



# VIRGINIA MARYLAND

Virginia-Maryland Regional College of Veterinary Medicine

Winter - Spring 2004

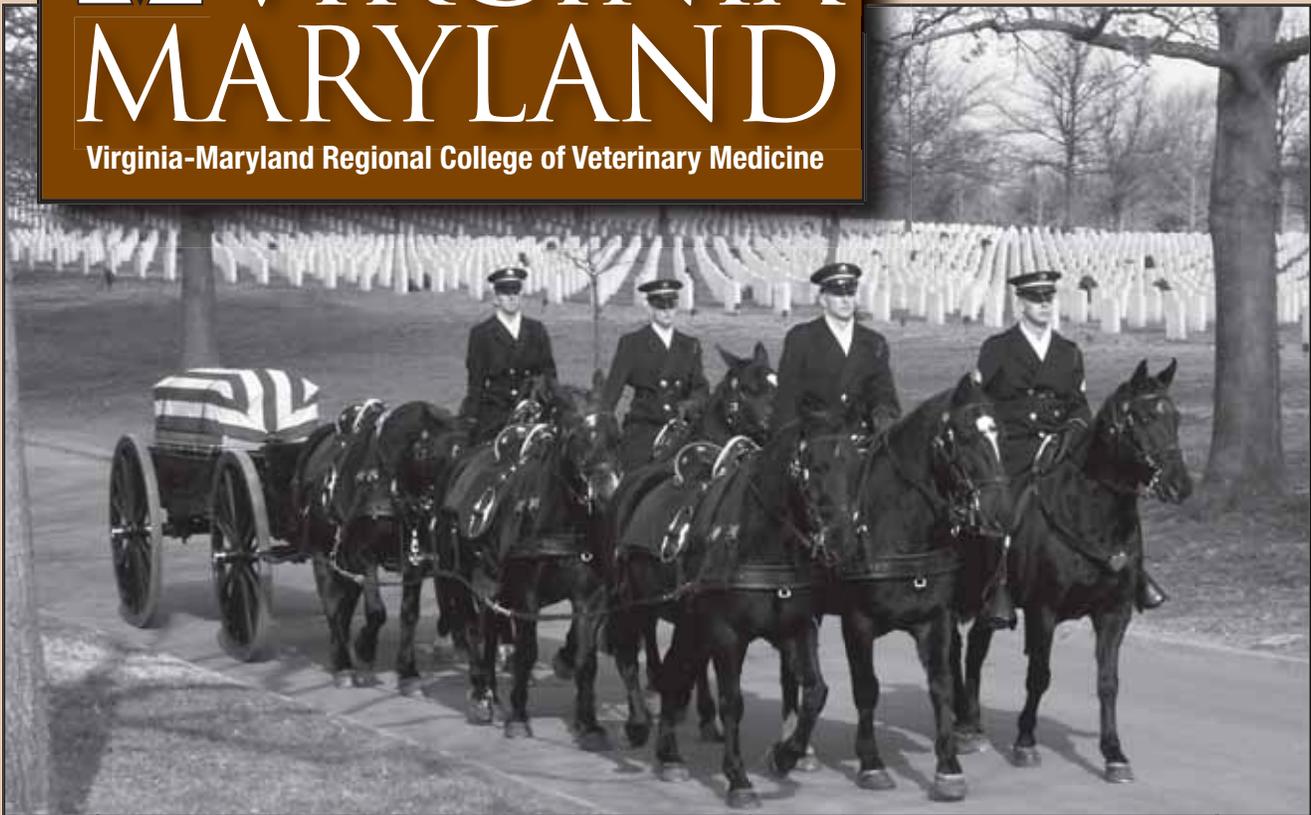


Photo by Jeffrey Douglas

**The Caissons Go Rollin' Along**--Soldiers and horses from "The Old Guard" perform a burial ceremony at Arlington National Cemetery near Washington. Eight times a day, five times a week, a veteran or dignitary is buried with full military honors in the distinguished ceremony. Veterinarians in charge of the Caisson Platoon's horses rely upon the Marion duPont Scott Equine Medical Center in Leesburg to provide advanced veterinary medical and surgical support for the horses. Over the years, more than 50 of the horses have been treated for colic, lameness and other disorders at the center.

## Veterinary College Researchers Seeking To Clone "Mad Cow Disease" Resistant Cattle Strains

With about \$300,000 in funding from the National Institutes of Health, two scientists in the VMRCVM are trying to produce and then clone cattle that are genetically incapable of developing "Mad Cow Disease."

As federal and state government officials grapple with strategies to limit the economic and health risks associated with the troublesome discovery of the nation's first case of Bovine Spongiform Encephalopathy (BSE) – or "Mad Cow Disease" — Drs. William Eyestone and Bill Huckle are conducting important research with the little understood molecules believed to cause the deadly brain-wasting disease.

Most people think of disease as being caused by infectious organisms like bacteria, viruses, rickettsia, protozoa or fungi, explains Eyestone, a molecular reproductive biologist who formerly served as Senior Research Scientist for PPL Therapeutics, the Scotland-based organization that cloned Dolly the sheep. He now spearheads the VMRCVM's transgenic animal research program as a research associate professor in the Department of Large Animal Clinical Sciences. Those microorganisms reproduce themselves to cause disease in fairly conventional ways, either inside a cell or elsewhere in the body.

Please see **"Mad Cow"** page 39

## Eyre Steps Down As Dean

Peter Eyre, dean of the Virginia-Maryland Regional College of Veterinary Medicine (VMRCVM) since 1985, has resigned from the deanship for personal health reasons. Virginia Tech Provost Dr. Mark McNamee has appointed Associate

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## Dean's Desk

Interim Dean  
Gerhardt Schurig

### *Greetings from Blacksburg*

It has been four months since former Dean Peter Eyre resigned after 18 years of service. He has rejoined our ranks as professor and continues to contribute with a variety of routine and special initiatives. I am enjoying my responsibilities as interim dean and appreciate all of the support and cooperation I am receiving.

As a founding faculty member in 1978, I remember what our college was like when Peter Eyre arrived in 1985. The late Richard B. Talbot, our founding dean, had overcome economic and political adversity to establish the college, but we were brand new and faced many challenges. We had not yet achieved full accreditation from the AVMA. We were less than halfway through our building program here at Blacksburg, and lacked the funding to finish our physical plant. Our Marion duPont Scott Equine Medical Center had just opened its doors, but faced fiscal uncertainty. Our partnership with Maryland was functional in spirit but flawed in practice.

By the end of Dr. Eyre's tenure, we were a nationally recognized, fully accredited, two-state, three-campus professional school with a \$32 million budget, a 360,000 square foot physical plant, 500 students, 350 employees and almost 1600 alumni, most of whom are practicing in communities, corporations and government agencies across Virginia, Maryland and the nation. We have come a long way.

In 2003, we have become what was envisioned by those who led the grassroots effort to create our college in the 1970's. But we are, it seems to me, far from what we will become in the years ahead.

Society needs more from the veterinary profession than ever before. In addition to providing quality animal health care, veterinarians must step up to help protect our nation from bioterrorism, re-emerging and newly emerging infectious diseases and other public health threats. Our college has historic strength in public veterinary practice, and we are prepared to help.

Here at Virginia Tech, our college has become affiliated with the university's new Institute for Biomedical and Public Health Sciences (IBPHS), a venture that will combine human, technical and financial resources in a synergistic way that vastly increases our biomedical research achievements at what is already the Commonwealth's leading research and development university. We also play an important role as a partner in the newly created School of Biomedical Engineering that Virginia Tech has established with Wake Forest University.

And across the Potomac, our Maryland activities and relationships show more promise than ever before in this new age of veterinary medicine. Guided by Peter Eyre's vision and leadership, our faculty, staff and students have created an enterprise that the people of Virginia and Maryland can be proud of.

When I was asked by Virginia Tech to serve as interim dean of the college, it took a moment of reflection. Just a few months earlier I had been appointed to lead the IBPHS. But having been a part of this college and all that it has achieved over the past 25 years, I felt like it was my responsibility to do whatever I could to help the college maintain its great momentum.

Higher education and the veterinary profession operate in dynamic, sometimes turbulent environments. I respect and appreciate the "protocol" of interim leadership, but I know that our college will face challenges, issues and opportunities while the search to recruit a permanent dean is conducted. We will not stand still during this time. We will make decisions, we will remain productive, and we will move forward.

I look forward to working with you in the months ahead, and I hope that you will share with me any thoughts and ideas you have about how the college can serve you better and continue its quest for excellence.

# VIRGINIA MARYLAND NEWS BRIEFS

## Purswell and Smusz Recognized by VVMA

Two long-term employees of the Virginia-Maryland Regional College of Veterinary Medicine were recognized for excellence at the annual meeting of the Virginia Veterinary Medical Association (VVMA) held recently at the Hotel Roanoke in Roanoke.

Dr. Beverly J. Purswell, professor, Department of Large Animal Clinical Sciences, was awarded the "Paul F. Landis Virginia Veterinarian of the Year" award. That VVMA honor recognizes veterinarians for their activities as a veterinarian, exceptional contributions to organizational activities at the national, state and local levels and community involvement. Dr. Purswell is one of only

two women in the history of the VVMA to receive the award. She earned her DVM, M.S. and Ph.D degrees from the University of Georgia. She is a diplomate in the American College of Theriogenologists.

Ted Smusz, Manager of Communications, was recognized as "Friend of the VVMA" at the meeting. Smusz, who joined the college in 1982, was honored for the communications support he has provided between referring veterinarians across the state and clinical faculty members in the Veterinary Teaching Hospital.

The call and switching center that Smusz manages handles 800-1200 calls per day and employs a staff of five.



Ph.D. student Tim LaBranche and DVM student Kijona Key pose with a Jersey cow in the Dairy Center during production of a television spot that profiles Virginia Tech. Aired during the half-time breaks of national football broadcasts, the spot attempts to educate people about the role veterinary medicine plays in protecting the nation from bioterrorism.



This digital fabrication illustrates how the sculpture might look when installed on the grassy hill located at the main entrance to the college. Jane Talbot, wife of the late Founding Dean Richard B. Talbot, has pledged a signature gift to help fund the project.

## New Statue To Commemorate College's 25th Anniversary

A statue celebrating the human/animal bond and modern veterinary medicine should be cast and installed on VMRCVM grounds in time to celebrate the college's 25th anniversary in 2005.

Jane Talbot, wife of the late Founding Dean Richard B. Talbot, will provide major funding with a signature gift, and the balance will be provided with additional private support.

"We are very grateful for what Jane has done," said Interim Dean Schurig. "This is a very important development in the history of the college."

Planning for the statue has actually been underway

for a few years. Former Dean Peter Eyre and Biomedical Media Unit artist Terry Lawrence began thinking about the project early in Virginia Tech President Charles Steger's administration when a committee led by University Distinguished Professor Tony Distler began exploring ways to bring more sculpture to the Virginia Tech campus.

Lawrence began working up some conceptual sketches and contacted artist Gwen Reardon of Lexington, Kentucky. Reardon did the famous life-size sculptures of 17 racehorses at Thoroughbred Park in Lexington.

Working with Lawrence's conception as a base model, she crafted and cast a bronze model

of the proposed sculpture, which includes a female veterinary student, a dog, and a horse.

The sculpture is supposed to represent a modern iteration of "The Gentle Doctor," a famous sculpture of a veterinarian on the campus of Iowa State University's College of Veterinary Medicine.

All of the monies used to fund the project are coming from private donors who wish to exclusively support the anniversary sculpture project, according to Schurig.

## VMRCVM Welcomes New Outreach Director



Dr. Judith Lynch

Dr. Judith Lynch has been named Outreach Director for the VMRCVM. Lynch will provide broad leadership for the college's outreach function in the new position, which reports to the Veterinary Teaching Hospital director.

She will develop, market and manage a variety of professional, paraprofessional and corporate outreach programs designed to meet the needs of the professional veterinary community in a proactive fashion.

She will work closely with Tech's continuing education division, organized veterinary medical associations like the VVMA and the MVA, and the Center for Organizational and Technological Advancement, which is based at the Hotel Roanoke, in program development and delivery.

Lynch will serve on the Veterinary Teaching Hospital Board and advise the VTH Director on matters of hospital policy and procedure, outreach, and veterinary cooperative extension.

Lynch earned her Ph.D. in Human Resources and Education: Educational Leadership and Policy Studies from Virginia Tech in December of 2003. In 1993, she earned her M.A. from Virginia Tech in Education: Counseling and Student Personnel Services. In 1987, Lynch earned her B.A. in English from Longwood College.

Lynch has served as an instructor in Tech's Interdisciplinary Studies program, as director of undergraduate recruiting in the College of Engineering, as an alumni and student programs coordinator in the Alumni Association, and in many other capacities at Tech.

Most recently she served as a legislative assistant with Virginia Delegate David Nutter in Richmond.



Delbert Jones

## LEPDN Program Held at College

The Laboratory Employee Professional Development Network (LEPDN) recently presented a day long symposium entitled "New Developments in Laboratory Technology Exhibits and Workshops" in the college.

Led by Delbert Jones, Biochemistry Laboratory Supervisor, and open to university laboratory employees from across the university, the event included more than 20 presentations on various molecular diagnostic and evaluation techniques. Almost 25 firms participated in the exhibit hall.

The LEPDN was created to help support Tech's laboratory technical personnel by fostered a variety of professional development opportunities, according to Jones. It is part of the university Leadership Development Program.



Dr. Phil Sponenberg

## Conserving Rare Breeds of Livestock Earns Sponenberg Honor

For nearly three decades, Dr. Phil Sponenberg, a professor in the VMRCVM's Department of Biomedical Sciences, has been working to keep rare breeds of livestock alive. He has been working through the American Livestock Breed Conservancy (ALBC), that 23 years ago was a loosely structured organization. Now, celebrating its 25<sup>th</sup> anniversary, the ALBC is an international leader in livestock breed conservancy.

Sponenberg has always been a leader in the ALBC, and most of his conservancy work has been accomplished through

this organization. To honor him for these efforts, the ALBC has renamed their annual exceptional service award the "Bixby-Sponenberg Award." The new name is intended to jointly honor the longtime ALBC Director Don Bixby, DVM and Dr. Sponenberg, for their three decades of work in saving endangered breeds.

Sponenberg's interests lie specifically in the "landrace" populations from the United States. Landrace breeds, according to "A Conservation Breeding Handbook," which was co-written by Sponenberg, are consistent enough in their physical characteristics to be considered breeds, though their appearance varies more than the standardized breeds.

They survive as distinct populations due to geographic and cultural isolation. This natural selection and geographic isolation has created a genetic consistency and an adaptation to their local environments. He has worked very closely with Colonial Spanish Horses, Randall Lineback Cattle, Spanish cattle in the Deep South and in Florida, as well as several breeds of goats.

The ALBC stresses that promoting and supporting these rare breeds is necessary if we are to preserve our agricultural history. If we were to lose the genetic diversity in our livestock, we would be left with just a few highly specialized breeds selected for maximum output in food production. By studying rare breeds that have evolved to meet certain environmental and geographic strains, according to the ALBC, we can perhaps help meet unforeseen future challenges that affect our own livestock.



Vicki Walter

## Walter Honored with President's Award for Excellence

Veterinary Teaching Hospital employee Vicki Walter has been honored with a prestigious "President's Award for Excellence."

Walter, who serves at the front desk/medical records area, was honored for the leadership and compassion she demonstrated during the



Dr. Chang-Hung Chou, President of National Pingtung University of Science and Technology (NPUST), Pingtung, Taiwan, recently visited the college. He is interested in exploring opportunities to expand the cooperative relationship Virginia Tech has had for about ten years with his university, and is particularly interested in developing a program with veterinary medicine. Pictured are Dr. Yasuhiro Suzuki, former Dean Eyre, Dr. Chou, and Dr. Bob Youngs, a professor emeritus from the College of Natural Resources that has been a leader with the existing collaboration.

illness and subsequent death of Shawnetta Jennings-El, a colleague in the VTH.

Walter volunteered to watch Shawnetta's children and pets during her frequent and extended hospitalizations and organized fund-raising and other programs designed to assist the family during their time of need.

Over a several month period, she helped raise more than \$5,000, in addition to food, clothing and toys for the children.



Dr. Robert Martin

## Martin Earns Auburn CVM Distinguished Alumni Award

VTH Director Dr. Robert A. Martin has been named recipient of the Auburn University College of Veterinary Medicine's 2003 "Wilford S. Bailey Distinguished Alumni Award."

Recognizing distinguished achievement and service in veterinary medicine, the award was presented to Martin during Auburn's 96<sup>th</sup> Annual Conference.

Martin, who earned his DVM from Auburn in 1976, is board certified by the American College of Veterinary Surgeons and the American Board of Veterinary Practitioners. He completed residencies in surgery and anesthesiology at Cornell University's New York State College of Veterinary Medicine before joining the college in 1983.

Martin completed a four-year tour of duty with the United

States Air Force Veterinary Corps following his graduation from Auburn.

He has directed the college's VTH since 1993.



Dr. Tom Inzana

## Veterinary College Presents 15th Research Symposium

Drs. Thomas Inzana and Ansar Ahmed were named co-winners of the prestigious Pfizer Award for Research Excellence and several graduate students were awarded honors during the VMRCVM's 15<sup>th</sup> annual Research Symposium.

Inzana, the Tyler J. and Frances F. Young Professor of Bacteriology, is a noted molecular microbiologist who has generated more than \$2.5 million in extramural funding and been awarded three patents for intellectual properties arising out of research that has led to the development of vaccines for several economically important agricultural diseases. A former director of the Center for Molecular Medicine and Infectious Diseases, Inzana also serves as Director of Clinical Microbiology in the Veterinary Teaching Hospital and conducts teaching, service, and research through his appointment as a professor in the Department of Biomedical Sciences and Pathobiology. He is a diplomate of the American Board of Medical Microbiology and a Fellow of the American Academy of Microbiology.



Dr. Ansar Ahmed

Ahmed is the current director of the Center for Molecular Medicine and Infectious Diseases. He is internationally recognized for work that is exploring the relationship between estrogen and estrogen-mimicking chemicals in the environment and the development of immune-mediated disorders such as lupus, arthritis and other disorders.

The two-day symposium included a keynote address on "Immune Changes with Advanced Age: Does Immunity Grow Older and Wiser?" from Dr. Kevin High of the Bowman Grey School of Medicine at Wake Forest University. On the second day, Dr. Charles Kuntz, a former resident in the VMRCVM and current Washington D.C. based veterinary oncologist, was the featured guest speaker. More than 30 presentations ranging from Hepatitis E virus to the health effects of depleted uranium artillery shells were featured.

Graduate students recognized during the competitive graduate student presentation component of the symposium included Shaadi Elswaifi, first place; Martijn Fenaux and Rebecca Roche, second place; and Joel Stitzel, third place.

"Our annual research days symposium has become an important college tradition," said Interim Dean Gerhardt Schurig. "This program inspires and rewards superior performance, it helps as all learn more about what is underway in our laboratories, and it encourages more collaboration between our faculty and other areas of the university."

This year's symposium included presentations by graduate students from Wake Forest University, as well as graduate students and professors from Virginia Tech's College of Engineering and the VMRCVM that are working in the area of biomedical engineering.

Graduate students compete in basic and clinical science categories, which are judged by teams of faculty members. Some faculty research presentations are also made during the event.

## Admissions Workshop Seeks Process Improvement

One of the strategies that academic and professional association leaders believe will help develop a more business and communications "savvy" veterinary profession is to select and then train students who demonstrate strength in those areas.

That notion was recently considered by about 30 faculty members from several southeastern veterinary colleges who attended a two-day veterinary college admissions workshop hosted by the VMRCVM.

"We in academic veterinary medicine are the gatekeepers of the profession," said former VMRCVM Dean Peter Eyre during introductory remarks. "How will the profession change if the

schools do not?" Eyre said that communication, business and leadership skills are essential in all areas of clinical, corporate and government practice and that the schools have an enormous obligation to select students that can promote the future success of the profession.

The two-day symposium, entitled "A Fresh Look at Veterinary Medical School Admissions: Putting the Cart Before the Horse?" was organized by VMRCVM Associate Dean for Academic Affairs Grant Turnwald and featured four-hour presentations by two noted experts.

Dr. Bob Lewis, an organizational psychologist with Personnel Decisions International, Inc., made a presentation entitled "Non-Technical Competencies Underlying Career Success as a Veterinarian," and "Face to Face! Making the Case for the Selection Interview" was presented by Dr. John Molidor, a professor and assistant dean for Michigan State University's College of Human

Medicine and CEO and President of the medical school's Flint campus.

