the program is limited.

For more information about any of the programs or events, please visit our web site: www.tufts.edu/vet/continedu or contact Susan Brogan in the Continuing Education Department: (508) 887-4723; susan.brogan@tufts.edu
Friendly veterinarians are better veterinarians

When Dr. Raymond K. Kudej, assistant professor, Department of Clinical Sciences, was in private practice he learned an important lesson: “The veterinarian who got the most thanks from clients wasn’t necessarily the most skilled veterinarian on staff, but she was the one who took the time to be personable,” Kudej recalled.

Tufts teaches students how to be personable and professional by using standardized clients, individuals who are trained to act as typical pet owners. As director of the standardized client program, Kudej helps students learn how to communicate with the person who’s paying the veterinary bills.

“You can be number one in your class, but if you don’t make your clients feel comfortable, you won’t be a success as a veterinarian,” he said.

Tufts was the first veterinary school in the U.S. to use standardized clients to teach students important, non-clinical skills. In scheduled, hour-long sessions, they grade students on things like eye contact and how they answer a checklist of questions.

“At the beginning of the class I ask students: ‘Why do people bring their pets to a veterinarian?’” Kudej said. “The answer is because they love the pet—it’s a family member to them. If students keep that in mind, and act towards their clients’ animals as they would towards their own, they’ll succeed.”

Anaconda diagnosed with arthritis

It took four people from the New England Aquarium to restrain Sylvia on an examining table as Tufts Veterinary School cardiologist Dr. James Ross gave the anaconda an echocardiogram. Originally from the Amazon, Sylvia is a nine-year-old constrictor with a reputation for fearless aggression. The purpose of the diagnostic test was to determine if a heart problem was contributing to the snake’s swollen body.

Sylvia weighs approximately 66 pounds—mostly muscle—and is slightly more than 11 feet long. Her shiny, olive green skin is dappled with large black spots and golden highlights. She could not be anesthetized during the echocardiogram, and her glittery eyes were alert to sudden movement in the quiet exam room.

After Sylvia received an echocardiogram, her handlers moved her to other departments within Tufts’ Foster Hospital for Small Animals for an ultrasound, CAT scan and radiography before returning her to the New England Aquarium.

“After all of the tests, we could most likely rule out heart disease as the cause of Sylvia’s swelling,” said Dr. Jennifer Mateleska, V01, an exotics intern at Tufts. “We were able to determine that Sylvia had severe diskospondylosis, which is a chronic, degenerative arthritic condition of her spinal column. Being in water probably makes it easier for her to get around than if she were moving on land most of the time.”

Sylvia has been in the waters of the New England Aquarium’s tropical exhibit for about six years. Anacondas can live up to 30 years in captivity and are classified as the world’s heaviest and longest snakes. While not venomous, anacondas are constrictors that kill their prey—literally—by squeezing the life out of them.

“Sylvia’s long-term prognosis is guarded, but we are optimistic, since her appetite has returned to normal,” said Dr. Scott Weber, head veterinarian at New England Aquarium and clinical assistant professor at Tufts Veterinary School. “We are continuing to monitor her progress and using multiple diagnostic tests to find the cause of her condition.”

New England Aquarium staff holding Sylvia during echocardiogram, L-R: Dr. Andrew Routh, associate veterinarian, Dr. Leslie Boerner Neville, veterinary intern, V93, Luis Lopes, 5th-year veterinary student from the University of Brazil, Peter Gawn, animal handler.
Tufts veterinary students call it the James Herriot experience. Four weeks at the school’s Ambulatory Clinic in Woodstock, Conn., may not be as colorful as the adventures chronicled by the famed English author, but few students will ever forget what it’s like to be a farm animal veterinarian in rural New England.

Natalie Marques, V04, fell in love with cows. “Before Woodstock, I’d planned to be a small animal veterinarian,” said the Pawtucket, R.I., native. “I was a city girl who’d never been on a farm.” Marques is now thinking about how she can incorporate caring for large animals into her future career plans. “I’m really surprised how much I love large animal farming,” she continued. “The rotation at the Ambulatory Clinic was a nice taste of reality for us.”

Under the tutelage of the clinical faculty Drs. Craig Embree, Cynthia Faux, Harold E. Hammerquist, Howard D. Levine, John M. Pollock, V97, and Eugene White, students experience first-hand some of the challenges facing those who struggle to farm in an increasingly urban environment.

“It’s very different from the clinical practice at the hospitals on the Grafton campus,” said Levine, who heads the Ambulatory Clinic. Half the budget of the practice comes from providing services to agricultural clients, he explained, “When we treat the animals, we’re taking the owners’ time.”