## Lindsey Earns Alumni Research Award

Dr. David Lindsey, professor, Biomedical Sciences and Pathobiology, and researcher in the Center for Molecular Medicine and Infectious Diseases, has been awarded a Virginia Tech Alumni Award for Excellence in Research.

Lindsey's research involves the study and vaccine development for protozoan parasites of companion animals, livestock, horses and poultry.

Recognized as an international authority in human and veterinary parasitology, he has published more than 288 papers, 21 book chapters and one book.



Speakers at the "Career Opportunities in Public Health and Comparative Medicine: An Agenda for Action" meeting included, from left, Dr. Stephen Sundlof, Head of the Food & Drug Administration; Dr. Donald Butts, Virginia State Veterinarian; VMRCVM Interim Dean Gerhardt Schurig; Dr. Craig Reed, VMRCVM visiting professor and former head, USDA-APHIS; Dr. Glenn Morris, professor and chairman of the Department of Epidemiology and Preventive Medicine at the UMBSM; Dr. Larry Heider, Executive director of the Association of American Veterinary Medical Colleges; former Dean Peter Eyre; and Dr. Lou Detolla, head of the UMBSM Department of Comparative Medicine.

## VMRCVM Exploring Medical College Relationship

A half-dozen distinguished guests from Washington and Baltimore recently joined VMRCVM administrators and faculty members for a retreat on the Tech campus.

The "Career Opportunities in Public Health and Comparative Medicine: An Agenda for Action" event was part of a series of meetings that have taken place under the leadership of former Dean Eyre since a major policy statement was released last summer by the Association of American Veterinary Medical Colleges.

An AAVMC sponsored national symposium and subsequent monograph challenged member institutions

to develop training programs to help veterinary colleges produce more graduates for work in public health, food safety and security, food animal production, veterinary research and homeland security.

Chief on the agenda were discussions concerning the possible establishment of a formal academic relationship between the VMRCVM and the University of Maryland Medical College at Baltimore.

Guest speakers included Dr. Glenn Morris, professor and chairman of the Department of Epidemiology and Preventive Medicine at the UMCM; Dr. Lou Detolla, head of the University of Maryland College of Medicine's Department of Comparative

Medicine; Dr. Stephen Sundlof, head of the Food & Drug Administration's Center for Veterinary Medicine; Dr. Larry Heider, executive director of the Association of American Veterinary Medical Colleges; Dr. Craig Reed, VMRCVM visiting professor and former head, USDA-APHIS; and Dr. Donald Butts, Virginia State Veterinarian.

The meeting was moderated by VMRCVM Interim Dean Dr. Gerhardt Schurig, and Dr. Peter Eyre provided summary comments. Schurig appointed Eyre to provide leadership for the ongoing discussions between the two institutions that are focused on the development of a combined training program.

## Clinical Pathologist Joins DBSP

Dr. Frederic Almy has joined the Department of Biomedical Sciences and Pathobiology as a clinical pathologist. Prior to joining the college he was with IDEXX Veterinary Services, Inc. in West Sacramento, California.

Before working in Sacramento, Almy was a NIH Fellow in comparative pathology in the Center for Comparative Medicine at the University of California, Davis. There, his research focused on finding a mouse model for B-cell chronic lymphocytic leukemia.

In 1997, Almy received his DVM from the University of Georgia, Athens. He conducted a residency in clinical pathology at the University of California, Davis, from 1998-2001. Last year he received his M.S. in Comparative Pathology.

In addition to several years of teaching experience at Davis, Almy has co-authored numerous professional publications.

## CeCO Group Meets at Wake Forest

A delegation of 20 faculty members and graduate students affiliated with the Center for Comparative Oncology (CeCO) in the VMRCVM at Virginia Tech recently met with about 40 scientists at the Comprehensive Cancer Center at Wake Forest University (CCCWFU) in Winston-Salem, North Carolina to discuss the establishment of a joint multidisciplinary cancer research and education program.

The day opened with an overview of the CCCWFU presented by Director Dr. Frank Torti. Founded in 1972 and continuously funded by the National Cancer Institute since then, the center is currently ranked 21<sup>st</sup> in the nation and has set a goal of advancing to the top 10 of the nation's comprehensive cancer centers within the next five years.

Their cancer research program is currently funded at about \$14.7 million, with 112 members working with 67 grants. The CCCWFU includes three Centers of Excellence that focus on brain, prostate, and breast cancer.

Dr. John Robertson, professor, Department of Biomedical Sciences and Pathobiology and director of

CeCO made a presentation that profiled CeCO's history and current operations. Founded in 2001, the center serves as a unifying resource for some of the estimated 40 faculty members at Virginia Tech engaged in cancer related research. Some of the research programs underway involve the detection of cancer using lasers, developing methods for quantifying changes in normal and neoplastic cells, exploring linkages between diet and breast cancer, and angiogenesis, or how tumors grow new blood vessels.

Wake's Dr. Edward Shaw, director of Clinical Oncology Research and Chairman of Radiation Oncology, then made a presentation on both the process and subjects of possible collaboration that were developed as a result of meetings held in July 2003 with Robertson and Tech's Dr. William Spillman, who serves as director of Virginia Tech's Applied Biosciences Center.

All participants are interested in translational research, which integrates and magnifies the benefits of laboratory and clinical research. Specific areas of mutual interest include skin, brain, breast, prostate and lymphoreticular tissue cancers. Additional interests have been identified in the overall area of cancer biology, and in the technological tools used for cancer detection and management.

More than a dozen individual presentations were made by Wake Forest and Virginia Tech researchers summarizing work being done in different areas of cancer research.

## Major Upgrade of College's IT Network Infrastructure Accomplished

The VMRCVM complex at Virginia Tech has completed a major upgrade to its IT infrastructure, according to IT Director David Sampson.

About 260,000 feet of new category 6 100 Base-T wiring was installed to support workstations throughout the complex. The new wiring enables users to move data about ten times faster than the prior wiring and allows for some wireless capabilities in common areas around the college.

The new wiring will support gigabyte Ethernet, which is expected to become available on a widespread basis in three to five years. The VMRCVM is one of the first colleges at Virginia Tech to receive the upgrade.



Dr. Bob Ridgway, a long-time leader of the D.C. Academy of Veterinary Medicine, was honored for his years of service during the college's new student orientation. Standing nearby is Dr. D. Phillip Sponenberg, professor, Department of Biomedical Sciences and Pathobiology.

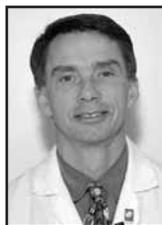
## Scavma Scores at National Conference

There's a shiny new trophy in the Student Chapter American Veterinary Medical Association (SCAVMA) information case near the College Center that speaks of the strength and tenacity of the VMRCVM's student body.

The college's SCAVMA chapter won first place nationally in the annual "Tug-a-War" contest. And brute strength and teamwork wasn't the only category in which VMRCVM students won honors.

Teams from the VMRCVM SCAVMA won third place national awards in both the equine aging and bovine palpation categories and a second place honor in the bovine palpation individual category.

About 65 students, including two delegates and a president made the journey to the University of Georgia at Athens for the annual meeting of the nation's veterinary students.



Dr. Mark Smith

## Smith Honored by AVDS, Hill's

Dr. Mark Smith, professor, Department of Small Animal Clinical Sciences, has won the 2003 American Veterinary Dental Society (AVDS)/Hill's Research and Education Award.

Sponsored by Hill's Pet Nutrition, Inc. and presented by the AVDS, the award recognizes outstanding contributions to

the advancement of veterinary dentistry through innovative research and education.

Smith is board certified by both the American College of Veterinary Surgeons and the American Veterinary Dental Society. He also serves as editor of the Journal of Veterinary Dentistry.

## Student Project Places Third in National Competition

A team of students from the VMRCVM has claimed third place honors in the national Hill's Pet Nutrition Public Health Award Competition.

Fourth-year students John G. Dyer and Justin Brown earned \$500 for a project entitled "Homeland Security Blanket: Mental Health Preparedness for an Exotic Animal Disease Disaster."

The authors propose that media coverage of animal disease epidemics such as Great Britain's recent epidemic of Foot & Mouth Disease, bioterrorism fears sparked by the 9/11 disasters, and the emergence of new zoonotic diseases like West Nile Virus can affect the mental health and well-being of the public.

The students proposed the development of a communications campaign that would provide the public with accurate information about disease threats, identify sources of additional public information and present an overview of the steps that state and federal government agencies are taking to protect them.

The pair initially prepared the paper as part of a Veterinary Public Policy class they took during their third year of study, according to Dr. Ted Mashima, associate director of the college's Center for Government and Corporate Veterinary Medicine at College Park, Maryland.



Dr. Tom Caruso

## VMRCVM Hires New Research Initiatives Director

Dr. Tom Caruso has joined the Office of Research and Graduate Studies as Director of Research Initiatives.

In this capacity, Caruso will help the college establish new research relationships with contracting agencies in the public and private sector. A special emphasis will be placed on developing new research opportunities in the life and biomedical sciences.

Caruso brings strong academic credentials and a wealth of experience to the new position. His professional interests center on organizing multidisciplinary teams and multi-organizational partnerships that deliver high-impact products, services and technology development proposals.

Caruso earned a B.S. in biochemistry and biology from the University of Pittsburgh in 1974, a Ph.D. in pharmacology from the University of Minnesota and an MBA from the Massachusetts Institute of Technology in 1984.

Prior to joining the college, Caruso worked for four years with Tech's Office of the Vice Provost for Research, where he served as an Industrial Program Development Specialist with some Center for Innovative Technology funding, and then for three years as Manager of Program Development.

"I'm very excited about this opportunity to join the regional college," said Caruso. "The college's research programs are building momentum at a time when life sciences research has become a major priority for Virginia Tech," said Caruso, who envisions unfolding opportunities in the areas of immunology and biodefense. "I'm looking forward to playing a role in this important process."

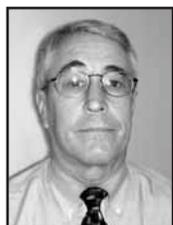
Caruso will also have a 20% research appointment and plans to collaborate with Dr. Jeff Wilcke, the college's Metcalf Professor of Veterinary Medical Informatics, as well as other Virginia Tech researchers on a variety of projects.

## Barber Steps Down as DSACS Head

Dr. Don Barber, who has served as Head of the Department of Small Animal Clinical Sciences for 16 years returned to full-time faculty responsibilities.

Barber, a professor of radiology, diplomate and past-president of the American College of Veterinary Radiology, has led the department since the college was re-structured in 1986 at the beginning of the Eyre administration.

"Don is an exemplary academician and one of the most loyal and hard-working colleagues," said former Dean Eyre, in an announcement detailing the move.



## Troy Named Department Head

Dr. Gregory C. Troy has been named Head of the VMRCVM's Department of Small Animal Clinical Sciences (DSACS).

With 25 tenure track professors, four clinical instructors and 18 residents and interns, DSACS is home to the veterinary specialists that provide clinical care for dogs, cats and other pets in the college's Veterinary Teaching Hospital (VTH).

Troy, a professor and internal medicine specialist, was recruited to direct the college's Veterinary Teaching Hospital in 1987 and served in that capacity until 1993. He also served as Acting Hospital Director from 1996-97 and as Small Animal Section Chief in the VTH from 1996-2001. He had served as acting Head of DSACS since March 2003.

"I am delighted to welcome Dr. Troy back to the college's administrative team at this time," said former VMRCVM Dean Peter Eyre upon Troy's appointment. "I know that his outstanding professional record and his exceptional personal characteristics will help to move the department and the college forward at this time of challenge and opportunity."

Born in North Carolina and raised in Florida, Troy earned his

DVM, with honors, from Auburn University, and a M.S. degree in internal medicine from Texas A&M University. He served on the faculty at Texas A&M from 1979 until 1987.

Troy is a Diplomate of the American College of Veterinary Internal Medicine (ACVIM). His academic and clinical achievements have been recognized with 22 professional honors and awards, including seven teaching awards. His four awards for distinguished clinical service include the prestigious "Dr. E. E. Thompson Professorial Award" and the "Dr. & Mrs. Dorsey Mahin Clinical Proficiency Award."

Troy has mentored more than 70 interns and residents. He is the author of 50 major refereed journal articles, nine book chapters and numerous abstracts, conference papers, and continuing education documents.

## DLACS Welcomes New Faculty

Four new faculty members have joined the Department of Large Animal Clinical Sciences.

Dr. Douglass Berry, III, is an assistant professor of large animal surgery. He earned his DVM from Auburn University, a M.S. from Virginia Tech and is board certified by the American College of Veterinary Surgeons.

Dr. Ramanathan Kasimanickam is an assistant professor specializing in food animal theriogenology. Kasimanickam earned the D.V.Sc. from Ontario Veterinary College at the University of Guelph in Ontario, Canada, and the B.V.Sc. from Madras Veterinary College at the Tamil Nadu Veterinary and Animal Sciences University in Madras, Tamil Nadu, India. Kasimanickam is a diplomate in the American College of Theriogenology.

Dr. Jolynne Tschetter has joined the department as a research scientist in molecular diagnostics. Tschetter earned a B.S. degree from St. Cloud State University in St. Cloud, Minnesota and a Ph.D. from Washington State University in Pullman, Washington.

Dr. Curry Keoughan has joined the department as a clinical instructor in large animal surgery. Keoughan earned a B.S. from Nova Scotia Agriculture College in Truro, Nova Scotia and the DVM from University of Prince Edward Island in Charlottetown, Prince Edward Island.

## Lester Honored for Excellence by LVT Organization

Robin Lester, LVT, earned the "Technician of the Year Award" from the Virginia Association of Licensed Veterinary Technicians.

Lester works in the Veterinary Teaching Hospital's small animal Intensive Care Unit.

Lester was recognized during the organization's annual meeting in Roanoke.

## VMRCVM Hosts National Alpha Psi

About 140 veterinary students from around the nation gathered in early 2004 at the Virginia-Maryland Regional College of Veterinary Medicine to attend the national convention of Alpha Psi, a veterinary service and honor fraternity.

Delegates enjoyed academic presentations such as an "Acupuncture Wet-Lab" in the Veterinary Teaching Hospital as well as a number of social and recreational activities such as bowling and pool tournaments and a Dinner and social.



The Veterinary Teaching Hospital's new CT machine is on-line and working well. Here, the college's first CT scan is performed on the brain in a live, adult horse. The motorized table on the new machine is designed to support up to 2000 pounds.

# Tech Launches Institute for Biomedical and Public Health Sciences

Virginia Tech is putting a new kind of knowledge to work. Long considered a giant in the agricultural and mechanical sciences and lauded as a 20<sup>th</sup> century pioneer in America's information technology revolution, Tech has been building capacity in human health and life sciences research for more than 25 years.

Now, Tech's steady rise in stature as a major health sciences research center has been formally ordained with the creation of a new inter-college, interdisciplinary research and development center known as the Institute for Biomedical and Public Health Sciences (IBPHS).



Above, Dr. Janet Rankin, professor, Department of Human Nutrition, Foods, and Exercise, is serving as interim director of IBPHS. One of the goals of the new institute is to marshal some of the universities intellectual capital and laboratory facilities in a way that will make the university more competitive for funding in the biomedical sciences from government agencies such as the National Institutes of Health.



The new institute will lead in the development of cross-university research initiatives in the biomedical sciences, boost graduate education, and partner with an array of human health-related educational and governmental institutions on an ambitious quest to discover new ways to promote human health and well-being.

"The institute has been created to provide a catalyst for biomedical health researchers working in different departments and colleges at the university," said Dr. Mark McNamee, University Provost and Vice President for Academic Affairs. "In order to advance scientifically and remain competitive, we must inspire and support collaborative efforts that unite researchers from across our university and beyond its walls."

IBPHS is the second major collaborative research institute formed by Virginia Tech. The Institute for Critical Technology and Applied Science (ICTAS) was created in 2002.

The new institute is designed to

create a highly interactive intellectual environment for scholars and scientists from different areas and colleges and promote their success by infusing them with resources and support, according to Dr. Janet Rankin, professor, Department of Human Nutrition, Foods and Exercise, and the institute's first interim director.

"This institute should build upon some of our current strengths and assist us in taking our research to a level where we are a major player in the biomedical and health research areas," Rankin said.

Rankin is directing the unit in concert with a stakeholder committee that consists of the deans of the four colleges that are principally involved with the new institute: Dr. Lay Nam Chang of the College of Sciences, Dr. Sharon Quisenberry of the College of Agriculture and Life Sciences, Dr. Gerhardt Schurig of the VMRCVM and Dr. Greg Brown of the College of Forestry and Natural Resources. The leadership team, working closely with

a nucleus of faculty researchers serving on a Faculty Scientific Council, will oversee the development of all aspects of the institute, including the initial programmatic emphasis.

Some of the institute's key operating strategies are to encourage communication and collaboration among current faculty, provide support and coordination for multidisciplinary grants, and fund cluster-hires in collaboration with departments, she said. She said the institute will work closely with departments and colleges to insure that benefits are realized at all levels.

Initially, the institute will concentrate on two core areas:

***The new institute is designed to create a highly interactive intellectual environment for scholars and scientists from different areas and colleges and promote their success by infusing them with resources and support, according to Dr. Janet Rankin, professor, Department of Human Nutrition, Foods and Exercise.***

Infectious Diseases and Immunology; and Food, Nutrition & Health.

A variety of vaccine development

programs are underway in the Center for Molecular Medicine and Infectious Diseases (CIMMID), where several researchers are developing a new generation of genetically modified vaccines to protect animals and people against infectious diseases ranging from brucellosis to tularemia. CIMMID is also where Schurig and colleagues developed the RB-51 brucellosis vaccine, now considered the global “gold standard” of control.

Sponsored research in the area of immunology and infectious diseases has tripled from slightly more than \$2.3 million in 2000 to current funding of more than \$7 million in 2003, according to Schurig. Increased federal funding for bioterrorism related research in our post 9/11 world has created fertile funding opportunities for increased work in this area, he said.

Similarly, the university has vast experience and faculty depth in the broad area of Food, Nutrition and Health (FNH), according to Rankin. The overall goal of this program is to enhance human health through the consumption of improved foods and physical activity. Faculty at Virginia Tech are involved in the development of new genetic strains of crops and animals to improve disease resistance or other characteristics related to production.

One public health problem in need of a comprehensive scientific approach, obesity, affects over 60% of the U.S. adult population and increases the risk of most chronic diseases, including cardiovascular disease, diabetes, hypertension, and some cancers, according to Rankin. Tech has significant resources to bring to bear upon these problems, Rankin said.

The institute may also look at programs designed to protect the nation from agro-terrorism. Possible approaches include work on the development of pathogen-resistant foods, improved processing, and surveillance systems for better tracking of infection outbreaks.

Initially, IBPHS will occupy facilities in the university’s Corporate Research Center. Eventually, plans call for the institute to become physically integrated with a major life sciences facility that will be constructed adjacent to the emerging Virginia Bioinformatics Institute and Litton-Reaves Hall.



## Former SCAVMA President Works With Famed Chincoteague Ponies



James Custis

Former SCAVMA president James Custis has worked with the annual pony round-up on Chincoteague for the past several years.

Photos courtesy of Jerry Baber

Marguerite Henry’s “Misty of Chincoteague” is a treasured classic for many.

But for former SCAVMA President James Custis, it’s a reminder of an event he’s been part of for the past four years.

As a part-timer with Eastern Shore Animal Hospital in Painter, Virginia, Custis has enjoyed an opportunity to play a role in providing veterinary care for the famed herd of wild ponies.

While the horses enjoy the global spotlight during the annual swim that is always conducted during the last week of July, the herd is actually rounded up three times a year for routine veterinary care, Custis explains.

A hundred thousand spectators may gather to witness the 500-yard swim across the channel from Assateague to Chincoteague on Wednesday morning, Custis says.

But much has already gone on behind the scenes during the days leading up to the spectacle. Most people don’t realize how much veterinary medical care is involved with the event, he says.

On Tuesday, a team of veterinarians examines the herd. Animals not judged sound enough to handle the swim are trucked to the mainland.

Local fire department volunteers draw upon years of experience to detect the exact “slack tide” --that moment between high and low when the current is the stillest -- Custis says, to make it as easy as possible on the animals.

About 180 ponies make the swim, including some 80 foals that are ultimately auctioned off to maintain the herd at sustainable levels. People have been known to pay thousands of dollars for the opportunity to own and care for one of the famous ponies, Custis said.

On Friday, the horses are swum back across the channel where they resume their unfettered lives of leisure on the sandy barrier island.

For Custis, the opportunity to care for the animals and to participate in one of the world’s most famous equine events has been “a remarkable experience.”

## State, Federal Veterinary Officials and College Form Working Group

A working group comprised of animal health professionals from federal and state government, academic institutions and professional associations has been created by the Office of Outreach in the Virginia-Maryland Regional College of Veterinary Medicine's Veterinary Teaching Hospital.

Established as an advisory organization for the Virginia State Veterinarian, the committee will address issues related to animal health emergency response preparedness.

"Veterinary medicine plays a critical role in public health and safety," said Dr. Gerhardt Schurig, interim dean of the VMRCVM. "Infectious disease outbreaks like Foot and Mouth Disease, avian influenza, and Mad Cow Disease, as well as the ongoing threat of bioterrorism, have all illustrated this point more clearly than ever for our citizens."

*Through the committee, public officials, faculty and Cooperative Extension experts working on issues related to animal health emergency response and agricultural security will have an opportunity to share information and create efficiencies through collaboration, cooperation and coordination.*

Through the committee, public officials, faculty and Cooperative Extension experts working on issues related to animal health emergency response and agricultural security will have an opportunity to share information and create efficiencies through collaboration, cooperation



Pictured, from left to right, Dr. Judi Lynch, VMRCVM director of outreach; Dr. J. Fraser Owens, State Staff Veterinarian – Agricultural Security, Virginia Department of Agriculture and Consumer Services (VDACS); Dr. Judith H. Jones, interim director, Virginia Cooperative Extension Service and Associate Dean; Dr. Craig A. Reed, Visiting Professor, former director USDA-APHIS; Patrick McMillan, Maryland Department of Agriculture; Dr. Joseph Garvin, Program Manager, Office of Laboratory Services, VDACS; Dr. Namalwar (Nathan) Sriranganathan, Professor, Biomedical Science, VMRCVM; Dr. Terry L. Taylor, Area Emergency Coordinator, USDA, APHIS, VS; Dr. Gerhardt G. Schurig, interim dean, VMRCVM; Dr. Peter Eyre, professor, Biomedical Sciences and Pathobiology, and former dean, VMRCVM; Dr. Thomas Massie, President, VVMA Academy of Food and Animal Practice; Dr. X.J. Meng, associate professor, DBSP, VMRCVM; and Dr. François C. Elvinger, associate professor, DBSP, VMRCVM.

and coordination, according to Dr. Judi Lynch, the VMRCVM's director of outreach.

The committee recently had its inaugural meeting at Virginia Tech and will meet again in Roanoke in conjunction with the annual meeting of the Virginia Veterinary Medical Association. At that time, they may consider adopting the name Multi-Agency Coordinating Group (MAC).

State and federal officials already have detailed emergency response systems that can be activated in the event of an animal and/or public health crisis. However, the committee seeks to increase communication and share resources in a way that could generate possible improvements.

For example, the group may examine existing systems for mobilizing, organizing, training and equipping public and private sector veterinarians, (including veterinary students) for emergency support in the event of an animal and/or public health emergency, according to Lynch.

They might also look at protocols for routine and emergency laboratory diagnostics. In the event of a major infectious disease emergency like Foot and Mouth Disease (FMD) or Avian influenza, state diagnostic laboratories might be overwhelmed with volume.

Members of the group include Drs. Gerhardt G. Schurig, interim dean, VMRCVM; Peter Eyre, professor, Biomedical Sciences

and Pathobiology, and former dean, VMRCVM; Donald W. Butts, State Veterinarian and Director, Division of Animal, Plant and Food Industry Services; and J. Fraser Owens, State Staff Veterinarian – Agricultural Security, Virginia Department of Agriculture and Consumer Services (VDACS). Also, Drs. John Brooks, Deputy Secretary, Maryland Department of Agriculture; Judi M. Lynch, Director of Outreach, VMRCVM; Joseph Garvin, Program Manager, Office of Laboratory Services, VDACS; Craig A. Reed, Visiting Professor, head of the Food and Nutrition Institute and former director USDA-APHIS; and François C. Elvinger, associate professor, DBSP, VMRCVM. Also, Drs. Judith H. Jones, interim director, Virginia Cooperative Extension and Associate Dean; Terry L. Taylor, Area Emergency Coordinator, USDA, APHIS, VS; Thomas Massie, President, VVMA Academy of Food and Animal Practice; X.J. Meng, associate professor, DBSP, VMRCVM; Namalwar (Nathan) Sriranganathan, Professor, Biomedical Science, VMRCVM; Patrick McMillan, Assistant Secretary for Animal Health, State of Maryland, and Mr. Jeffrey S. Douglas, Director, Public Relations, VMRCVM. Also, Drs. Thomas Toth, professor, DBSP; and Bill Pierson, professor, DBSP.

# RESEARCH SPOTLIGHT

## Veterinary Memorial Research Grants Awarded

More than \$53,000 in clinical research grants has been awarded to six principal investigators in the VMRCVM through the 2003-2004 distribution of Veterinary Memorial Fund research grants.

Founded in 1984, the Veterinary Memorial Fund is a program jointly operated by the Virginia Veterinary Medical Association (VVMA) and the VMRCVM that helps bereaved pet-owners deal with their grief and raises money to improve the quality of healthcare available for future generations of companion animals.

Proposals were selected for funding on the basis of contemporary clinical importance by a committee comprised of veterinarians in private practice and in academia. The research will provide much-needed information on topics ranging from complications associated with commonly used non-steroidal anti-inflammatory drugs to feline urinary tract disorders.

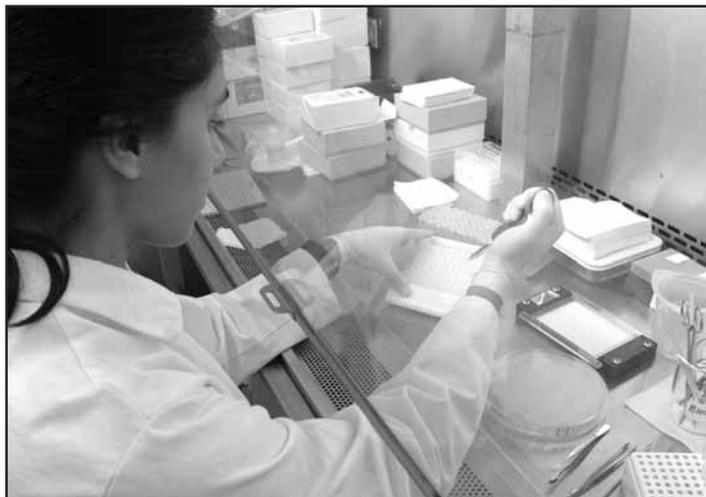
**Dr. David Panciera**, professor, Department of Small Animal Clinical Sciences (DSACS), was awarded \$7,495 to investigate a project entitled "Effects of Deracoxib and Aspirin Administration on Thyroid Function Tests in Normal Dogs." Deracoxib is a new COX-2 inhibitor based non-steroidal anti-inflammatory drug (NSAID) that has recently been approved for the treatment of osteoarthritis in dogs. Researchers know that NSAID's can affect thyroid function tests in humans. Veterinarians need to know whether or not those drugs can also interfere with the efficacy of thyroid tests in animals so they can prevent the costly misdiagnosis of hypothyroidism.

**Dr. Ian Herring**, associate professor, DSACS, was awarded \$10,967 for "Investigation of Adrenocortical Activity in Dogs with Sudden Acquired Retinal Degeneration Syndrome." Sudden Acquired Retinal Degeneration Syndrome (SARDS) is a disorder that causes sudden and irreversible

The "Veterinary Memorial Fund" is one of the oldest such programs in the nation.

loss of vision in dogs. SARDS is most commonly seen in dachshunds, miniature schnauzers and Brittany spaniels, and it seems to affect middle-

aged to older female dogs more than others. Researchers have documented some correlation between SARDS and Hyperadrenocorticism (HAC) in affected animals, but it is not clear whether or not the relationship is one



of cause or affect. The study will fully explore the relationship, providing valuable information that can prevent some dogs with SARDS from being inappropriately treated for HAC as well.

**Dr. Don Waldron**, professor, DSACS, was awarded \$10,000 to study "The Effect of Nephrotomy on Renal Function in Normal Cats." Urinary tract calculi in cats is a common problem faced by veterinarians. Over the past 20 years, the composition of the calculi has shifted dramatically. Twenty years ago, the stones were primarily magnesium ammonium phosphate, or struvite stones. Today, possibly because of the widespread use of acidifying feline diets, the most common stones are calcium oxalate, and they are found more commonly in the ureter and in the kidneys. Presently, no medical dissolution protocols are available, and lithotripsy, widely used in humans, is not suitable for treating these problems in cats for a variety of reasons. Surgical intervention by nephrotomy remains the best clinical approach to resolving the problem, but some questions exist concerning whether or not this surgery causes long-term effects on kidney function. The researchers believe that it does not, and will attempt to empirically demonstrate that surgical correction does not negatively affect long-term renal function.

**Dr. Michael Leib**, professor, DSACS, was awarded \$7500 for "Comparison of the Effect of Deracoxib (a selective COX-2 inhibitor),

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# \$3.2 Million National Science Foundation Grant Funds Interdisciplinary Program on Oxidation

By Susan Trulove

A team of researchers from three different colleges has been awarded a five-year, \$3.2 million National Science Foundation Integrative Graduate Education and Research Traineeship (IGERT) award for the Macromolecular Interfaces with Life Sciences (MILES) program. MILES uses free radical and oxidation processes as the thematic basis for research and education at the chemistry-biology interface.

*Thatcher and his colleagues in veterinary medicine are also interested in nutrition and in the roles of free radicals in disease, and will help the MILES researchers understand the biomedical implications and evaluate the success of their discoveries with animal models.*

Oxidation is a process that involves free radicals, which cause food to spoil or taste bad, and damage cellular processes in living systems. Oxidation is also a tool for creating thin films.

Principal investigators are Craig Thatcher, Head, Department of Large Animal Clinical Sciences, VMRCVM; Susan Duncan, associate professor of food science and technology in the College of Agriculture and Life Sciences; and Tim Long, professor of chemistry in the College of Science.

"The scientific scope is broad, crossing traditional boundaries of



Dr. Craig Thatcher, head, Department of Large Animal Clinical Sciences, is interested in how free radicals cause disease. Thatcher is board-certified by the American College of Veterinary Nutrition.

science from the oxidation of fats to understanding disease mechanisms," says Long. "The program bridges the gap between traditional macromolecular science and biological disciplines."

According to the project summary, "Many boundaries at the chemistry-biology interface remain unexplored and represent unique opportunities for the discovery of advanced technologies and the education of interdisciplinary scientists and engineers. Oxidation processes occur within both synthetic macromolecules and biological systems, offering a common theoretical base. Oxygen-centered radicals are intermediates in key chemical and biological processes, such as lipid oxidation, aging, and product deterioration.... Oxidative stress is implicated in many chronic diseases, including cancer, diabetes, obesity, and the compromise of immune function."

In the oxidation process, oxygen interaction with some molecules causes some atoms to lose electrons. Atoms with unpaired electrons are free radicals. These highly reactive atoms seek to correct their imbalance by robbing electrons from other atoms, which can interfere with cellular processes or damage cellular components such as DNA, or the cell membrane. The defense is antioxidants -- molecules that scavenge the free radicals.

The researchers point out that a chemistry-biology collaboration offers the potential for the development of antioxidant delivery systems, including antioxidant enriched foods, novel biocompatible synthetic polymer delivery systems, or new natural and synthetic macromolecular antioxidants. Yet, the chemists and engineers who

develop synthetic macromolecules inspired by biology, such as biomaterials used in healthcare, are not trained to understand the biochemical processes involved in biomedical, nutrition, and food technologies. And life scientists are generally unaware of fundamental macromolecular chemistry and the close relationship between synthetic molecules and biomolecules.

The NSF IGERT program supports interdisciplinary training of Ph.D. scientists and engineers. The MILES IGERT involves 15 core faculty members in four of Virginia Tech's colleges -- Agriculture and Life Sciences, Engineering, Science, and the Virginia-Maryland Regional College of Veterinary Medicine -- to provide cooperative research, interdisciplinary education, and outreach experiences to 36 students. Other departments, institutes, universities, and national laboratories are affiliated with the program as research collaborators and internship providers. Researchers affiliated with the Edward Via Virginia College of Osteopathic Medicine will provide a bridge to human health.

"We will focus a wide range of expertise on the study of free radical and oxidative processes," says Long.

Duncan, Long, Thatcher and their students have actually been collaborating for several years to determine the biochemical pathways of the oxidation process and how they can be used to protect food and health and create new technologies.

"We are interested in the oxidation of triglycerides, such as soybean oil, and evaluating the potential of the products of that oxidation for high performance polymers (plastics)," says Long.

“This really gives us an opportunity to develop technologies that are not petroleum based.”

Food science graduate student Heather Woodson is determining which light waves cause oxidation in such packaged foods as milk, and student Janet Webster is evaluating polymer systems that will block those light waves. Duncan and the students have been visiting with a Virginia polymers company about that research.

Duncan and Long are exploring controlled release of antioxidants by polymeric films.

Thatcher and his colleagues in veterinary medicine are also interested in nutrition and in the roles of free radicals in disease, and will help the MILES researchers understand the biomedical implications and evaluate the success of their discoveries with animal models.

Janet Rankin and Mike Houston, professors of human nutrition, foods, and exercise, and Korinn Saker, assistant professor, Large Animal Clinical Sciences, are interested in how oxidative stress is related to obesity and Type II diabetes in animals and humans. Nutritional strategies will be developed to modify oxidative stress.

“We are looking at interactive systems,” says Duncan. For example, Ed Smith, associate professor of animal and poultry sciences, is studying the genetics of a bird that has a long life. “He’s looking at oxidative stresses to see what is different from short-lived birds. He will provide genetic information.”

The MILES researchers will also collaborate with the Science Museum of Western Virginia to develop educational modules for K-12 students and contribute to the success of the museum.

“Interdisciplinary graduate programs are key to educating the scientists and scholars and professors for the 21st century. I’m pleased that the NSF has recognized the outstanding graduate education programs at Virginia Tech,” says Karen P. DePauw, vice provost for graduate studies and dean of the Graduate School.

*Susan Trulove is public relations manager for Virginia Tech’s Office of Research and Sponsored Programs.*

## Grants:

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Buffered Aspirin and Placebo on the Gastroduodenal Mucosa of Healthy Dogs.” Non-steroidal anti-inflammatory drugs are frequently used in dogs to treat common pain and inflammation associated with osteoarthritis and for other disorders. Gastrointestinal bleeding and ulceration and other complications have been associated with the long-term treatment of dogs with NSAIDs. A new class of NSAIDs known as COX-2 inhibitors are believed to be less damaging to the gastrointestinal system than COX-1 inhibitors. Buffered aspirin, though not approved for use in the dog, is also commonly used as an anti-inflammatory drug in companion animals, and it also causes gastrointestinal problems like bleeding, ulceration and erosion. Leib will comprehensively examine how a new COX-2 inhibitor based NSAID called deracoxib affects the gastroduodenal mucosa in healthy dogs through gastroendoscopic examination and cytology.

**Dr. Otto Lanz**, assistant professor, DSACS, has been awarded \$7102 to study “Effects of Acute, Experimental, Extradural Cervical Spinal Cord Compression on Morphology of the Canine Cervical Vertebral Venous Plexus.” The Vertebral Venous Plexus (VVP) is a network of veins that surround the vertebral canal, spinal cord and nerve roots. Little is known about how spinal compression affects the VVP, but some clinical studies have suggested that the VVP may play a role in compounding spinal injury and causing neurological problems. Lanz

believes that the VVP system may play a role in cervical spinal disease in dogs. The study will test and evaluate the effects of cervical spinal cord compression on the canine VVP, refine an experimental method for inducing acute cervical extradural compression in dogs, and evaluate intraosseous cervical venography as a possible technique for diagnosing cervical spinal cord compression in dogs.

**Dr. Jeryl Jones**, associate professor, DSACS, has been awarded \$10,000 for “The Effects of CT Image Display Parameters on the Perception of Abnormalities in the Elbow Joint of Dogs with Elbow Dysplasia.” Elbow dysplasia is a developmental abnormality of the elbow joint that typically afflicts rapidly growing large breed dogs. Computed tomography (CT) is a useful diagnostic tool for evaluating canine elbow dysplasia, however the diagnostic sensitivity for detecting clinical problems may be affected by technical factors associated with CT such as window/level settings, image display planes, patient positioning and others. Jones’ study seeks to develop the most efficacious CT scanning protocol for evaluating canine elbow dysplasia, thereby providing more accurate information on which clinicians can base treatment plans.

Dr. Michael Leib, the C.R. Roberts Professor of Veterinary Clinical Medicine, Dr. Kathleen Sennello and Dr. Lisa Miller, past-president of the Virginia Veterinary Medical Association, pose during the presentation of the 2003-2004 Veterinary Memorial Fund research awards.



# Venturing Into Vasculature: How the Study of Angiogenesis Hints at Answers to Cancer

By Erin Dolan, Ph.D.



Supported by the American Cancer Society, the American Heart Association, the Carilion Biomedical Institute and the VMRCVM, Huckle is searching for ways to stop the flow of blood to cancerous tumors.

Although the concept that solid tumors require blood vessels to survive is more than 30 years old, it is just within the past decade that scientists have come to accept the role of angiogenesis, or blood vessel formation, in the development, proliferation, and metastasis (spread) of cancer. This is the research focus of Dr. Bill Huckle, associate professor, Biomedical Sciences and Pathobiology, an affiliated faculty member of the Fralin Biotechnology Center.

Angiogenesis is the process by which organisms maintain the vasculature they have and grow new vasculature as needed, either in physiologically appropriate ways to maintain healthy tissue or in pathological ways, like in diseases such as cancer, diabetes, and macular degeneration. A complex set of processes, including cell division/recruitment, migration, and assembly, have to occur for blood vessels to properly provide blood and, in turn, oxygen to tissues throughout the body. First, endothelial cells, which create and line blood vessels, must divide to generate enough cells to make new vessels. Then, the cells must move into the new tissue, find each other, and assemble into functional channels.

At first glance, angiogenesis may appear necessary only during growth and development and, once we reach adulthood, no new blood vessels are required. Indeed, this was the original thinking about vascularization: once a blood vessel forms, it is very stable – maintaining an oxygen supply to local tissue for the life of the organism. Instead, blood vessels may be relatively dynamic, being constantly remodeled. More importantly, blood vessel formation is essential for healing after injury as well as during menstruation and pregnancy. All of these processes involve tightly regulated mechanisms to direct growth and organization of blood vessels, but also to induce blood vessel regression. Scientists are studying mechanisms that trigger both growth and destruction of blood vessels, and applying this knowledge to prevent pathological blood vessel growth.

How is angiogenesis initiated? In the case of injury, scar tissue forms and cells within the healing tissue have limited access to vascularization. These cells ‘sense’ hypoxia (low oxygen) and secrete signals to recruit blood vessels to grow to and assemble in their location. One class of these signals is the vascular endothelial growth factors, or VEGFs. The VEGFs, a family of proteins that can be made by almost any type of

human cell, are produced by tissues when they are hypoxic. At least one mechanism by which cells sense oxygen levels is via proteins that contain the oxygen-binding molecule, heme. The conformation, or shape, of these proteins changes when oxygen is absent, thereby

***Blood vessel growth into a tumor facilitates cancer development in two ways: by providing a means of life support (oxygen and nutrients) and by serving as a roadway out of the site of origin – a built-in path for metastasis.***

triggering a cascade of events that leads to the production of VEGFs.

In clinical studies, the density of blood vessels in solid tumors has been linked to disease severity and poor prognosis. Tumor cells often, if not always, over-express VEGF and other angiogenic factors because they’ve lost the ability to keep these signals in check. Cancer cells, by definition, are also unable to control cell division. Do the genes that control cell division

also control VEGF expression? In fact, when gene mutations occur that lead to uncontrolled proliferation of cells, these same cells typically overproduce VEGF. This phenomenon is observable in cell culture and in cancer patients alike. Many studies of different types of cancer have revealed that circulating levels of VEGF, as with blood vessel density within tumors, can be correlated with severity of the disease. A more direct correlation between cancer and VEGF expression is observed in Von Hippel-Lindau syndrome. This autosomal dominant disease is characterized by kidney tumors and attributed to a mutation in a gene that normally functions to repress VEGF expression.

Particularly insidious cancers are characterized not only by uncontrolled cell proliferation and high VEGF expression, but also by the ability to become metastatic, or mobile around the body. Blood vessel growth into a tumor facilitates cancer development in two ways: by providing a means of life support (oxygen and nutrients) and by serving as a roadway out of the site of origin – a built-in path for metastasis.