Unlike the country veterinarians of old, the Woodstock faculty and students zip along country roads to their farm visits in vans stocked with high-tech equipment.

At an orientation session on the first day of their rotation, Levine advises students who will soon accompany the clinic staff on farm visits: “Be respectful and attentive. The way you conduct yourselves on a farm has a big impact on how students are treated in the future.”

The Tufts veterinary staff at the Woodstock Ambulatory Clinic treat about 20,000 cattle and 2,000 horses a year. The practice also treats alpacas, llamas and buffalo.

Unlike the country veterinarians of old, the Woodstock faculty and students zip along country roads to their farm visits in vans stocked with high-tech equipment such as a portable sonogram machine.

At one horse farm, while Levine did an ultrasound exam on a high-priced mare, one of the students recorded the information on her Palm Pilot.

The culmination of the four-week rotation is a herd health project, where students act as consultants to a selected farmer, providing specific recommendations on topics ranging from hiring employees to increasing milk production.

Marques was a member of the student team that advised Peter Hawkes, owner of a dairy farm in Mendon, Mass.

“He works 24 hours a day, seven days a week,” Marques observed. “He shouldn’t have to be working that hard. Our goal was to get the farm staffed to run without his constant supervision, so he could get away for a vacation.”

A student’s typical day at Tufts’ Ambulatory Clinic includes consultations with faculty and on-the-farm learning.
Veterinarian inspires by experience and example

“When I was a student, one of the largest complaints about professors was that they didn’t have any private practice experience,” said Dr. Harold Hammerquist, assistant professor, Department of Environmental and Population Health, and one of the faculty who staffs the Ambulatory Clinic in Woodstock, Conn.

Students who accompany Hammerquist on his rounds benefit from the experience of a man who spent more than half of his 50-year career as a farm animal veterinarian in his native Idaho.

“‘He brings us back to reality,’” said Christianne Magee, V04, who completed her four-week rotation at the clinic this summer. “Dr. Hammerquist reminds us that some of the best veterinary-client-patient relationships and most important veterinary work are accomplished by general practitioners in small mixed animal practices.”

For Dr. Dawn Bennett, V85, memories of Dr. Hammerquist and the ambulatory clinic rotation are still strong and positive even after 19 years.

“He was always interested in us as people as well as veterinarians,” she said. “To this day, when I meet him at conferences or gatherings, he remembers me.”

Bennett followed in Hammerquist’s footsteps. In addition to her mixed practice in Fillmore, N.Y., she also teaches in the veterinary technician program at Alfred State College.

One of Hammerquist’s great attributes is “the pure joy he radiates in being a veterinarian,” said Dr. George Saperstein, chair of the department of Environmental and Population Health, and former head of the Ambulatory Clinic. “He instills pride in the veterinary profession, in our role in agriculture, and he teaches students the importance and value of the family farm.”

There’s also the ever-popular “frozen dairy” inspection. Hammerquist takes all the students to a dairy farm that sells ice cream. While they’re in the van traveling from one farm to the next, he uses the time to discuss real and hypothetical cases with students and quizzes them on everything from state capitals to units of measure. He teaches them how to convert measurements into practical units, such as the number of ounces in a bucket of water.

“I love what I do and I love the interactions with students,” Hammerquist said. “If you took the students out of the equation, I’d retire.

“The students are my hereafter,” he added. “A part of me will stay with them when I’m gone.”
Signature programs attract students, define the school

They are what sets Tufts Veterinary School apart from all others.

Tufts’ five signature programs: wildlife medicine, international veterinary medicine, ethics and values in veterinary medicine, equine sports medicine, and biomedical technology and veterinary medicine are major attractions for prospective students and what’s more, they define the school.

“The signature programs represent who we are and where we’re going,” said Martha Pokras, executive associate dean.

And even if students who take advantage of Tufts’ signature programs never travel beyond New England after graduation, they become more effective veterinarians as a result of their exposure to them. This conviction has sustained the signature programs’ growth and development over the 25-year history of Tufts Veterinary School.
Dr. Christine Jost, V96, F03, assistant professor in the international program of Tufts’ Department of Environmental and Population Health, noted: “Even though it’s unrealistic for the majority of students to pursue an international career, what they learn through the international program will serve them and their clients well. They will become good educators and good source points of information,” she said. “As a result of their experience here they will be better representatives of the veterinary profession.”

Echoing this view is Dr. Gretchen Kaufman, J76, V86, assistant professor of wildlife medicine in the Department of Environmental and Population Health. “We emphasize that no matter what kind of veterinarian you become, everyone needs skills in dealing with wildlife health issues,” she said. “All of our graduates are likely to deal with wildlife in some way or another—either having to examine an animal, answer questions from members of the community, or advocate for the health and welfare of animals.”