Huckle and his colleagues are taking three approaches to understand angiogenesis in general and VEGF's function in particular: examining VEGF expression in animals with cancer; characterizing VEGF receptor function; and designing an angiogenesis assay system.

Given his affiliation with the veterinary college, Huckle is interested in applying findings from human cancer research to the study of cancer in both small and large animals. Huckle, together with Dr. Greg Troy and his colleagues in the Department of Small Animal Clinical Sciences, are attempting to extend the human studies correlating cancer severity with circulating VEGF levels by conducting similar studies in dogs. A challenging first step in this work has been to determine whether human and dog VEGF proteins are homologous enough that antibodies used to quantify human VEGF in an ELISA assay can also be used to measure dog VEGF levels. In another project, Jennifer Noll (VMRCVM '04), while working as a summer veterinary fellow with Huckle, developed procedures for identifying blood vessels in microscopic sections of canine tumor tissue. Interest in how the integrated study of human and veterinary cancers may advance

both fields has led to the recent formation of the Center for Comparative Oncology at the VMRCVM, under the direction of Dr. John Robertson.

Although under the right conditions almost any cell can make VEGF, the receptors for VEGF exist primarily on endothelial cells, which line blood vessels. Huckle's lab is studying two types of VEGF receptors, KDR and

***Huckle is most intrigued by the possibility that this ratio plays a role in endothelial cells' ability to sense and respond to VEGF secreted by a tumor. If this is indeed the case, tweaking the ratio could be the underpinnings for a new type of cancer therapy.***

Flt-1, that transmit VEGF's angiogenic signal to responsive endothelial cells. The Flt-1 receptor can be found in two forms, a full-length form and a short, or truncated, form. The full-length form sits in the endothelial cell membrane, part outside the cell and part inside the cell, ready to sense VEGF in the extracellular environment. The truncated form, on the other hand, is unable to anchor in the cell membrane and instead is secreted outside of the cell. Huckle and other investigators have demonstrated that the truncated form can bind up VEGF and act as an inhibitor of angiogenesis by preventing full-length receptor binding. He postulates that the tumor's ability to over-express VEGF may swamp the truncated Flt-1's ability to prevent angiogenesis, thereby

allowing recruitment of blood vessels by the tumor.

Becky Roche, a doctoral student in Veterinary Medical Sciences working with Huckle, is attempting to identify the machinery involved in a cell's decision to make the full-length versus truncated form of the protein. In one strategy, she is fine-tuning a technique that allows cells to produce full-length and truncated Flt-1 RNAs so that she can determine their ratio of expression. In another strategy to examine their expression, she is using quantitative reverse transcription (RT) and polymerase chain reaction (PCR) analysis, also known as quantitative RT-PCR, a method for measuring amounts of specific RNA fragments.

With these tools in place, Roche can use them to examine the role of RNA processing proteins in determining the ratio of the two Flt-1 forms. Eventually, the lab will evaluate Flt-1 ratios in animals beset with different types of cancers, as well as in cells with known genetic mutations, to determine how the ratio may influence the progression of cancer. She can also use these tools to assess the ability of external factors (hormones, growth factors, previously-identified cancer therapies) to influence the decision to make the full-length vs. truncated Flt-1. Huckle is most intrigued by the possibility that this ratio plays a role in endothelial cells' ability to sense and respond to VEGF secreted by a tumor. If this is indeed the case, tweaking the ratio could be the underpinnings for a new type of cancer therapy.

*Erin Dolan is Coordinator of Biotechnology Outreach for the Fralin Biotechnology Center.*

Huckle works with other college researchers like Dr. John Robertson, director of the Center for Comparative Oncology (CeCO), on cancer research.



## Veterinary College Researcher Awarded \$1 Million Military Grant to Develop Bioterror Vaccine

A bacteriologist in the VMRCVM has been awarded a \$1.06 million grant from the U.S. Army to develop a vaccine for tularemia.

Dr. Thomas J. Inzana, the Tyler J. and Francis F. Young Professor of Bacteriology, and his research team in the college's Center for Molecular Medicine and Infectious Diseases have begun a four-year program designed to develop a vaccine and diagnostic test for tularemia, which is commonly known as "rabbit fever." The etiologic agent of tularemia is *Francisella tularensis*, which the Centers For Disease Control (CDC) in Atlanta classifies as a Category A bioterrorism agent.

Tularemia is an infection characterized by ulcers, swollen glands, fever, and flu-like symptoms. The organism can spread through the blood and lymphatic systems to infect

***A World Health Organization Committee estimated that aerosol dispersal of 50 kilograms of virulent *F. tularensis* over a city of five million people would result in 250,000 inhabitants becoming seriously infected, including 19,000 deaths.***

the respiratory tract, where it can cause more serious health problems. Pneumonic tularemia may have about a 30% mortality rate, according to Inzana.

While not uncommon in wildlife throughout the United States, Inzana says, it is a relatively rare disease in people. Only about 100-200 cases of tularemia in humans are reported every year, Inzana said. The bacteria are transmitted to humans and animals by ticks and biting flies, or can be ingested by wildlife from drinking water. Humans are also infected



Inzana is trying to develop a vaccine for tularemia, a Category A bioterrorism agent.

through minor cuts or abrasions in the hands by handling infected animals.

The military is concerned about *F. tularensis* because of its heartiness and its virulence. Whereas about 10,000 *Bacillus anthracis* (anthrax) spores are required to cause disease, only about 10 *F. tularensis* cells are required to cause disease, according to Inzana. The organism could conceivably be aerosolized and used as a bioterrorism agent at home or abroad; hence, the military interest. A World Health Organization Committee estimated that aerosol dispersal of 50 kilograms of virulent *F. tularensis* over a city of five million people would result in 250,000 inhabitants becoming seriously infected, including 19,000 deaths.

One aspect of *F. tularensis* that makes it dangerous is its ability to resist host defenses, Inzana says. Unlike many bacteria, *F. tularensis* has the ability to survive inside some of the front-line defenders of the body's immune system. As phagocytic cells such as macrophages rush to attack and consume the invading pathogens, *F. tularensis* actually uses the macrophage as a home and multiplies within it.

While scientists do not yet know much about the biology of the organism, they do know that it has a capsule-like substance on its surface. Inzana, who recently developed and patented a vaccine for swine pleuropneumonia by mutating the DNA required for capsule synthesis by *Actinobacillus pleuropneumoniae*, and selecting for a non-capsulated vaccine strain, plans to apply his expertise in bacterial carbohydrate antigens to the new vaccine and diagnostic test development program.

His research team will isolate and characterize both the capsule and the outer membrane proteins that enable the organism to survive inside the macrophage. The key to creating an effective vaccine will be their ability to identify and stimulate the production of proteins that stimulate T-cells of the cellular immune system. It is hoped that antibodies to the capsule will help to clear the bacteria that are not yet in phagocytic cells, and that T cells of the cellular immune system will kill the cells harboring the bacteria.

In another aspect of the project, Inzana is working with Drs. Anbow Wang and Kirstie Cooper in the College of Engineering's Center for Photonics Technology on a project that will develop photonic-based bio-sensors to detect the *F. tularensis* capsule or DNA in the field. Ultimately, that research could lead to the development of rapid pathogen sensing biosensors that could detect multiple pathogens on the battlefield.

Inzana is a noted molecular microbiologist who has generated \$4 million in extramural funding and been awarded three patents for intellectual properties arising out of research that has led to the development of vaccines for economically important agricultural diseases.

A former director of the Center for Molecular Medicine and Infectious Diseases, Inzana also serves as Director of Clinical Microbiology in the Veterinary Teaching Hospital and conducts teaching, service, and research through his appointment as a professor in the Department of Biomedical Sciences and Pathobiology. He is a diplomate of the American Board of Medical Microbiology and a Fellow of the American Academy of Microbiology.

## Veterinary College Researcher Awarded Prestigious National Science Foundation Grant

A faculty member in the VMRCVM has been awarded a \$726,476 National Science Foundation CAREER grant to develop a more “wholistic” system for the integration of technology, research and education through a project designed to study and protect chimpanzees in Tanzania.

Dr. Taranjit Kaur has received the prestigious NSF funding to support a five-year program entitled “Bridging the Gaps Using Bush-to-Base-Bio-Informatics, Geographic Information Systems (GIS) and a Program Called “READ-IT.”

“This is all about integrating research and education,” said Kaur, who also serves as Virginia Tech’s Director of Laboratory Animal Resources. She plans to create a novel “electronic infrastructure” that will take a multidisciplinary approach to developing improved wildlife management strategies in the east African nation.

*It represents a multidisciplinary career development strategy that seeks to bridge the gaps between discovery, learning and the diffusion of information in the biological sciences.*

Kaur, who has traveled to Africa a half-dozen times, conceived the project around a proprietary program she has developed called “READ-IT,” an acronym which stands for Research, Education, and Dissemination via Information Technology. It represents a multidisciplinary career development strategy that seeks to bridge the gaps between discovery, learning and the diffusion of information in the biological sciences.

“Everything I do brings together humans, animals and the environment, and the dynamic interaction between



Kaur uses geographic information systems (GIS) to develop public and animal health programs. Pictured are Kaur (center), Virginia Tech student Jessica Hagerman (left) and fourth-year VMRCVM student Kari Velguth.

them,” said Kaur. The goal of this project transcends the immediate benefit of using technology and training programs to improve conservation management strategies for chimpanzee populations in the jungles of a nation home to the famed Mount Kilimanjaro, Kaur explains.

To accomplish this greater goal, she plans to focus on the immediate task of helping the Tanzanian National Park Authority (TANAPA) develop science-based management strategies that will protect the free-ranging chimpanzee population from tourism related problems like disease transmission, habitat destruction, and competition for resources. Because of genetic similarities between chimps and people, both are highly susceptible to influenza, tuberculosis and other infectious diseases.

That information will enable those officials to determine a more accurate understanding of the area’s capacity for tourism, as well as support the development of more effective management and training programs for professionals and tourists.

A key part of Kaur’s program is designed to develop “interesting and compelling content for integrated research and educational opportunities for undergraduate, graduate and professional students at Virginia Tech.” Some of those will be involved with the “Bush to Base Bio-Informatics” and the “Geographic Information Systems” components of the program, she said.

Field researchers will gather physiological data on the chimps, and

code and process the data using handheld modules with global positioning system capability, Kaur said. The modules will interface with a Virginia Tech-based web-enabled server designed to share information with authorized users.

“My theory is that students are a tremendous resource and that we don’t utilize them enough,” said Kaur, who views students as key players in a “cross-pollination” component of the program. Students participating in the program will gain interdisciplinary research and educational experiences within a global context by designing communication systems and sharing information with other students, tourists, wildlife personnel, and local communities, Kaur said.

Another goal of the program is to use U.S. technological leadership in a way that supports sustainable global development, promotes conservation and ultimately leads to a higher quality of life for all in the 21<sup>st</sup> century, she said.

Kaur is collaborating with a number of individuals and organizations on the program, including Dr. Michael A. Huffman a world-renowned primatologist from Kyoto University in Japan; and Dr. Beatrice Hahn, the University of Alabama at Birmingham physician who played a leading role in demonstrating that the AIDS virus afflicting the human race originated from a virus in chimpanzees.

Other groups include TANAPA, the University of Rhode Island, National University of Rwanda, Management Sciences, Inc., international tour operators and others.

# NEWS BRIEFS

**Dr. Craig Reed**, visiting professor in the VMRCVM and former director of the USDA's Animal and Plant Health Inspection Service has been appointed to serve a four-year term on the Virginia Board of Health. Reed continues to lecture on food safety, epidemiology, and government and corporate practice in the professional curriculum. He is also assisting the college in special initiatives such as providing leadership and liaison for the college's emerging relationship with the University of Maryland College of Medicine in Baltimore.

Three employees in the VMRCVM's Veterinary Teaching Hospital have graduated from the new distance education Veterinary Technician Program operated by Blue Ridge Community College in Weyer's Cave, Virginia. Those individuals are **Karen Whitt**, **Becky Wade** and **Teresa Ward**. All three have sat and successfully passed the certifying examination offered by the Virginia Association of Licensed Veterinary Technicians and earned their LVT credential.

**Damani Parran**, a post doc working with the Laboratory for Neurotoxicity Studies, earned recognition at the annual meeting of the Society for Toxicology in Salt Lake City. Parran earned first-place in the post-doctoral category of the "In Vitro Specialty Section" abstract awards competition. He also won first place in the post-doctoral category of the National Capitol Area Chapter of the Society of Toxicology travel award competition.

**Dr. Otto Lanz**, assistant professor, Department of Small Animal Clinical Sciences, was presented the Auburn University College of Veterinary Medicine "Distinguished Young Achiever Award" at their annual conference.

**Dr. Jonathan A. Abbott**, associate professor, Department of Small Animal Clinical Sciences, presented a scientific poster at the American College of Veterinary Internal Medicine's 21st Annual Veterinary Medical Forum held in Charlotte, North Carolina entitled "Hemolytic Effects of Oral Carvedilol in Healthy Conscious Dogs." An article authored by Abbott, "Comparison of Doppler-Derived Peak Aortic Velocities Obtained From Subcostal and Apical Transducer Sites in Healthy Dogs," has been published in the

Journal of Veterinary Radiology and Ultrasound.

**Dr. Beverly J. Purswell**, professor, Department of Large Animal Clinical Sciences is now serving as the Virginia Veterinary Medical Association's delegate to the American Veterinary Medical Association. She has served as alternate for the past four years.

**Dr. Colin B. Carrig**, professor, Department of Small Animal Clinical Sciences, attended the 28th World Congress of the World Small Animal Veterinary Association in Bangkok, Thailand. Carrig presented two lectures: "Diagnostic Imaging of Foreign Bodies" and "Diagnostic Imaging in Evaluation of Bone Lesions." In addition, he chaired a session on gastroenterology. The congress attracted 1900 registrants from around the world.

**Dr. Martha Moon**, professor, Department of Small Animal Clinical Sciences, presented "Aging Changes in the Ultrasound Appearance of the Feline Pancreas" at the annual meeting of the American College of Veterinary Radiology in Chicago, Illinois. She also authored an article entitled "Ultrasonographic Appearance and Etiology of Corrugated Small Intestine" which was published in the Journal of Veterinary Radiology and Ultrasound.

**Dr. John Dascanio**, associate professor, Department of Large Animal Clinical Sciences, authored an article entitled "The Use of Information Technology in Large Animal Veterinary Education" which was published in the Journal of Veterinary Medical Education.

**Dr. Jeryl C. Jones**, associate professor, Department of Small Animal Clinical Sciences, made a presentation entitled "CT Morphometry of the Thoracolumbar Spine in Dogs with Degenerative Myelopathy" at the annual meeting of the American College of Veterinary Radiology in Chicago.

**Dr. Peter K. Shires**, professor, Department of Small Animal Clinical Sciences, presented "Peri-operative medical therapy, does it change the outcome of decompressive surgery in intervertebral disk herniation cases?" at the annual meeting of the American College of Veterinary Surgeons in Washington, D.C. Shires also authored an article entitled "One Educator's Perspective on the Role of Instructional Technology in Veterinary Surgical Education"

which was published in the Journal of Veterinary Medical Education.

**Dr. M. Renee Prater**, assistant professor and Chair of Microbiology for the Department of Biomedical Sciences in the Edward Via Virginia College of Osteopathic Medicine and research assistant professor for the Department of Biomedical Sciences and Pathobiology at the VMRCVM, is serving on the American Journal of Veterinary Research Board of Reviewers through 2006. She has recently had several articles published in scientific journals. "Combined dermal exposure to permethrin and cis-urocanic acid suppressed the contact hypersensitivity response in C57BL/6N mice in an additive manner" and "Immunotoxic effects of cis-urocanic acid exposure in C57BL/6N and C3H/HeN mice" were published in the Journal of Photochemistry and Photobiology. "Molecular mechanisms of sunlight and permethrin-induced alterations in cutaneous immunity" was published in the journal of Photodermatology, Photoimmunology and Photomedicine. "Cis-urocanic acid increases immunotoxicity and lethality of dermally-administered permethrin in C57BL/6N mice" was published in the Journal of Toxicology. She has also written several book chapters. Those include "The mouse as a model of developmental immunotoxicology" for a Developmental Immunotoxicology reference and "Hemostatic abnormalities" for Small Animal Clinical Diagnosis by Laboratory Methods. Prater also presented several papers at the 21st annual American College of Veterinary Internal Medicine Forum in Charlotte, North Carolina. Those included "Focus on Platelet problems: too few, too many and too defunct," "Cases in feline homeostasis," "Cases in canine homeostasis," and "Miscellaneous cases in homeostasis including 'toughies'."

**Dr. Thomas J. Inzana**, professor, Department of Biomedical Sciences and Pathobiology presented "Comparative analysis of a wildtype strain of Francisella tularensis type A with the live vaccine strain" at the 4th International conference on Tularemia in Bath, England and "Biofilm formation by Haemophilus somnus at the 84th Annual Meeting of the Conference of Research Workers in Animal Diseases in Chicago, Illinois.

**Dr. H. Marie Suthers-McCabe**, associate professor and director of the Center for Animal Human Relationships, presented "The Role of Handler Personality Traits in the Performance of Canine Explosives Detection" at the annual Delta Society Conference in Seattle, Washington. She also presented "Program Assessment: Saint Francis of Assisi Service Dog Foundation Prison PUP program," "The Human-Animal Bond, Implications for Veterinarians and Mental Health Professionals," and "Building the Human-Animal Bond in Children, Get 'Em While they're Young" at the annual meeting of the American Veterinary Medical Association in Denver. Suthers-McCabe has also been elected President of the American Association of Human-Animal Bond Veterinarians. Suthers-McCabe was also elected to the International Society for Anthrozoology's Council at their annual conference held in Canton, Ohio. While there, she presented "The role of handler personality traits in the performance of canine explosives detection" and "Program assessment: Saint Francis of Assisi service dog foundation prison PUP program." Suthers-McCabe also made a keynote presentation on CENTAUR at the annual conference of the Virginia Association of Rehabilitative Nurses in Salem, Virginia. Suthers-McCabe also traveled to Tokyo, Japan on an international trip sponsored by the Pet Food Institute in Washington, D.C. While there, she presented several keynote speeches, conducted interviews with various pet magazines and student newspapers, and was featured in numerous press conferences for Japanese media. Topics included many dimensions of the human-animal bond, including ethical issues of animal treatment in Japan, animal assisted therapy, pet loss/ bereavement, link between human violence and animal abuse, and the Centaur program she leads in the VMRCVM.

**Dr. Korinn Saker**, assistant professor, Department of Large Animal Clinical Sciences, presented "Concentration of PUFA can influence EGFR/MAPK signal transduction in human breast cancer cells" at the 7th International Symposium on Predictive Oncology and Intervention Strategies in Nice, France. A paper she authored entitled "Brown Seaweed treated conserved forage enhances

antioxidant status and immune function in heat-stressed wether lambs" was published in the Journal of Animal Physiology and Animal Nutrition and a paper she authored entitled "Nutritional Influences on the immune system in aging felines" was published in the Compendium on Continuing Education for the Practicing Veterinarian.

**Dr. Tom Manning**, clinical instructor, Department of Small Animal Clinical Sciences, authored an article entitled "Non-Healing Subcutaneous wounds in the cat and proposed surgical management techniques" which was published in the Journal of Veterinary Diagnostic Techniques. He also has written book chapters entitled "Non-neoplastic tumors" and "Tumors of the Adnexa" for *Dermatology Secrets in Color*.

VMRCVM graduate students **Padma Billam** and **Nicole McKeown**, working in Dr. X.J. Meng's laboratory in the Center for Molecular Medicine and Infectious Diseases, earned honors at the 84th Annual Meeting of the Conference of Research Workers in Animal Diseases in Chicago, Illinois. Padma Billam won the Best Virology Graduate Student Presentation Award for "Systematic pathogenesis and replication of a strain of the hepatitis E virus (HEV) in its natural host: avian HEV infections in specific-pathogen-free adult chickens." The award was sponsored by the American College of Veterinary Microbiology. Nicole McKeown won a Biosafety and Biosecurity Graduate Student Presentation Award (2nd place) for "Molecular characterization of an orphan virus, porcine TT virus, from pigs in 6 different countries." That award was sponsored by The Animal Health Institute.

**Dr. Gordon Carter**, professor emeritus, has published a new book. The 6th edition of "Essentials of Veterinary Bacteriology and Mycology (6th Edition)" was authored by Carter and Darla J. Wise, a former Tech Ph.D. student now on faculty at Concord College in West Virginia.

**Dr. Michael Leib**, professor, Department of Small Animal Clinical Sciences, made a number of continuing education presentations at the Atlantic Coast Veterinary Conference in Atlantic City, New Jersey. Those talks included "Diagnostic approach to chronic diarrhea," "Icterus: a diagnostic approach," "Acute diarrhea: diagnostic approach," "Chronic vomiting: a diagnostic approach and the role of Helicobacter," "Acute pancreatitis in dogs" and "Giardia infection in dogs and cats."

**Dr. X.J. Meng**, assistant professor, Department of Biomedical Sciences and Pathobiology, was the featured invited speaker at the 89th Annual Meeting of the Japanese Society of Gastroenterology in Tokyo, Japan. Meng, an M.D. and Ph.D. virologist working in the Center for Molecular Medicine and Infectious Diseases, presented

"Novel Strains of the Hepatitis E Virus from Humans and Other Animal Species: Is Hepatitis E a Zoonosis?"

**Dr. D. Phillip Sponenberg**, professor, Biomedical Sciences and Pathobiology, presented four lectures in Spanish at an international meeting of animal breed conservationists in Recife, Brazil. Those presentations

included "The Pineywoods Cattle Breed," "Conservation of Turkey Genetic Resources in the United States," "Conservation and Use of Goat Genetic Resources in the United States," "Conservation of Colonial Spanish Horses in the United States," and "Variation and Genetics of Coat Color in Iberian Horses and Breeds Derived from Them."

## New Residents and Interns

Sixteen new veterinarians have been hired as residents and interns.

Internships and residencies are advanced clinical/educational programs pursued by DVM's who seek advanced training and eventual board certification by organizations such as the American College of Veterinary Internal Medicine, the American College of Veterinary Surgeons, the American College of Veterinary Radiology, or the American College of Veterinary Ophthalmology and others.

There are eight new residents and interns in the Department of Small Animal Clinical Sciences (DSACS).

**Dr. Hope Baird** has joined the college as a small animal intern. She received her BS in Biology from DePaul University and her DVM from Texas A&M University in 2003.

**Dr. North Fletcher** has joined DSACS as a small animal intern. Fletcher received his BS in Natural Resources/Biology from the University of the South and his DVM from the University of Tennessee in 2003.

**Dr. Holly Mims** has joined the college as a small animal intern. She received her BS in Animal Health in 1999 and her DVM in 2003 from the University of Georgia.

**Dr. Jennifer Rockwell** has joined the college as a small animal intern. She received her BS from North Georgia College and State University and her DVM from the University of Georgia in 2003.

**Dr. Kim Vande Vyvere** did her undergraduate work in Animal Science at the University of Manitoba and received her DVM from the University of Saskatchewan in 2000. She has been in private practice for a few years and has joined the college as a small animal intern.

**Dr. Megen Daugherty** is a new resident/graduate student in the field of small animal medicine. She earned her BS in Zoology and her DVM

from Michigan State University in 2002. She also has completed a small animal internship at Purdue University.

**Dr. Michael Higgins**, who earned his BS in Animal Science/Biology from Virginia Tech, has entered the college as a new resident/graduate student in neurology. He received his DVM from Ross University with clinical training at North Carolina State University. He has completed a small animal internship at Auburn University.

**Dr. Michael King** has joined the college as a new resident/graduate student in small animal surgery. He received his BVSc from Massey University in New Zealand in 2000. Dr. King has completed a private practice internship and worked in private practice in Auckland.

There are eight new residents and interns in the Department of Large Animal Clinical Sciences.

**Dr. Cathleen Lombardi** received her BS in Animal Science from Cornell University and received her DVM from Kansas State University. She has joined the college as a large animal surgery intern.

**Dr. Margret Rogers** has joined the college as a large animal medicine/equine ambulatory intern. Dr. Rogers has completed post-graduate studies in the Department of Biological Sciences at Northern Illinois University, received her BS from Iowa State University, and her DVM from the University of Missouri.

**Dr. Jill Shiffman** did her pre-veterinary coursework at Drew University in New Jersey and received her BA from the University of Michigan. She earned her DVM from Ross University in 2003. Dr. Shiffman has joined the college as a large animal medicine/equine ambulatory intern.

**Dr. Ondrej Becvar** has joined the college as a resident/graduate student in Food Animal Ambulatory and Production Management Medicine. Dr. Becvar received his DVM from

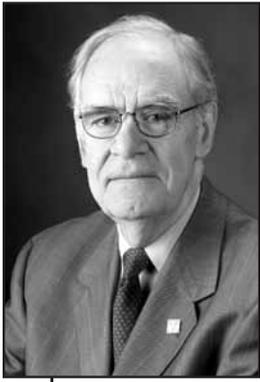
the University of Veterinary and Pharmaceutical Science in the Czech Republic and has also completed an internship in Food Animal Production Management Medicine at the VMRCVM.

**Dr. Anthony Gray** received his BS in Biology from the Virginia Military Institute, his MS from the University of Virginia and his DVM from the VMRCVM. Dr. Gray completed an internship at the VMRCVM in large animal medicine and equine field services. He has joined the college as a resident/graduate student in equine field services.

**Dr. Graham Keys** received his BS in Zoology from the University of Calgary in Canada and his DVM from the Western College of Veterinary Medicine, also in Canada. He has completed his internship in equine medicine and surgery at North Carolina State University and has joined the college as a resident/graduate student in large animal surgery.

**Dr. Iveta Krizova** has joined the college as a resident/M.S. graduate student in veterinary nutrition. She received her MVD from the University of Veterinary and Pharmaceutical Science in the Czech Republic in 1999. She earned her MS degree in Special Education at East Tennessee State University and completed a preceptorship in equine arthroscopy at the University of Veterinary Medicine in Austria.

**Dr. Katherine Wilson** is a new resident/graduate student in large animal medicine. She earned her BA in Interdisciplinary Studies at Miami University and received her DVM from Ohio State University. Dr. Wilson completed an internship in large animal medicine/equine production management medicine at the VMRCVM.



Dr. Peter Eyre

## Eyre:

continued from page 1.

Dean for Research and Graduate Studies Dr. Gerhardt Schurig interim dean.

“Peter Eyre has played a historic role in building a nationally recognized veterinary college and helping Virginia Tech develop an array of important new biomedical health initiatives,” said McNamee. “His exemplary scholarship, prodigious work ethic, and sense of diplomacy have helped him lead in a way that invited partnerships

***Since his appointment, Eyre has presided over the development of a \$32 million enterprise that has graduated more than 1500 veterinarians and established a national reputation for excellence in public practice veterinary medicine.***

and moved us all forward. We are profoundly grateful for his contributions and accomplishments and wish him well.”

Since his appointment, Eyre has presided over the development of a \$32 million enterprise that has graduated more than 1500 veterinarians and established a national reputation for excellence in public practice veterinary medicine.

Eyre presided over the creation of the College Park, Maryland based Center for Government and Corporate Veterinary Medicine and led a series of initiatives that fortified the political and economic underpinnings of the partnership between Virginia and Maryland in the late 1980’s. He is also credited with building strong

working relationships with organized veterinary medical associations and guiding the development of the Marion duPont Scott Equine Medical Center in Leesburg.

Recently, he led efforts to integrate the veterinary college as a working partner with Tech’s College of Engineering and Wake Forest University in the hybrid School of Biomedical Engineering. He has also helped craft a major affiliation for the VMRCVM with the university’s new Institute for Biomedical and Public Health Sciences (IBPHS).

Eyre was serving as president of the Association of American Veterinary Colleges (AAVMC) and resigned that position simultaneously with his deanship. He served for several years on the AAVMC board, he has worked on the American Veterinary Medical Association’s Council on Government Relations, and provided leadership for many other professional associations. He is a nationally recognized advocate for curricular reform in veterinary education and has spoken frequently on the topic at forums and meetings around the nation.

Eyre is a recipient of the Norden Award for Distinguished Teaching and the Sigma Psi Award for Excellence in Research. He has been honored for outstanding leadership by the Virginia Veterinary Medical Association, the Maryland Veterinary Medical Association, and the Blue Ridge Chapter of the Public Relations Society of America. Prior to assuming the deanship of the VMRCVM, Eyre served as Chairman of the Department of Biomedical Sciences at the University of Guelph’s Ontario Veterinary College in Ontario, Canada, where he also served as associate director of the Canadian Centre for Toxicology.

He holds a BVMS degree, the MRCVS diploma in veterinary medicine, and B.Sc. and Ph.D. degrees in pharmacology, all from the University of Edinburgh in Scotland.

As a biomedical researcher, Eyre has been responsible for the acquisition and completion of over \$1.2 million in sponsored grants and contracts, and has authored 350 scientific publications, including more than 200 in refereed journals.

## Schurig Interim Dean

Schurig, a veterinary immunologist and former director of the Center for Molecular Medicine and Infectious

Diseases (CMMID), was named associate dean for research and graduate studies in early 2001.

“As a founding faculty member in the college, Gerhardt has a broad sense of the college’s heritage and aspirations,” said McNamee. “Moreover, he’s been at the forefront of our university’s efforts to develop vision and capacity in biomedical sciences research. We’re fortunate he’s available to serve at this important time in the history of the college and the university.”

Since joining the faculty in 1978, he has established an international reputation for his work in developing vaccines against bovine brucellosis, a zoonotic disease that causes reproductive problems in cattle and undulant fever in humans. The RB-51 brucellosis vaccine he developed has become the global “gold standard” in bovine brucellosis control and played a major role in the virtual eradication of the cattle disease in the United States. Most recently, he was appointed to lead the university’s new Institute for Biomedical and Public Health Sciences.

Schurig earned his DVM degree in 1970 from the University of Chile. After earning M.S. and Ph.D. degrees in immunology from Cornell University, Schurig spent two years working in the Department of Veterinary Science at the University of Wisconsin at Madison. He has directed the college’s World Health Organization Collaborating Center for Veterinary Education in Management and Public Health, served as head of the college’s Department of Veterinary Biosciences, and he helped create CMMID 1987. During his seven-year tenure as head of that center, it established itself as a major research and development center focused on creating vaccines and improved diagnostic tests for several economically significant infectious animal diseases.

Schurig is a member of numerous professional societies, including the American Association for the Advancement of Science, the American Association of Veterinary Immunologists, and the American Society for Microbiology. He has received several major teaching and research awards, including the 1986 Beecham Award for Research Excellence.

A national search to identify and recruit a new permanent VMRCVM dean is underway.



Delegate Jim Shuler (right foreground) and former VMRCVM Dean Peter Eyre (left foreground) hold a copy of the General Assembly resolution while Mrs. Joyce Morgan (left), Virginia Tech President Dr. Charles Steger (center), and Delegate David Nutter (right) look on.

## Virginia General Assembly Recognizes Former Dean Eyre

In an event that crowned an 18-year career at the helm of the Virginia-Maryland Regional College of Veterinary Medicine, former Dean Peter Eyre was formally recognized in the Virginia State Capitol with a joint resolution of commendation passed and presented by the Virginia House of Delegates and Senate.

Shortly after the Assembly was convened on January 22nd, Delegate Jim Shuler was granted the floor to recognize members of the Virginia Veterinary Medical Association gathered in Richmond for the organization's annual legislative work-day.

Following that, Shuler asked for permission to conduct a "center-aisle" presentation and invited the Virginia Tech alumni serving in the House of Delegates to join him as he called Peter Eyre forward.

With Virginia Tech President Charles Steger, Maryland Deputy Secretary of Agriculture John

Dignitaries and friends joined Eyre for a commemorative luncheon following the presentation. From left, Dr. John Brooks, Deputy Secretary, Department of Agriculture, State of Maryland; Eyre; Jo Evans, Delegate Shuler's Legislative Assistant; Mrs. Shelley Duke, Head of the Equine Medical Center's Council; Dr. G. Frederick Fregin, former director of the Equine Medical Center; Virginia Tech President Dr. Charles Steger; retired Virginia Tech Board of Visitors Member Cecil Maxson; Richmond veterinarian Dr. Charles Hickey; and Virginia Tech Director of Governmental Relations Ralph Byers.

Brooks, and long-time administrative assistant Joyce Morgan at his side, Eyre stepped forward to face Speaker of the House William Howell while Shuler addressed the chamber.

Shuler spoke of Eyre's 18 years of exemplary service as the second dean of the VMRCVM, and the important contributions that the college makes to a healthy Commonwealth of Virginia. After that the formal resolution of commendation was read to the entire chamber by House of Delegates Clerk Bruce Jamerson. Eyre then received a 15-second standing ovation from everyone gathered in the Virginia House of Delegates.

During a luncheon for close friends

and colleagues that followed in a local Richmond restaurant, Eyre said it was the most spectacular recognition he had ever received.

"This is so special," he said, expressing gratitude for Shuler's leadership role in the recognition. "It's been a privilege to work in the Commonwealth of Virginia. What a privilege it has been to be a part of the Virginia Tech community."

Virginia Tech President Charles Steger praised Eyre for the scholarship, leadership, wisdom and sense of humor he brought to the task of building the college after he was recruited as dean in 1985. Invoking a metaphor, Steger said that Eyre had inherited a "struggling adolescent" of an institution and guided its development into that of a "promising young adult."

Please see **Assembly** page 22





Former Virginia Veterinary Medical Association President Dr. John Wise congratulates Eyre following the presentation.

Dr. G. Frederick Fregin, who retired in 2003 after 20 years as the founding director of the Marion duPont Scott Equine Medical Center spoke of the special role that Eyre played in stabilizing and fostering the development of the Leesburg facility. "He was my mentor and my model," said Fregin, who now resides in Texas. "I always followed his lead. He was good counsel."

Sumpter Priddy, former president of the Virginia Veterinary Medical Association and long-time Richmond lobbyist recalled the struggle to found the school in the 1970's and congratulated Eyre for his role in turning it into what it is today.

Maryland Deputy Secretary of Agriculture John Brooks termed what Eyre had done for the VMRCVM a treasure on the order of the Blue Ridge and the Shenandoah Valley. "Without Peter at the helm, we would not have the regional college that we have today," said Brooks, a prominent figure in national organized veterinary medicine who is also closely affiliated with the University of Maryland at College Park.

Richmond veterinarian and professional leader Dr. Charles Hickey recalled the turbulence that existed in the relationship between the state organized veterinary medical community and the college when Eyre was recruited in 1985. Hickey said that Eyre's sense of diplomacy played a pivotal role in building the solid relationship that has been enjoyed by the college and statewide practitioners since then.

Former member of the Virginia Tech Board of Visitors Cecil Maxson humorously declared himself an "architecture college bigot" as he rose in praise of Eyre's career, but added "Peter won me over."

A framed copy of the General Assembly resolution was presented to Eyre and another was presented to the college for permanent display.

## Commonwealth of Virginia General Assembly

### House Joint Resolution No. 43

Whereas, Dr. Peter Eyre served with distinction from 1985 through 2003 as the second dean in the history of the Virginia-Maryland Regional College of Veterinary Medicine; and

Whereas, the Virginia-Maryland Regional College of Veterinary Medicine is a nationally recognized college of veterinary medicine that includes flagship campus facilities at Virginia Tech in Blacksburg, the Marion duPont Scott Equine Medical Center in Leesburg, and the Abram Gudelsky Veterinary Center at the University of Maryland at College Park; and

Whereas, Dr. Eyre earned a BMS degree and the MRCVS Diploma in veterinary medicine, and B.Sc. and Ph.D. degrees in pharmacology, all from the prestigious University of Edinburgh in Scotland; and

Whereas, throughout his 18-year tenure as dean of the Virginia-Maryland Regional College of Veterinary Medicine Dr. Eyre distinguished himself as a visionary who led his college with a strong sense of integrity, encouraged high standards of performance conducted himself with a sense of diplomacy that invited partnership and collaboration, and helped Virginia Tech make important advancements in the biomedical sciences; and

Whereas, as a result of Dr. Eyre's leadership and the excellence he inspired in others, the Virginia-Maryland Regional College of Veterinary Medicine developed into a \$32 million enterprise that has graduated more than 1,500 veterinarians and earned a national reputation for excellence in its veterinary public practice training programs; and

Whereas, as a result of Dr. Eyre's leadership, the Virginia-Maryland Regional College of Veterinary Medicine has brought national recognition to the Commonwealth of Virginia and to the State of Maryland for their highly successful administration of a regional professional school that is regarded as a national model of interstate cooperation, innovation, and efficiency and has fulfilled the vision of its founders; and

Whereas, Dr. Peter Eyre has made lasting and important contributions to society and to the veterinary profession throughout his career, received numerous commendations for excellence, and provided voluntary leadership for several professional organizations and societies, including service as president of the American Association of Veterinary Medical Colleges; now, therefore be it

Resolved by the House of Delegates, the Senate concurring, that the General Assembly express its deep appreciation to Dr. Peter Eyre for his exemplary and meritorious service to the Commonwealth and to the nation, and, be it

Resolved further that the clerk of the House of Delegates prepare copies of this resolution for presentation to Dr. Peter Eyre in recognition of his achievements and to the college so that it might be displayed as a testimonial to Dr. Eyre's lasting contributions and the college's noble causes.

Speaker of the House William Howell stands in front of the House of Delegates shortly after convening the House to conduct the business of the Commonwealth of Virginia on January 22. One of the first matters of the day was to pay tribute to former Dean Peter Eyre.



## In Memoriam

### “Patron” Saint of Veterinary Nutrition Mara Dies

The veterinary profession and the VMRCVM lost a leader and a friend with the passing of Dr. Jack Mara, former Director of Professional Affairs for Hill’s Pet Products.

Mara, who was perhaps more singularly identified with veterinary nutrition than any other veterinarian besides the late Mark Morris, died at 78 in Topeka, Kansas.

A graduate of the New York State College of Veterinary Medicine at Cornell University’s Class of ’51, Mara left private practice in 1978 to join Hill’s.

He was a tireless advocate for veterinary nutrition and a firm believer in veterinary continuing education.

As a result of Mara’s leadership, Hill’s became a major corporate supporter of most of the major continuing education meetings hosted by professional societies and specialty organizations in the country.

He also played a significant role in providing support for educational programs in veterinary clinical nutrition and helped Dr. Craig Thatcher establish the college’s widely acclaimed veterinary nutrition programs in the mid-1980’s.

### Dr. Antonio Garcia

Faculty-member Dr. Antonio Garcia who died during an accident that occurred while working on a house he was building.

Garcia earned his undergraduate degree from Unam University in Mexico City, Mexico and his DVM from the University of Mexico. He earned an MS from the University of Saskatchewan in

Canada and a Ph.D. from Utrecht University in the Netherlands.

Garcia was a specialist in animal reproduction who joined the VMRCVM faculty in July 2001. He had teaching responsibilities in both the DVM professional and graduate education programs. He also was a member of the college’s Production Management team.

“Dr. Antonio Garcia was a valued friend and colleague who made significant contributions to the teaching, service, and research programs of the Department of Large Animal Clinical Sciences,” said Dr. Craig Thatcher, DLACS head. “I believe, however, that Antonio most enjoyed teaching and mentoring students and they appreciated his dedication to their learning and his wonderful sense of humor.”

### “Duke” Watson, 89

The college community mourns the passing of Dr. Douglas F. “Duke” Watson, 89, who was a major figure in the history of veterinary medicine at Virginia Tech.

Watson retired from Virginia Tech in 1979 as Head of the Department of Veterinary Science.

Born in Oregon in 1913, Duke did undergraduate work at the University of Maryland and earned his V.M.D. from the University of Pennsylvania. Following service as a Lieutenant Colonel in World War II, he spent ten years in Peru as superintendent of a major ranching operation that supported a mining community of 20,000 people.

During that time he oversaw 12 ranches on 1.25 million acres with enormous livestock operations... herds of 225,000 sheep, 17,000 livestock, 1500 horses and mules, 12,000 hogs and 7500 goats.

“It was a great experience for me because I had a lot of responsibility with a lot of authority,” he reflected during an interview conducted with Jeff Douglas in 1985.

Duke joined the VVMA on January 1, 1938, held all of the major offices in the VVMA and served as an AVMA Delegate for 16 years.

The man who quipped that veterinarians can be as “ornery as catfish” had a big heart when it came to clinical practice.

Reflecting on the depression-era, he recalled that “I can remember taking pigs and corn and hound-dogs and shotguns and rifles and eggs” in payment for services rendered.

Watson’s contributions to veterinary medicine at Virginia Tech and in Virginia are memorialized through the college’s “Douglas F. “Duke” Watson Heritage Room.”