As some of the signature programs evolved, their focus has shifted. For example, Tufts’ equine sports medicine program, with its array of services for performance horses, was one of the first of its kind in the nation. Today, there’s a new emphasis on students, with the introduction of elective seminars introducing them to equine science and exercise physiology.

Dr. Melissa Mazan, V93, assistant professor, large animal medicine and director of the Issam M. Fares Equine Sports Medicine Program, explained that the exercise physiology seminar “teaches students to read and think critically. They take turns presenting a paper—we discuss and debate it, they get to own the material. For some, it’s the first time they are critiquing primary research.”

Another signature program that has developed new ways of involving students is the ethics and values signature program.

“Virtually every student who applies to Tufts Veterinary School mentions our ethics and values,” said Dr. Paul Waldau, associate professor at the Center for Animals and Public Policy. “It’s an important indicator of the school’s attitude, which can be best described as open to new ideas and tolerant of controversy.”

From studying the human-animal bond as part of the first-year core courses to the presentation of an ethics case during the fourth-year rotations, Tufts students are exposed to a wide range of ethical issues.

“We listen to all points of view,” Waldau explained. “We put complicated issues on the table and openly discuss them.”

As Pokras noted, “Students need to learn the facts and also learn that in areas where we don’t necessarily have good scientific knowledge, we still need public policy.”
Students become teachers in Africa

The growth and development of the international program includes new collaborative projects on assessing ecosystem health in Zimbabwe, Nepal and Burkina Faso, as well as a certificate program that requires students to complete an international project and publish results of their research.

Two students, Rhea Hanselmann, V05, and Rachel Brodlie, V06, spent the past summer in Burkina Faso, a country in northwest Africa, where they studied elephant parasitology and interviewed villagers from farms bordering the Nazinga Game Ranch. The farms are also in the migratory path of elephants from the game ranch.

The villagers told the students of their frustrations trying to co-exist with the huge animals that frequently destroy crops as they search for food. In turn, the students found themselves teaching basic animal husbandry to farmers who rarely see veterinarians.

“The experience was incredible,” said Hanselmann, whose home is in Switzerland. “I would never have done this kind of project if I’d stayed in Europe.”

Brodlie noted that the international program was what attracted her to Tufts.

“Students here have amazing opportunities to do research all over the world,” she said. “There’s no place else like it.”

Conservation home and abroad

An outgrowth of the international and wildlife signature programs is the Tufts Center for Conservation Medicine, established in 1997.

The concept of conservation medicine, which links human health, animal health and ecosystem health, originated at Tufts Veterinary School in the mid-1990s.

“We saw the need to collaborate with experts in other areas—physicians, ecologists, economists and others—in order to solve complicated environmental problems facing us today and in the future,” said Dr. Mark Pokras, V84, the center’s director.

The center is part of a consortium that includes the Wildlife Trust, the U.S. Geological Survey’s National Wildlife Health Center, Harvard Medical School’s Center for Health and the Global Environment, and the Bloomberg School of Public Health at Johns Hopkins University.

“We’ve built into the core courses, as well as through electives and selective classes, opportunities for students to get involved in conservation issues in our backyard and all over the globe,” he said. “They’re doing research on issues and in places where veterinarians have never before been involved.”
Grateful for the care their golden retriever, Abigail, received in the Harrington Oncology Program, Edward Bohlen and Donna Sharkey of Gloucester, Mass., made a generous donation to establish the endowed Moore-Frimberger Abigail Fund.

Abigail was a patient of Dr. Antony Moore, who directed the oncology program, and Frimberger recently moved with their young family to Australia.

Dean Philip Kosch noted that the fund is “a resource to advance our teaching, service and research in the diagnoses and treatment of cancer in pets.”

“The fund, through its name, also recognizes the partnership that characterizes our best efforts at Tufts,” he said, “and will be a permanent reminder of the contributions Tony, Angela and their patient Abby made to the Harrington Oncology Program.”
Editor’s note:
The following excerpt is from a letter that Dr. Christine Massaro, V90, wrote to Kathleen Savesky, director of the Bosack & Kruger Foundation, on the occasion of the opening of the Luke & Lily Lerner Spay/Neuter Clinic. She graciously allowed us to reprint it here:

As the result of an innovative collaboration, members of the Massachusetts Animal Coalition (MAC) will staff the Luke and Lily Lerner Spay/Neuter Clinic when it’s not being used for surgery training by Tufts Veterinary School.

MAC is a statewide, not-for-profit organization of animal professionals that provides a link to animal shelters and caretakers. Tufts’ Center for Animals and Public Policy established the connection between the veterinary school and MAC.