### Dr. John H. Stone

Dr. John H. Stone, 49, a member of the VMRCVM’s Class of ‘94, died in November from pancreatitis. Stone practiced at Bristol Animal Clinic in Bristol, Virginia and was active in the raising of Polled Hereford cattle. He is survived by his wife Terry Hopkins Stone; his children, Farnham and Evelyn; his parents and his siblings.

# GRADUATION 2003



## College Graduates 20<sup>th</sup> Class

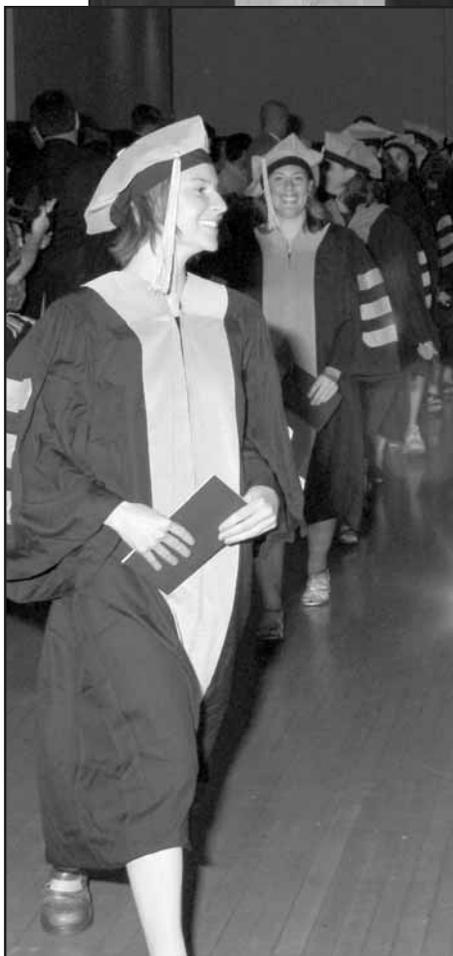
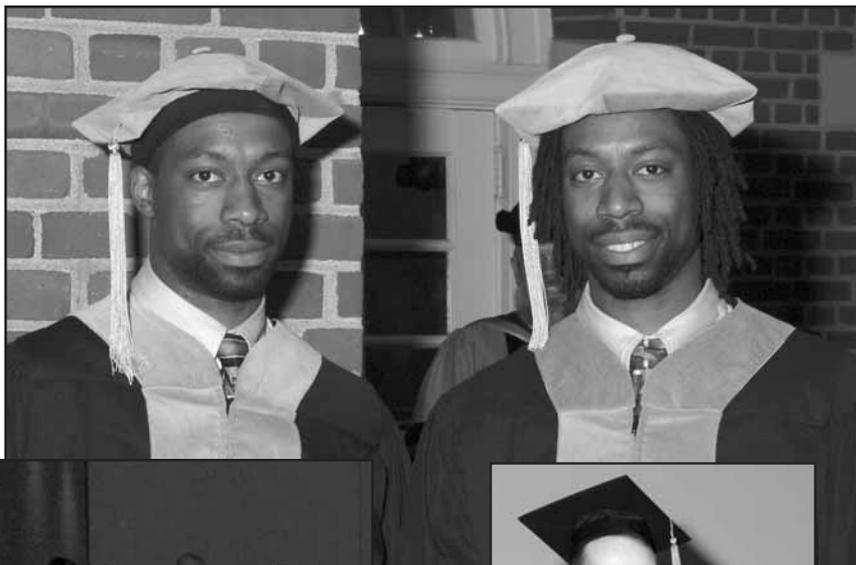
Twin brothers who began their affiliation with the Virginia-Maryland Regional College of Veterinary Medicine through the Minority Academic Opportunities Program were among the 88 DVM students awarded diplomas during the College's 20th annual commencement ceremony in Blacksburg.

Erick and Shawne Spencer of Hyattsville, Maryland, the first twins to ever graduate from the regional veterinary college, began their studies in 1998 through an innovative program designed to provide research and educational opportunities for qualified minority students.

Each worked on a M.S. degree in the veterinary medical sciences graduate program in addition to their work in the four-year professional curriculum. Erick plans to conduct a post-graduate clinical internship at Washington State University and Shawne will enter private practice.

Erick and Shawne are members of a class that saw the changing of the millennium, the collapse of the technology bubble and the horrific attacks on the World Trade Center and the Pentagon on September 11. In a series of ceremonial end-of-the-year events filled with tears, sighs of relief, pride-filled hearts and the occasional shriek of joy, the VMRCVM graduated its 20th class of veterinarians during Virginia Tech's annual commencement ceremonies in Blacksburg.

Almost a thousand people



Above, graduating twins Erick and Shawne Spencer. Left, graduate Courtney Anders beams with pride and happiness. Above right, Dr. William Tyrell, '92, was honored as the 2003 Outstanding Alumnus.

gathered to witness the newest class of DVM's receive their academic hoods and diplomas jointly awarded by Virginia Tech and the University of Maryland, then be sworn into the profession by reciting "The Veterinarian's Oath."

Graduates also heard a humorous and inspirational address from Dr. Martha Larsen, a professor of radiology in the Department of Small Animal Clinical Sciences, who captured the spirit of the new veterinarians' four years of hard work in a colorful series of anecdotes and maxims.

"You're not gonna make as much money as your M.D. colleagues," Larsen said wryly. "But you do get to hug, kiss, fondle and caress your patients."

Eighty-eight DVM degrees, four Ph.D. degrees, 17 M.S. degrees and nine Certificates of Residency were awarded during the ceremony.

Dr. Chip Godine, president of the Virginia Veterinary Medical Association, administered the "Veterinarian's Oath," and Dr. Perry S. Crawl, president of the Maryland Veterinary Medical Association, welcomed the new veterinarians on behalf of organized veterinary medicine.

Dr. Lynne B. Oliver, the Class of 2003 valedictorian, was presented with the Richard B. Talbot Award, and Dr.

William D. Tyrell, Jr. ('92) was honored as the College's Outstanding Young Alumnus for 2003.

During the College's Annual Awards Luncheon, Dr. Bob Brown, a long-time friend of the college, took the podium near the conclusion of the ceremony to unveil a major surprise.

Characterizing former Dean Peter Eyre's 18 years of leadership for the College as filled with "courage" and "foresight" in the face of "adversity," Brown then unveiled a cast bronze bust of Eyre that he commissioned and donated to the college. He credited Eyre with building a college once hamstrung with wavering political and economic support into one that is now recognized nationally and globally.

In response, a surprised Eyre said achieving institutional excellence is the product of a team effort. "We can stand up now and be counted," said Eyre. "This is very touching. It truly is a college recognition."



Left, former Dean Peter Eyre addresses his last graduating class.



Above, Class of 2003 Representatives Michael Kowalewski, Billy Danowitz, and former Director of Student Affairs Dr. Phil Sponenberg pose in front of the Class of 2003 gift.

## CALS Dean Swiger Inducted into Dalton Society

Recently retired dean of the College of Agriculture and Life Sciences

Dr. "Andy" Swiger was inducted into the "John N. Dalton Society" by the VMRCVM during 2003 graduation ceremonies.

That group memorializes the late Virginia governor who signed legislation creating the college and honors an elite group of friends who have made enduring contributions to the development of the VMRCVM.

Swiger was honored for the strong working partnership he helped foster between the CALS and the VMRCVM.

The cooperative relationship is credited with helping provide unprecedented levels of service for both Virginia agriculture and the state's veterinary profession.

Former College of Agriculture and Life Sciences Dean Dr. Andy Swiger was inducted into the "John N. Dalton Society."



## Flagpole Installation 2003 Class Gift

To commemorate the victims of September 11 and make a patriotic statement, the class elected to donate an American flag and pole as the traditional class gift to the college. A thirty-foot bronze pole has been installed and a bright red, white and blue American flag now flaps in the breeze adjacent to the main entrance of the Veterinary Teaching Hospital.

During his address, Class of 2003 President Michael J. Kowalewski said the flag-gift was a permanent expression of gratitude "for the many freedoms we enjoy every day."

Former Dean Peter Eyre characterized the gift as "possibly the most magnificent gift we have ever received from a graduating class."



## Development Report from the Blacksburg Campus

by E. Frank Pearsall, II, DVM, '84

It has been another very good year for the College of Veterinary Medicine as we raised \$4,148,625 - \$5,291,982 depending on how you count some planned gifts, which puts us behind only Athletics and Engineering for percentage growth over last year or dollars raised. For a young college with a small alumni base and a small development staff, we recognize that we are blessed by the outstanding generosity of many friends.

We are pleased that a second development officer for our college is to be hired soon which will expand our ability to build relationships with the increasing number of traditional friends of veterinary medicine, as well as with those new friends who are impressed with the involvement of our college in basic medical research at the molecular level (cancer, vaccine development), with our role in public health and animal origin infectious diseases (Foot and Mouth Disease, Mad Cow Disease, Monkey Pox, and SARS, and Mad Cow Disease), as well as with bioterrorism defense in light of the use or threat of animal diseases directed against the human population (anthrax, tularemia, etc.).

The year has seen many changes on campus. We are the only college not to be restructured and are seeing tremendous opportunities open up with the new research institutes. We have and will have an increasing role in the School of Biomedical Engineering and Science, the collaborative effort of VT's College of Engineering, the Wake Forest University School of Medicine, and our college. This school is part of the Institute for Critical Technology and Applied Science (ICTAS). Our other and larger involvement will be in the Institute for Biomedical and Public Health Sciences (IBPHS). We were pleased that Dr. Gerhardt Schurig, former associate dean for Research and Graduate Studies within the

college was the initial interim director of this new institute. With Dr. Eyre's need to step down from the deanship, Dr. Schurig was tapped to be the interim dean and so could not continue in his position at the institute. This will not, however, diminish our role there. In fact, of the three first areas of focus for IBPHS, we will be front and center on two; infectious disease and food safety. The new College of Science, the College of Agriculture and Life Sciences, and our college will play a big role in building the infrastructure of the new Life Sciences complex on our side of campus to support this institute's work. Additionally, we are working on

a Memorandum of Understanding for collaborative education and research with the University of Maryland School of Medicine – Baltimore in areas of Public Health and Food Safety.

In summary, we continue to do an outstanding job of caring for animals through our Veterinary Teaching Hospital, of preparing extraordinarily bright students for careers in clinical veterinary medicine, public health, medical research, regulatory medicine, and academia, and in conducting an expanding array of research. Each and every one of these aspects of what we do is poised for amazing growth opportunities. We are running hard to make them all a reality and a source of pride for Virginia Tech, the University of Maryland, and our friends everywhere. Thank you for your partnership in making it all happen!



From left, Dr. Laura Leib, Dr. Michael Leib, Dr. Kent Roberts, Mrs. Shirley Roberts, Mrs. Nhury Schurig, former Dean Dr. Peter Eyre, Interim Dean Dr. Gerhardt Schurig, and Mrs. Margo Eyre.

## Generations for the Profession: The Roberts Legacy

By Jenise L. Jacques

Heeding the call of service, Kent Roberts, fresh faced and full of pride, decided to enlist in the Navy one week after his high school graduation and serve in World War II. He was 17 years old.

Sixty years later, the passion that stirred Kent to fight for what he believed in still prevails. A much respected veterinarian, Kent is one of the founding faculty members of the VMRCVM. He served as its first director of continuing education. Officially retired since 1995 from this post, Kent still plays a key role

in the college. From a second floor office in the VMRCVM, he edits the quarterly *Virginia-Maryland Veterinary Notes*, a newsletter that supports the outreach program of the Veterinary Teaching Hospital.

Kent's late father Dr. Clarence Roger Roberts ("C.R." as he was known), had a strong influence on Kent's future. Father and son attended the veterinary college at Cornell University. C.R. was in the Class of '22 and Kent graduated in 1951.

After practicing in Morrisville, New York, C.R. began working for Sheffield Farms as a field veterinarian in upstate New York. In 1930 the family moved to New Jersey and C.R. commuted to New York City. Fifteen years later in 1945, he became president of Sheffield Farms. Sheffield Farms was then bought by National Dairy, which owned Kraft Cheese and Breyers Ice Cream. C.R. became the president of Sealtest Foods, the milk and ice cream division of Kraft. Because of mandatory retirement C.R. had to leave Sealtest in 1965. "He hated to give it up as he was right where he wanted to be," recalls Kent.

Kent's father was a member of the first class to graduate from the four-year veterinary program and was Cornell's oldest living veterinary college alumnus when he died in 1999 at the age of 99.

Kent decided while he was in the Navy that he would study veterinary medicine and was accepted into the veterinary college at Cornell. The

Please see **Roberts** page 38

## Leib Named to New Roberts Professorship

Dr. Michael S. Leib has been named the "C.R. Roberts Professor of Clinical Veterinary Medicine as the result of an endowment provided by the estate of the late C.R. Roberts in accordance with the wishes of his family.

Leib, a professor in the Department of Small Animal Clinical Sciences, is a nationally recognized veterinary gastroenterologist who joined the Virginia-Maryland Regional College of Veterinary Medicine more than 20 years ago.

Leib frequently lectures around the nation on gastroenterology, endoscopy, and other topics.

He earned a B.S. from Emory University, his DVM from the University of Georgia and a M.S. from Colorado State University. Leib conducted a residency in internal medicine at Colorado and is board certified by the American College of Veterinary Internal Medicine.

Leib is the recipient of numerous college and university teaching awards, including a prestigious Wine Award.

## Gifts of \$10,000 or more Received or Pledged July 1, 2002 – June 30, 2003

**Herman & Mildred Corder Trust** - \$2,477,547 for the Herman and Mildred Corder Endowed Scholarships. Herman and Mildred were founding members of the Arlington Animal Welfare League.

**Florence K. Roberts** - \$298,186 to establish the C. R. Roberts Endowed Professorship of Clinical Veterinary Medicine in honor of her late husband, Dr. C. R. Roberts, and her son, Dr. Kent C. Roberts, a founding faculty member of the VMRCVM.

Estate of **Helen Mahin** - \$250,000 initial distribution to establish the Dr. & Mrs. Dorsey Taylor Mahin Endowed Professorship to recognize excellence in small animal clinical medicine.

**Dorothy A. Metcalf** - \$150,000 for the Metcalf Professor of Veterinary Informatics and the Metcalf Human Interaction Fund. This brings her support to \$1,198,000.

**Dr. JoAnne S. O'Brien** - \$100,000 in support of small animal theriogenology research, an area of great interest to Dr. O'Brien as a both a veterinarian and a top Chow Chow breeder. This brings her support to \$240,000.

**Mrs. Frances Farr Young** - \$50,000 for the Tyler J. and Frances F. Young Professorship in Bacteriology honoring her husband's career and their joint commitment to the veterinary profession. This brings her commitment to the college to \$250,000 in support of their scholarship and professorship endowments.

**The Widgeon Foundation, Inc.** - \$45,000 to support a publication written by Anne Nock and distributed by CENTAUR, the Center for Animal Human Relationships, promoting and explaining the benefits of therapy dogs.

**William F. Sr. and David W. Morrisette** - \$40,172 for the Nancy P. Morrisette Memorial Endowed Scholarship based on need and relevant family circumstances.

Estate of **Dorothy D. Wornom** - \$33,692 to establish the Dorothy Wornom Endowment for scholarship support reflecting her love of dogs and other animals.

**Virginia Beef Industry Council** - \$25,750 for Beef Quality Assurance Program educational outreach support.

**W. R. Winslow Residuary Trust** - \$25,764 for scholarship support. This brings the Trust's generous and loyal support for the college and its students to \$495,326 since 1987.

**Evelyn E. & Richard J. Gunst Charitable Lead Trust** - \$25,121 for small animal research bringing the generous support of the Trust to \$174,355 continuing the service to animals begun in Mr. Gunst's corporate career creating and marketing pet products.

**Marion Bradley Via Memorial Foundation** - \$18,000 for the Peter L. Via Scholarship during this period continuing the commitment to recognizing excellence in our students. This brings the total support to \$72,000.

**James M. and Eleonore E. Stevens** - \$17,500 for the Stevens Family Animal Assistance Funds to assist animals in our hospital so that those which can be reasonably helped to recover and live out a full life are given that chance. Their support for these funds plus the Stevens Scholarship Endowment brings their support for the college to \$307,000.

**Carilion Biomedical Institute** - \$16,600 in gift-in-kind medical equipment for research and service along with hands-on training in its use for our faculty and staff.

**Abbott Laboratories** - \$16,000 for neurology and pain management research to further enhance our research expertise.

**Anonymous Trust** - \$16,000 for molecular tool equine research from a good friend of the college supporting cutting edge equine research. This brings the total generosity to \$50,500.

**Gojo Industries** - \$15,000 for zoonoses and public health epidemiology research.

**Maryland Kennel Club** - \$14,000 for their named scholarships for students in each class pursuing a career in small animal veterinary medicine, whether practice, research, or education.

**Kindy French** - \$10,000 for Dr. Mike Leib's gastroenterology research pushing the boundaries of our knowledge. This brings her total support to \$60,000 on behalf of her dogs, Barry, Savannah, and Bonnie Blue.

The Campaign Steering Committee for the university's upcoming capital campaign visited the VMRCVM recently. The committee is comprised of friends and alumni who have agreed to play a major role in the upcoming campaign which is expected to raise in the vicinity of \$800 million for the university by the end of the decade. Interim Dean Schurig and other college officials took the group on an extensive tour of the college. Here, Schurig points out some things in the MDL labs.





## Endowed Professorship In Veterinary College Honors Young ('34)

One of the VMRCVM's leading infectious diseases specialists has been named to a recently created endowed professorship that honors a veterinarian who studied at Virginia Tech almost 60 years ago.

Bacteriologist Thomas J. Inzana has been named the "Tyler J. and Frances F. Young Professor of Bacteriology." Inzana, former director of the college's Center for Molecular Medicine and Infectious Diseases, is a microbiologist who has invented several vaccines.

The endowed professorship has been made possible by a donor-directed addendum to a more than \$1 million bequest proffered in the late 1990's that is now generating immediate resources to fund the endowed professorship. Other provisions of the gift have been funding student scholarships since its inception.

Bacteriology was an intriguing discipline for the late Tyler J. Young ('34, '38), who earned a B.S. in biology and an M.S. in pathobiology and bacteriology from Virginia Tech during the Great Depression-wracked 1930's. He grew up during a period of American history characterized by infectious disease scourges that devastated farmers' herds and flocks through mortality, quarantines and depopulations.

After earning a degree in veterinary medicine from the Auburn University College of Veterinary Medicine in 1940, Young served his country in World War II and landed on the beaches of Normandy during the second wave of the D-Day invasion. He left the armed forces with five battle stars, having achieved the rank of Lieutenant Colonel.

Then, with his beloved wife Frances at his side providing

The late Tyler J. Young and his wife Frances pose with two of their beloved pets.

Photo courtesy of Auburn University.



business and management support, he operated veterinary practices in Memphis and Kingsport, Tennessee for 28 years. Throughout his career in private practice, he remained active in public practice, conducting laboratory and field work for the U.S. Army, the Florida Department of Agriculture and the United States Department of Agriculture.

In 1980, ever-reluctant to "retire," Dr. Young and Frances moved to Opelika near the Auburn University campus, where he continued to serve his profession through that university as an adjunct professor and a USDA laboratory scientist. He finally retired in 1992, 52 years after earning his DVM degree.

Tyler and Frances Young were more than life-time companions; their lives together were intrinsically connected by a shared commitment to serve humanity and the animal kingdom through the profession of veterinary medicine. Tyler served as president of the Southern Veterinary Medicine Association, was recognized as the Tennessee Veterinarian of the Year in 1967 and earned many other honors and commendations for service. Frances served as president of the Southern Veterinary Medical Association Auxiliary and was recognized as the 1990 "Layman of the Year" by the Alabama Veterinary Medical Association.

Though Tyler passed away in 1996, and Frances is now enjoying the peace and tranquility of her retirement years, the Young's life-long involvement with veterinary medicine lives on through

generous gifts that promote faculty excellence and provide educational opportunities for future generations of students at both the VMRCVM and the Auburn University College of Veterinary Medicine.

The new Tyler J. and Frances F. Young Professorship is a compelling new expression of their shared commitment to the profession, and Inzana's appointment is an exceptional affirmation of the late Dr. Young's appreciation for the important role that the science of bacteriology plays in animal and human health and well-being.

"I'm honored to be selected for this prestigious professorship," said Inzana. "We live in an age where infectious diseases pose a major threat to public health and animal productivity. I hope that my work will reflect well upon his career and his desires to serve the profession in the future."

Inzana is a noted molecular microbiologist who has generated more than \$4 million in extramural funding and been awarded three patents for intellectual properties arising out of research that has led to the development of vaccines for economically important agricultural diseases.

Most recently, Inzana has been awarded a \$1 million grant from the U.S. Army to develop a vaccine for tularemia, a bacterial disease that is caused by an organism listed as a Category A bioterrorism agent by the Centers for Disease and Control in Atlanta.

Please see **Young** page 38



Lynn Young  
Director  
Alumni Relations

# ALUMNI SOCIETY NEWS

The VMRCVM Alumni Society held their first regional alumni event in Tyson's Corner on May 21 at Morton's of Chicago Steakhouse. The dinner was sponsored by Hill's and the VMRCVM Dean's Office. Over 45 DVM's attended. On June 1, the classes of '88, '93, and '98 held their class reunion at the National Aquarium in Baltimore, Maryland. A reception followed at McCormick & Schmick Seafood Restaurant. Over 80 alumni, friends, and family attended. The VMRCVM also participated in the Virginia Tech Farm and Family Showcase.

The VMRCVM hosted an alumni reception on July 20 in Denver in conjunction with the AVMA Conference; around 80 alumni and friends attended. The VVMA mentor-mentee meeting was held in Blacksburg on October 3. Over 100 students and veterinarians participated in the program. The second regional alumni dinner was held in Richmond on January 28 at the Hermitage Country Club. The dinner was sponsored by Hill's.

The next reunion will be held for the classes of '84, '89, '94, and '99 on the weekend of August 20-21, 2004 at Alumni Society Board Member Beth Kirby's farm in McCoy. This will mark the first time that four classes celebrate their anniversaries together. On Friday, August 21, we will hold a recognition reception in honor of Dr. Peter Eyre.

For the first time, the VMRCVM will hold a pre-game tailgate event on November 18 at the VMRCVM -- Virginia Tech vs. Maryland at Lane Stadium.

Be sure to check out the VMRCVM alumni web site at <http://alumni.vetmed.vt.edu> for inform-



Above, Alums gathered at Morton's at Tyson's Corner. From left, VMRCVM Director of Development Dr. Frank Pearsall ('84), Dr. Bill Tyrell ('92), and other alums enjoy the evening.



Alumni are playing an important role in the College's new mentorship program. Here, Associate Dean Dr. Grant Turnwald facilitates discussion during the mentorship portion of the VVMA fall meeting.

ation regarding upcoming alumni events. You may also have your practice added to the alumni list by e-mailing Lynn at [youngl@vt.edu](mailto:youngl@vt.edu).

The veterinary hospitals and associated VMRCVM alumni provide a reference and a helpful tool for self-

initiated student visits for seniors who are on rotation. If you are interested in serving on the Alumni Society board of directors or holding a regional event in your area, please contact Alumni Society President Bill Tyrrell at [wtyrrell@aol.com](mailto:wtyrrell@aol.com) or 703-517-6128.

## 2004 Schedule of Events

April 3	VMRCVM Open House
May 14	VMRCVM Graduation
June 20-24	Maryland Veterinary Conference; Cambridge, Maryland, <a href="http://www.mdvma.org">http://www.mdvma.org</a>
July 24-28	American Veterinary Medical Association Convention, Philadelphia, Pennsylvania, <a href="http://www.avma.org">http://www.avma.org</a>
August 20-21	8/20 - Alumni Society Recognition Reception for Dr. Peter Eyre 8/21 - VMRCVM Reunion for Classes '84, '89, '94, and '99 in Blacksburg, Virginia
November 18	VMRCVM pre-game tailgate -- Hokies vs. Terrapins three hours prior to kickoff

Each of these events will provide you with the opportunity to interact with other alumni. You will be receiving specific information regarding the times and venues of these events prior to the event.

# NEWS FROM THE LEESBURG CAMPUS



## Leadership Changes Announced At Equine Medical Center Fregin Retires, White Interim Director

Dr. Nathaniel White has been named interim director of the Marion duPont Scott Equine Medical Center in Leesburg, Virginia. White, succeeds Dr. G. Frederick Fregin, the center's founding director.

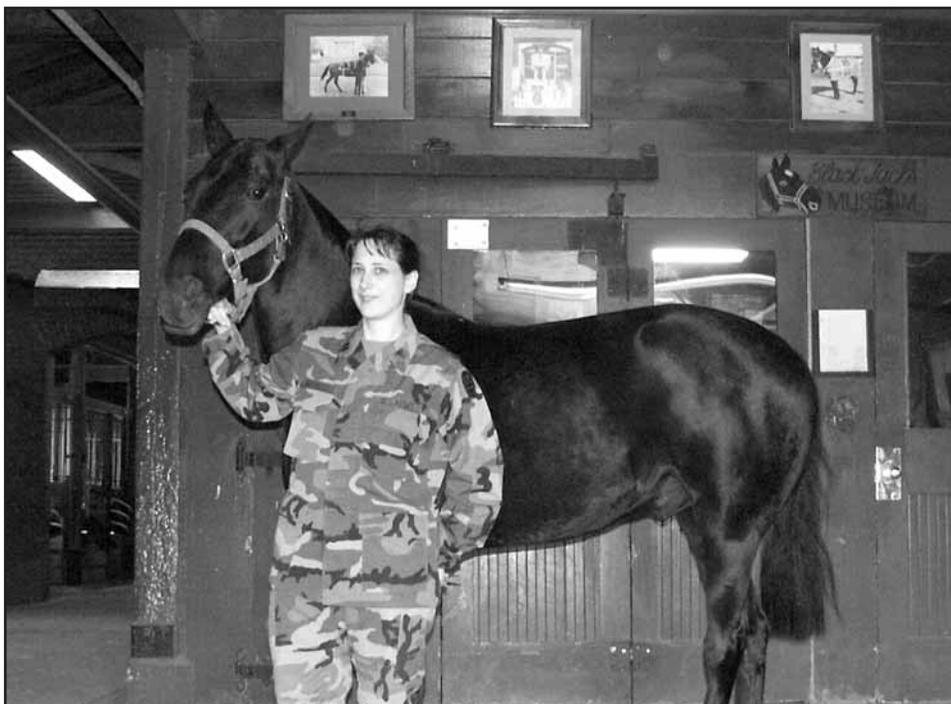
White joined the center as assistant director in 1985 and was appointed the Theodora Ayer Randolph Professor of Equine Surgery in 1987. He is an internationally recognized expert in equine colic and

*White joined the center as assistant director in 1985 and was appointed the Theodora Ayer Randolph Professor of Equine Surgery in 1987. He is an internationally recognized expert in equine colic and musculoskeletal disorders.*

musculoskeletal disorders.

"Dr. White brings to this job enormous achievement in scholarship, research and clinical care, strong familiarity with the center's heritage and aspirations, and a sincere desire to move the center forward," said Peter Eyre, former dean of the Virginia-Maryland Regional College of Veterinary Medicine, which operates the EMC as one of three regional

Please see **White** page 32



Captain Lisa Amoroso joined the Army following the completion of a residency program at the Equine Medical Center and now cares for the horses of the "Caisson Platoon." Right, Captain Amoroso poses with Sergeant Andy Lacy, a veterinary technician who also works with the horses.



## "The Old Guard's" Caisson Platoon Counts On EMC

Black and white television images of the funeral caisson carrying the recently assassinated President John F. Kennedy to his interment at Arlington National Cemetery are considered some of the most memorable of the 20<sup>th</sup> century.

Since then the gallant, handsome steeds and disciplined, steely-eyed soldiers of the 3<sup>rd</sup> United States Infantry Regiment's Caisson Platoon have solemnly conveyed many thousands of others to their final resting place at America's most revered national cemetery.

Eight times a day, five days a week, the highly trained horses and infantrymen of "The Old Guard" assume their mounts on McClellan saddles and begin a slow, deliberate journey down

shaded lanes with a flag-draped coffin carried on caissons originally built in 1918 to carry 75 mm cannons and artillery supplies.

Eight funerals a day are conducted with full military honors that include the caisson procession and a 21-gun salute.

It is a dignified, precise ritual, one that speaks of duty, honor and service in a way that offers a poignant and eloquent salute to centuries of American patriotism and sacrifice.

Stabled in historic brick buildings at Fort Myer, Virginia, the 45 horses called upon to pull the caissons are housed and cared for under the watchful eye of Captain Lisa Amoroso, a veterinarian with the U.S. Army's National Capital District Veterinary Command who serves as head

veterinary officer for the post.

Amoroso, who became interested in a career as a military veterinarian while conducting a three-year internal medicine residency at the Marion duPont Scott Equine Medical Center in Leesburg, considers it her dream job.

"It's a huge honor," says Amoroso, in an equine treatment room located in one of the red brick historic stables located on Fort Myer, which lies immediately adjacent to Arlington's 280,000 graves and the Pentagon. "I love it. It's busy. It's very busy."

Amoroso joined the military in May 2003, and reported for duty at Fort Myer in December 2003 following several months of training at the United States Army Health Sciences Center in San Antonio, Texas.

The horses used by "The Old Guard" are largely draft-horse crosses, she says. They are even training some wild mustangs brought to Fort Myer through the Bureau of Land Management's wild pony rescue project.

*It is a dignified, precise ritual, one that speaks of duty, honor and service in a way that offers a poignant and eloquent salute to centuries of American patriotism and sacrifice.*

She handles most of the routine veterinary tasks associated with maintaining the health of the herd on site, but she's happy to have the Equine Medical Center located just a half-hour away in Leesburg. The base has referred more than 50 cases over the years, for treatments ranging from colic problems to lameness to airway disorders.

Early in the 1990's the herd had a lot of Shires, according to Amoroso, which tended to have more colic problems. Those problems have largely abated with the development of the more cross-bred herd, she said, though they still suffer the occasional colic.

For those times when advanced diagnostic and therapeutic support is required, Amoroso and her colleagues routinely rely upon the EMC.

"We have a really good working relationship with them," said Amoroso. "They do what we need to have done, when we need it."

Center technical staff and clinicians are fond of the animals and enjoy the opportunity to care for animals that play such an important role in the ceremony.

"We take pride in caring for those horses, just as we do all of our patients," said Dr. Nat White, interim director of the EMC. "But the sense of military history, tradition and American heritage that's involved with 'The Old Guard' and Arlington... that does make it something special."

In addition to providing routine health care for the 45 horses in the platoon, she cares for 22 working dogs, as well as companion animals owned by local military personnel. About 30% of her time is spent doing food inspection work for the base.

Says Amoroso of the residency she conducted at the EMC, which is considered one of the nation's most prestigious equine referral centers:

"We got to do a lot of things that most residents don't get to do in terms of seeing a case through," she said. "It was very difficult. But it was so worth it."

## EMC to host "Tuesday Talks" lecture series

The Marion duPont Scott Equine Medical Center is featuring its popular "Tuesday Talks" lecture series this winter. The informal lectures feature Equine Medical Center faculty and guest speakers discussing topics of interest in equine veterinary medicine.

This winter four lectures will be offered:

December 9, 2003

*Alternative Therapies -- Do They Have a Place in Veterinary Medicine?*

Dr. Mark Crisman, VMRCVM, Blacksburg Campus

January 20, 2004

*Prevention and Treatment of Salmonella and Other Infectious Intestinal Diseases,*

Dr. Harold C. McKenzie, III, Marion duPont Scott Equine Medical Center

February 17, 2004

*Growth, Nutrition, and Development of the Equine Athlete,*

Dr. W. Burton Staniar, Middleburg Agricultural Research and Extension Center

March 16, 2004

*Update on EPM Diagnosis and Treatment,*

Dr. Martin Furr, Marion duPont Scott Equine Medical Center

Lectures begin promptly at 7:00 p.m. in the Equine Medical Center's Library. No fee is charged for the lectures, but seating is limited and reservations are required. Additional information is available from the "educational opportunities" link at [equinemedicalcenter.net](http://equinemedicalcenter.net).

To be included in the Center's continuing education mailing list, call Ann Nadjar at 703-771-6843 or e-mail [anadjar@vt.edu](mailto:anadjar@vt.edu).

## White:

continued from page 30.

campuses.

"He envisions levels of clinical and research excellence that are very consistent with the goals that Virginia Tech has set for the decade ahead," he continued. "We are pleased about his leadership and excited about the future."

White earned his DVM degree from Cornell University in 1971 and completed an internship and residency program in equine surgery at the University of California at Davis. He also earned a MS degree in pathology from Kansas State University. He is board certified by the American College of Veterinary Surgery (ACVS) and he has served as Chairman of the Board of Regents of the ACVS and President of the ACVS Research and Education Foundation.

White currently serves as director of the ACVS Veterinary Symposium, a major international veterinary continuing education event. He is a past member of the national Board of Directors of the American Association of Equine Practitioners, and holds an adjunct faculty appointment at the University of Maryland at College Park.

White has published 139 publications in refereed academic journals and has authored several textbooks, including *The Acute Equine Abdomen*, *Current Techniques in Equine Surgery and Lameness*, and *the Handbook of Equine Colic*.

As assistant director for clinical services at the center, White has supervised all aspects of clinical care at the advanced equine referral center which treats about 2400 horses a year with a full-time staff of 60 employees.

He has also worked closely with the Marion duPont Scott Equine Medical Center Council, an advisory organization that develops private support and provides operational guidance for the center that has become an integral part of the regional horse industry.

"Dr. Fregin has done a terrific job of establishing this center as a world class equine hospital," said White. "He has brought us to a level where we are poised for major progress, and I'm excited about this opportunity to play a role in that."



Participants in the Equine Laser Surgery Course sponsored by the American College of Veterinary Surgeons perfect the finer points of endoscopic laser surgery.

## Second Annual Veterinary Roundtable held at EMC

Michael Erskine, DVM, a VMRCVM alumnus and EMC Council Member, served as moderator of the hospital's second annual veterinary roundtable to discuss "The Referral: A Key to Progressive Practice." Panel participants included Dr. Richard Forfa of Monocacy Equine Veterinary Associates, along with EMC faculty members Ken Sullins and Harold McKenzie.

"I was pleased with the productive discussion and exchange of ideas at our July meeting," said Dr. Erskine. "We will continue to fine-tune the date and content of future roundtables. Summer meetings have provided an excellent opportunity to introduce referring veterinarians to new faculty members and residents who they'll be working with in the future."



Work is underway on the installation of a standing MRI unit at the EMC. The standing MRI will enable clinicians to accurately image the lower leg without anesthesia. The MRI is expected to be put on line in early 2004. Center officials believe it will be one of the first two such units available in the United States.

Right, farriers Matt Hatcher and Michel Powers.

Far right, from left to right, farriers Michel Powers, Paul Goodness, and Darren Wall.



## Farrier Shop Facilitates Farrier and Veterinarian Collaboration

Renovations and upgrades to the Equine Medical Center's farrier shop have been completed thanks to a generous grant from Thoroughbred Charities of America, Ltd.

Holding stalls, rubber flooring, a new ceiling, upgraded lighting and an equipment room make it easier for veterinarians and farriers to collaborate on treatments that address painful laminitis, resolve lameness

and improve equine performance.

Delaware-based Thoroughbred Charities of America holds an annual dinner and stallion season auction to raise funds for national distribution among organizations helping horses through rescue, rehabilitation and research.

Photos courtesy of Robert Cohencious/CPTV



## Equine Medical Center Appoints Veterinary Advisory Board Members

A Veterinary Advisory Board comprised of Virginia and Maryland based equine practitioners has been established to help the Marion duPont Scott Equine Medical Center continue its quest to provide excellence in equine healthcare for the region.

Like members of the Equine Medical Center's Council, Veterinary Advisory Board members will provide advice and counsel to the Center's director and staff as they develop policies and procedures designed to meet the needs of the equine industry and the constituencies it serves. Members will also work to facilitate communication with clients and other referring veterinarians.

"Servicing the needs of referring veterinarians is key to the Equine Medical Center's success," said Dr. Nathaniel A. White, II, interim director of the Marion duPont Scott Equine Medical Center. "This group of experienced practitioners will provide valuable advice about the hospital's function, business practices and communications with veterinarians and clients. By working as a team, the regional veterinary community can share technology and expertise to raise the level of horse health care and advance the profession. I am pleased with the new board members' willingness to help in this effort."

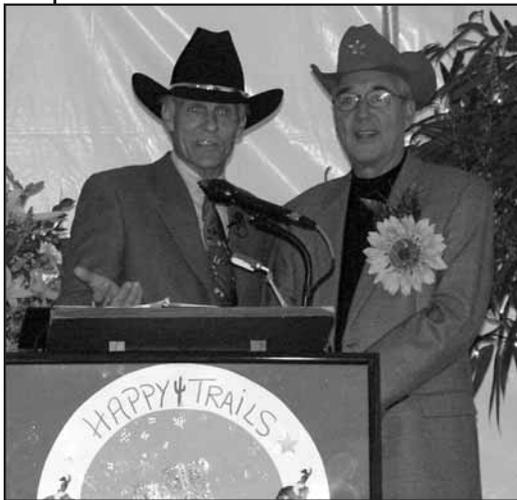
Members of the newly-formed EMC Veterinary Advisory Board include:

- Dr. Scott Anderson**, Woodside Equine Practice, Ashland, Virginia
- Dr. Paul Anikis**, Piedmont Equine Practice, Marshall, Virginia
- Dr. R. Reynolds Cowles, Jr.**, Blue Ridge Equine Clinic, Free Union, Virginia
- Dr. Michael Erskine**, Damascus Equine Associates, Woodbine, Maryland
- Dr. Richard Forfa**, Monocacy Equine Veterinary Associates, Beallsville, Maryland
- Dr. Deborah Graham**, Davidsonville, Maryland
- Dr. Paula Horne**, Hoof and Paw Veterinary Service, Purcellville, Virginia
- Dr. William McCormick**, Middleburg Equine Clinic, Middleburg, Virginia
- Dr. Nicholas Meittinis**, Maryland Veterinary Group, Laurel, Maryland
- Dr. Carol Sabo**, Haymarket Veterinary Service, Haymarket, Virginia

Dr. Ken Sullins, Professor of Equine Surgery, and Mrs. Shelley Duke, Chair of the Equine Medical Center Council, were among those who took the podium to "roast" Dr. Fred Fregin.



## Honorary Roast held for EMC's Founding Director



Dr. G. Frederick Fregin, the Jean Ellen duPont Shehan Professor and Founding Director of the Marion duPont Scott Equine Medical Center, was saluted in a retirement roast held at the Center.

Fregin was the hospital's first employee when hired in 1983, and his career as Professor and Director spanned 19 years. During his tenure Fregin presided over the center's establishment as a world-class equine referral hospital.

Fregin's professional acumen, cheerful demeanor and administrative skills all played a key factor in his efforts to guide the center's growth and development.

Fregin has joined his wife Laura in Texas where she is attending divinity school. Since retirement, Fregin has remained active with development and community relations activities at the Center.

Joseph Keusch, MFH, a member of the Equine Medical Center Council, served as master of ceremonies at the retirement "roast" for Dr. Fred Fregin.

## Thoroughbred Charities of America, Maryland Horse Industry Board Award Grants for Equine Medical Center Research Center

The Marion duPont Scott Equine Medical Center in Leesburg has been awarded a \$25,000 grant from Thoroughbred Charities of America and a \$5,000 grant from the Maryland Horse Industries Board to help construct and equip new laboratory facilities designed to support its growing equine research program.

The new facilities will encourage greater collaboration among faculty and graduate students working at the Equine Medical Center, on the Virginia-Maryland Regional College of Veterinary Medicine's College Park, Maryland and Blacksburg, Virginia campuses, and at Virginia Tech's Middleburg Agricultural Research and Extension (MARE) Center on a broad range of equine

health topics, according to Dr. Nathaniel A. White II, Interim Director of the Equine Medical Center.

"Virginia Tech President Dr. Charles Steger has set a goal for the university to be placed among the top 30 research institutions in the country by 2010," said Dr. White. "Equine Medical Center faculty, working here at the center and in collaboration with colleagues on our other campuses, are a part of the process that will achieve President Steger's vision. We are grateful to Thoroughbred Charities of America and the Maryland Horse Industry Board for their investment in this emerging area of emphasis for us."

Though widely regarded as a clinical center, the Equine Medical Center has made significant clinical

research contributions in the areas of colic and other gastrointestinal disorders, Equine Protozoal Myelitis (EPM), surgery, lameness and cardiopulmonary function over the past 20 years, White said.

The centralized Northern Virginia location of the Equine Medical Center's equine research laboratory will also facilitate collaboration with other private and public sector research groups interested in promoting the health and well being of horses in the Mid-Atlantic region and beyond, according to White.