“This is a very positive collaboration of organizational missions, and will be a model for other parts of the country,” said Anne Lindsay, president of MAC’s board of directors.

MAC was formed two years ago and includes in its membership animal control officers, veterinarians, canine and feline rescuers, attorneys, and representatives of state agencies and humane societies.

The coalition meets every six weeks at Tufts and has initiated numerous task forces, including one to develop a standardized process for assessing behavior of dogs in shelters. Other task forces have come together to spay or neuter feral cats and improve communication among groups working to place animals.

The Leonard X. Bosack & Bette M. Kruger Foundation provided the lead gift to establish the spay/neuter clinic. Kathleen Savesky, director of the Bosack & Kruger Foundation, commended the collaboration between Tufts and MAC.

“We are very impressed with the cooperation between Tufts and MAC,” she said. “This kind of collaboration is groundbreaking.”
Spay/neuter clinic benefits students and animals
improves surgery training, enhances lives of shelter animals

The Luke and Lily Lerner Spay/Neuter Clinic opened at Tufts’ Henry and Lois Foster Hospital for Small Animals in September, providing enhanced surgical instruction for Tufts’ veterinary students and helping to ease pet overpopulation in Massachusetts.

The clinic provides spay and neuter services for animal shelters in the state and was funded by a lead gift from the Leonard X. Bosack & Bette M. Kruger Charitable Foundation and generous donations from others. It’s named for two cats rescued from shelters by Sandy Lerner, co-founder and president of the Bosack & Kruger Foundation.

The clinic is an outgrowth of Tufts’ policy, established in 1996, to teach surgery by using shelter animals slated for adoption. The 1,134 square-foot clinic will enable Tufts to provide students with higher quality surgical instruction, according to Dr. Susan Lee Mitchell, V91, soft tissue surgeon and assistant professor, Department of Clinical Sciences. The design includes space for surgeries, as well as room for the animals to be housed and walked.

“It gives the surgery instruction the importance it deserves and will make the whole experience much better,” Mitchell said. “Not only will students learn to do surgery, but they also will have clinical rounds with interns. In this way, they’ll get a taste of what clinics are like.”

Tufts will collaborate with the Massachusetts Animal Coalition (MAC) to staff the clinic when it’s not being used for surgery instruction and to connect with area animal shelters (see sidebar on MAC, page 18).

At the Bosack & Kruger Foundation, Kathleen Savesky, director, said: “The foundation has been a long-time proponent of alternatives in veterinary education that are respectful of the lives of animals. This clinic will allow shelter animals to benefit from surgery instead of being used only as teaching tools.”

“Spay/neuter clinic benefits students and animals improves surgery training, enhances lives of shelter animals”

In addition, the clinic will help ease the problems of animal over-population and provide assistance to animal shelters that are struggling with lack of resources. In Massachusetts, each of the 351 municipalities has its own arrangement for animal control; most of their animal shelters are small, under-funded, and often depend on volunteers and part-time help just to maintain the most rudimentary services. There are only a handful of reduced-cost spay/neuter programs, and demand exceeds supply.

Dr. Gary Patronek, former director of Tufts’ Center for Animals and Public Policy and a board member of MAC, initiated the original proposal to the Bosack & Kruger Foundation. He noted that the clinic, “is a terrific enhancement to surgical training for students at Tufts. It provides a real world learning opportunity for future veterinarians to learn about under-served populations of animals in the community and the people and organizations working on their behalf.

“We hope this exposure will also help increase mutual understanding and build bridges for future cooperation” with groups involved with the welfare of animals, Patronek continued. “We are also confident that this venture will provide the foundation for other innovative ideas for community outreach and service, core values at Tufts University.”

Leaders from state government and business visited Tufts Veterinary School this fall to discuss ways to stimulate economic development in the Bay State.

“The state has a strong partnership with Tufts Veterinary School,” said Senate President Robert E. Travaglini (D-Boston), who noted that Massachusetts experienced a 6 percent growth rate in the life sciences and biotech industries during the past year.

Other elected officials who attended the meeting included: Sen. Guy W. Glodis (D-Auburn), Reps. George N. Peterson, Jr., (R-Grafton) and Karyn E. Polito (R-Shrewsbury), as well as town officials from Grafton and Shrewsbury.

Since 1985, Tufts Veterinary School has provided research services and testing to hundreds of companies and research institutions, enabling them to grow and prosper, according to Joseph P. McManus, associate dean for administration and finance. These companies include: GTC Biotherapeutics, Bistech, Securos, Idexx Veterinary Services and Collegium.

“We have the infrastructure and faculty resources that young companies need to get them started,” McManus said. The 106-acre Tufts Science Park began construction on roads and utility infrastructure this fall and is currently seeking tenants.