Thoroughbred Charities of America, based in Middletown, Delaware, was founded in 1990 when a small group of Mid-Atlantic horse people, including Ellen and Herb Moelis and Mrs. Allaire duPont, gathered

together for a dinner and auction to benefit and promote the well being of retired racehorses. Since that time, a board of directors was established and TCA's fundraising efforts expanded dramatically. Last year, the organization's annual auction of stallion seasons and equine and sporting artwork raised over \$1.1 million. TCA's Board of Directors distributed those funds to more than 60 rescue, retirement and research organizations.

The Maryland Horse Industry Board was created in 1998 to replace the State Board of Inspection of Horse Riding Stables. The purpose of the Board is to promote the horse industry in Maryland and to license boarding and rental facilities in the state. Grants are awarded each year from a fund produced by fees collected on the sale of equine feed. In 2003, the Board distributed more than \$52,000

in grants to 29 organizations to help build awareness of and involvement in the horse industry through research, education and promotional activities. More than one-third of the horses treated at the EMC are from Maryland.

## Nadjar Steps Down As EMC Development Assistant Director

Ann Nadjar, who has served as assistant director of development at the Marion duPont Scott Equine Medical Center for the past four years, has resigned her full-time responsibilities at the Equine Medical Center.

Nadjar, who discontinued full-time work at the EMC on January 9, 2004, will continue to work part-time for the Equine Medical Center. She will continue running the popular "Tuesday Talks" community information program

for the remainder of the 2004 schedule, and she will continue to assist Virginia Tech's Director of Equine Fund-Raising Programs Katherine Larmore on other special initiatives.

Nadjar decided to reduce her full-time work commitments to concentrate more on a family business and a new home in Alexandria.

Nadjar has played an important role on a number of institutional advancement programs at the EMC. In addition to assisting Larmore with development activities, Nadjar has run a number of important community relations and special event programs.

She has also worked closely with VMRCVM Public Relations director Jeffrey Douglas on a number of public relations, media relations and publications programs.

Prior to joining the EMC, Nadjar worked with the National Communications Association.

## News & Notables

### Two Clinical Instructors Join EMC Faculty

**Dr. Jennifer Brown** joined the EMC's faculty as a clinical instructor in emergency care and equine surgery. Dr. Brown received her DVM degree from Washington State University and completed an internship at Rood and Riddle Equine Hospital in Lexington, Kentucky. Her surgery residency was completed at Michigan State University.

**Dr. Elena Garcia Seco** has joined the EMC with a temporary appointment as a clinical instructor in equine surgery. Dr. Garcia graduated with honors from the National University of Mexico, School of Veterinary Medicine. She completed her internship in equine medicine, surgery and theriogenology at Louisiana State University and her residency in equine surgery at the University of Missouri. Dr. Garcia also competes in show jumping on a national and international level.

### EMC Welcomes New Residents and Interns

**Dr. Courtney E. Henderson** received his BS in Biomedical Science and his DVM in 2002, both from Texas A&M University. He then completed a one-year internship at Rood and Riddle Equine Hospital in Lexington, Kentucky, and joined the EMC staff as a resident/graduate student in equine surgery.

**Dr. Christina A. Hewes** received her BS in Biology from Boston College and her DVM from the University of California, Davis. She conducted a large animal internship, equine emphasis, at Washington State University and joined the EMC staff as a resident/graduate student in equine surgery.

**Dr. Emma Mitchell** received her B. VetMed from the Royal Veterinary College,

University of London and her Certificate in Veterinary Anesthesia. She conducted an internship at the Equine Referral Hospital of the Royal Veterinary College and joined the EMC staff as a resident/graduate student in equine medicine.

**Dr. Angela Borchers** received her veterinary medical degree from the School of Veterinary Medicine in Hannover, Germany and did her doctoral thesis on osteochondrosis dissecans in foals. She has practiced in England, Ireland and Germany and serves as an intern in equine medicine and surgery.

**Dr. Cheryl L. Fite** received her DVM from St. George's University School of Veterinary Medicine at St George's, Grenada in the British West Indies. She attended the Oklahoma State University College of Veterinary Medicine for her fourth year clinical rotations. She has joined the EMC staff as an intern in equine medicine and surgery.

**Dr. James B. Joyce** earned his BS at the U.S. Naval Academy. Subsequent to service as an active-duty officer in the U.S. Navy, he earned his DVM from the University of California at Davis. Dr. Joyce conducted an internship in equine medicine and surgery at the EMC.

**Dr. Marta M. Wereszka** received her veterinary medical degree from Murdoch University in Perth, Australia. Prior to obtaining her degree, she worked as a track-work rider at Ascot Racecourse in Perth, as a veterinary nurse in a small animal hospital and as a veterinary science demonstrator for second year horse-handling skill classes. Dr. Wereszka recently worked with Dr. Martin Furr in the EMC's neonatology service and now serves as an intern in equine medicine and surgery.

**Dr. David Adam Castrillo** who completed a residency at the Equine Medical Center, was awarded first place for his poster "Effect of botulinum toxin type - B in the external anal sphincter of horses" at the American College of Veterinary Surgeons meeting held in Washington, D.C.

**Dr. Jennifer Brown** received a second place award in the Residents' Forum for her presentation "The effect of laryngoplasty on upper airway noise in horses with laryngeal hemiplegia," at the American College of Veterinary Surgeons meeting held in Washington, D.C.

**Dr. Elena Garcia Seco** received second place for her poster "Measurement of cartilage stiffness in the femoropatellar, trasocrural and metatarsophalangeal joint as the indicator of cartilage pathology" at the American College of Veterinary Surgeons meeting held in Washington, D.C.

**Dr. Harold C. McKenzie III** was promoted from clinical instructor to assistant professor in equine medicine. Dr. McKenzie has published two first author papers this year. The first was entitled "Characterization of antimicrobial aerosols for administration to horses" and was published in *Veterinary Therapeutics*. The second paper was entitled "Aminoglycoside antibiotics in the neonatal foal" and was published in the *Compendium on Continuing Education of the Practicing Veterinarian*.

**Dr. Lucas G. Pantaleon**, resident, was the first author of a review article entitled "Equine Fetal Growth and Development" which was published in the *Compendium on Continuing Education of the Practicing Veterinarian*.

**Dr. Kenneth E. Sullins**, professor, was the subject of an article in *Lightnews*, a newsletter published on behalf of *Lumenis™*. The article was entitled "Laser Treatment for Horses - Versatile, Comfortable, Effective."

## Equine Acupuncture Credible Alternative, Crisman Tells EMC Audience

A full house was on hand to hear VMRCVM associate professor Dr. Mark Crisman discuss equine acupuncture as part of the "Tuesday Talks" series.



A capacity crowd turned out for the first 2003-2004 "Tuesday Talks" presentation to hear equine veterinarian Dr. Mark Crisman talk about equine acupuncture and alternative medicine.

Crisman, an associate professor in the Virginia-Maryland Regional College of Veterinary Medicine's Department of Large Animal Clinical Sciences, provided an overview of equine acupuncture and how he uses it in clinical practice during his presentation.

He outlined the traditional Chinese approach to medicine, which takes a holistic approach to health and well-being and considers elements such as lifestyle, diet, exercise, herbal remedies and acupuncture.

Acupuncture goes back at least 3,000 years, said Crisman, who became a certified equine acupuncturist about five years ago.

According to its precepts, health is maintained by balancing the "yin" and the "yang," said Crisman, who is a traditionally trained internist who is board certified by the American College of Veterinary Internal Medicine.

Energy – or "Qi" (pronounced "chee" and roughly translates to "vital energy") – flows through the body through a complex network of 12 major meridians, according to Crisman.

"When the flow of Qi is interrupted," he said, "there is disease." Acupuncturists "rebalance" the energy system by inserting needles at precisely targeted "acu-points" that have been carefully located through thousands of years of Chinese practice.

Crisman said that acupuncture is used to treat a variety of disease problems in the horse, including gastrointestinal, respiratory, neurological, musculoskeletal and reproductive disorders.

Crisman said his exposure to eastern medicine has encouraged him to take a broader, "whole-horse" approach to treating all of his cases. "I was a skeptic," he said. "Then I went and took the course,"

"I'm not saying that one is right and one is wrong," he continued. "It gives you another set of glasses to look at the problem with."

He said he finds acupuncture particularly useful in the management of chronic pain and in diagnostics. A number of "western" studies have attempted to apply western "principles" to assess the effectiveness of acupuncture, but most of the studies are inconclusive, he said.

"Western" medical beliefs suggest that acupuncture may work through vaso-dilation and through stimulating the release of neuro-transmitters. There is some evidence to suggest that it stimulates the immune system as well, Crisman said.

While much about how it works remains veiled in mystery, Crisman believes that equine acupuncture is a viable complement to western medicine that "bridges the gap between medicine and surgery."



Steve Hummer, EMC physical plant supervisor, stands in front of the newly completed Isolation Unit. The long-awaited facility will open in Winter 2004 and includes eight stalls and a number of advanced management and biosecurity features.

# NEWS FROM THE MARYLAND CAMPUS

## Maryland Campus Presents Fellowship Program



Fellowship participants had an opportunity to tour a number of government facilities in the Washington D.C. area. Above, the veterinary students meet with Dr. Stephen Sundlof (seated on right), head of the Food & Drug Administration's Center for Veterinary Medicine.

Leaders at the college's Center for Public and Corporate Veterinary Practice at the College Park Campus presented a two-week summer fellowship program for DVM students from around the nation which was focused on bioterrorism, agroterrorism, and homeland security.

The "Summer Fellowship Program in Science, Technology and Public Policy: Implications for Veterinary Medicine" is designed to provide registrants interested in public practice to become more familiar with the leaders and programs shaping that aspect of the contemporary profession. Eleven students from veterinary colleges around the nation participated in the event, which included field visits and presentations from government agencies and professional organizations. The event was sponsored by NutraMax Laboratories and Merck Research Laboratories and coordinated by Dr. Ted Mashima.

## CGCVM Renamed Center for Public and Corporate Veterinary Medicine

The Center for Government and Corporate Veterinary Medicine has been renamed the Center for Public and Corporate Veterinary Medicine.

The change has been made to better reflect the scope and importance of modern veterinary public practice and to make the center's name more consistent with the way other organizations and institutions refer to that sector of the veterinary profession, according to Dr. Bettye Walters, who serves as director.

"We believe this move will further enhance and strengthen our commitment of addressing the need for an adequate supply of well trained veterinary human resources to serve the public good," said Walters.

Over the past decade, the number of opportunities for veterinarians to pursue careers outside of the realms of traditional private practice has greatly increased, Walters said.

The Association of American Veterinary Medical Colleges (AAVMC) estimates that approximately 5,000

veterinarians are in "veterinary public practice" which the AAVMC defines as "a new form of veterinary practice emphasis that encompasses public health, epidemiology, food safety, infectious diseases, zoonotic diseases, basic sciences, laboratory animal practice, veterinary college faculty, and practices supporting human health."

These opportunities are available in both the public sector (international, federal, state, and local) as well as the private sector (private industry, not for profit organizations and foundations, animal and animal product advocacy organizations), according to Walters. About 2500 veterinarians are employed in federal governmental agencies, 700 in state governments, 1600 in industry, and 250 are in academia and extension, she said.

Along with the AAVMC, the Journal of the American Veterinary Medical Association uses the term "public practice" in its classified advertisements to refer to veterinarians in the above referenced disciplines

who are seeking employment. Governmental agencies such as the United States Department of Agriculture's Animal and Plant Health Inspection Service (APHIS) and the Food Safety and Inspection Service (FSIS) are beginning to use the term public practitioners or public practice veterinarians for professionals within their employ as well.

Over the years, the terms "government practice" and "government veterinarian" have acquired an archaic and even negative connotation, Walters said. Being a "government veterinarian" or doing "government work" is not perceived as being an interesting or challenging career choice for students who are overwhelmingly influenced to go into traditional private clinical practice, she said.

"This presents an unnecessary barrier when our profession is attempting to encourage our best and brightest students and recent graduates to consider specialties in public health, food safety, pathology, laboratory animal medicine, toxicology and other disciplines in the domain of public practice as viable career options," Walters wrote in a proposal seeking the name change.

## Career Transitions Symposium Held At Maryland Campus

A two-day "Career Transitions for Veterinarians" symposium was recently held at the College Park campus.

The goal of the conference was to provide information for veterinarians seeking to find new career opportunities in government and corporate veterinary medicine, according to Dr. Bettye Walters, director of the Center for Public and Corporate Veterinary Practice.

About one in every four veterinarians are employed in the public or corporate sector, she said.

Speakers included officials from the Food & Drug Administration, the USDA, the National Cancer Institute, the U.S. Army Veterinary Corps and many other public and private organizations.

## Interim Dean Appointed on Maryland Campus

A new interim dean of the University of Maryland at College Park's College of Agriculture and Natural Resources has been named.

Agricultural economist Dr. Bruce Gartner has held faculty appointments at North Carolina State and Texas A&M

University. He was named a University Distinguished Professor at Maryland in 1995 and has chaired the Department of Agricultural Resources and Economics.

Former Dean Dr. Tom Fretz has resigned to assume a new federal post with the USDA.

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## News Briefs

**Dr. Ted Mashima** associate director of the Center for Public and Corporate Veterinary Practice, has been elected Secretary for the American College of Zoological Medicine for the 2004-2005 term. Established in 1983, the ACZM is an international veterinary specialty organization recognized by the American Veterinary Medical Association for recognizing veterinarians with special expertise in zoological medicine. Mashima also serves as the college's administrative officer.

**Drs. Karen Wolf and Megan Blasier** made presentations at the 2003 Conference

of the American Association of Zoo Veterinarians in Minneapolis, Minnesota. An article written by Wolf entitled "Spring viremia of carp: animal health policy considerations" and an article written by Blasier entitled "Endangered species recovery plans: considering parasite conservation" were each published in the AAZV Proceedings. Their work was produced as a result of the rotation they conducted in the Center for Public and Corporate Veterinary Medicine.

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## Young: continued from page 28.

Inzana also brings considerable teaching experience to the endowed professorship. His research achievements help illuminate the "real-world" importance of microbiology for DVM students enrolled in the microbiology sections as well as those fourth-year students studying microbiology during the Laboratory Services clerkship. Inzana is also currently mentoring five post-DVM and non-DVM graduate students, helping them prepare for careers in veterinary and medical microbiology.

A former director of the Center for Molecular Medicine and Infectious Diseases, Inzana also serves as Director of Clinical Microbiology in the Veterinary Teaching Hospital and conducts teaching, service, and research through his appointment as a professor in the Department of Biomedical Sciences and Pathobiology. He is a diplomate of the American Board of Medical Microbiology and a Fellow of the American Academy of Microbiology.

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## Roberts: continued from page 27.

summer before his first year in veterinary college, Kent worked in Rockport, Massachusetts, a seaside area north of Boston. That is where he met his future wife, Shirley Fulton. The two stayed in contact and continued

their friendship through college. After they married, Shirley joined Kent for graduate studies at Cornell University.

Upon graduation, Kent worked in a dairy practice in Frederick, Maryland, and then migrated south to Loudoun County, Virginia, where he established his own veterinary practice and animal hospital. Kent enjoyed a thriving veterinary business and Shirley helped with the office work. They raised three daughters and a son in Purcellville, Virginia.

In 1979, Dick Talbot, founding dean of the VMRCVM at Tech and a personal friend, asked Kent to come to Blacksburg to help build a new veterinary college from the ground up. Kent's history as president of the Virginia Veterinary Medical Association made him an obvious candidate. He seized the opportunity and made history once again—this time on the campus of Virginia Tech.

After a year of selling the concept of the veterinary college in the veterinary community, the school was launched and Kent was appointed its first director of continuing education. Kent says he felt well equipped to share the knowledge he had received. "I think I had a little insight into what veterinarians wanted and what I could do to supply that." Trips across the state soon dotted his calendar, as he worked to promote the benefit of having a growing veterinary teaching hospital

as a resource to veterinarians in the region.

With knowledge and personal growth at the forefront of the Roberts' philosophy, it is not surprising that the family recently established an endowed professorship to honor Dr. C.R. Roberts in perpetuity for his pioneer work in the field of corporate veterinary medicine. The "C.R. Roberts Endowed Professorship of

Clinical Veterinary Medicine" is the first clinical position funded on the college's Blacksburg campus and is a rotating five-year appointment. "I wanted to honor my father who was an outstanding individual, and perpetuate his name outside the family," says Kent. Because the veterinary college is still relatively new and is working to build its alumni base, Kent says creating the endowed professorship was a "win-win" situation.

"By doing this, I honored my father's memory and helped the college too."

In April 2003, Kent and Shirley, along with Kent's mother, Florence, were inducted as new Senior Benefactors in the "Ut Prosim Society" at Virginia Tech. Clearly, the Roberts family is the true embodiment of Ut Prosim, "That I May Serve."

*Jenise Jacques is a writer in the university's Office of Development.*

## "Mad Cow"

continued from page 1.

But prions behave very differently than these more common disease-causing organisms, explains Eyestone. Normal, non-pathogenic prions are actually a form of protein that naturally occur in all mammals, though scientists remain uncertain about the exact purpose they serve in advanced mammals like humans. Transmissible spongiform encephalopathies like BSE and new variant Creutzfeldt-Jacob Disease (vCJD), the human form of the disease, are believed to occur when the non-pathogenic prions that normally reside in mammalian nervous systems are converted into abnormal pathogenic forms.

Proteins, the building blocks of metabolic processes, are long chains of amino acids that fold in upon themselves in predictable patterns and shapes that result from the bio-electrical relationships that exist between individual molecules, according to Eyestone. Proteins normally "fold" in only one way. But when the "normal" prions are exposed to pathogenic prions, they begin to "fold" in another way that leads to disease.

In the case of BSE and vCJD, pathogenic prions introduced from contaminated food sources interact with normal prions in the body and transform them into the lethal agents that eventually create the "Swiss cheese-like" lesions in the brain that cause the devastating neurological symptoms of the disease.

The pathogenic prions that are ingested by cattle in contaminated feed do not seem to be affected by the normal enzymatic activity of the digestion process, explains Eyestone. The prions pass through the wall of the gut and are subsequently absorbed by innervated lymphatic tissues, where they eventually accumulate in the

Dr. Will Eyestone joined the college after working with PPL Therapeutics, the Scotland based organization that cloned the first animal in history, Dolly the Sheep.



nerves, and then migrate to the spinal cord and brain. The process takes years, Eyestone says, which accounts for the five to seven year incubation period that characterizes both the animal and human forms of the disorder.

While scientists don't know how to stop the pathogenic process once it gets underway, some, like Eyestone and Huckle, are interested in creating an animal that lacks the genomic architecture to code for the production of normal prions.

"In order to be susceptible to prion disease, the individual has to be able to express the prion," says Eyestone, who is using the same somatic cell transfer technology to clone a cow without normal prions that PPL used to create Dolly the sheep and Mr. Jefferson, the first cloned calf.

Basically, the process involves taking somatic cells harvested from an animal and replacing the nucleus of that cell with the nucleus of another cell that possesses the desired genetic characteristics, then implanting that embryo into the animal for a normal gestational development period.

"We know that if you knock out these prion proteins in laboratory mice that there is no apparent negative effect," said Eyestone. "We know that this prion does not appear to be required for normal functions of life. But the mouse has not

been that informative to us and we are hoping that the cow will be more so."

The core objective of the NIH grant is to produce a cow that is genetically incapable of producing prions, and then determine whether or not the viability and function of the animal has been affected by the lack of the prion. Once the cow is cloned in late 2004, the researchers will conduct a number of behavioral and physiological evaluations of the animal.

If efforts to produce a normally functioning cow that lacks the genetic ability to code for the production of prions are successful, the researchers may have identified a strategy for finally containing the risks of this ominous disease.

While the prospects of "cloning" prion free cattle on the scale of America's 100 million head cattle herd may seem daunting, Eyestone points out that with the widespread use of artificial insemination in modern agriculture, great strides could be made in as little as six or seven generations.

On a smaller scale, sub-populations of prion-free cattle could be produced for use in other tasks such as the production of pharmaceutical compounds that are eventually used in people, thereby eliminating the risk that a drug produced to promote human health and well-being might accidentally cause the deadly neurological condition.



Photo by Jerry Baber

Former Virginia-Maryland Regional College of Veterinary Medicine Dean Peter Eyre was recognized for his 18 years of service to the Commonwealth of Virginia with a joint resolution of commendation passed by the Virginia General Assembly. Here, Eyre is congratulated by members of the Virginia House of Delegates on the floor shortly after Delegate Jim Shuler concluded the rare "center-aisle" recognition ceremony in the Virginia State Capitol. Standing and applauding on Eyre's left are Delegates Jim Shuler and Dave Nutter.



**VIRGINIA-MARYLAND**

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