VM MAGAZINE

Issue No. 4 Winter/Spring 2008

VMRCVM earns AVMA re-accreditation

Biofilm and bovine disease

Meng awarded $3 million in NIH grants

Probing brain tumors in people and animals

Researchers help resolve global Heparin emergency

Poultry virus and human cancer treatment

VMRCVM worldwide

News magazine for the Virginia-Maryland
Regional College of Veterinary Medicine

Virginia-Maryland Regional College of Veterinary Medicine

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Virginia Tech
Invent the Future

UNIVERSITY OF MARYLAND

The Virginia-Maryland Regional College of Veterinary Medicine is a two-state, three campus professional school operated by Virginia Tech in Blacksburg and the University of Maryland at College Park. The Marion duPont Scott Equine Medical Center in Leesburg, Virginia serves as the college's third campus.

Questions and comments should be addressed to: Office of Public Relations and Communications, VMRCVM, Duck Pond Drive, Virginia Tech, Blacksburg, Virginia, 24061. Phone us at 540/231-4716 or visit us online at www.vetmed.vt.edu

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Cover photo-illustration: *Dr. John Rossmeisl has been awarded funding from the Wake Forest University Translational Science Institute to develop new approaches for managing brain tumors in animals and people. The goal of the work is to develop more precisely targeted systems for delivering therapeutic agents to cancer cells. A second goal is to perfect protocols for using stereotactic radiosurgery - commonly called the "Gamma Knife®" - for treating brain tumors in dogs.*

Dean Gerhardt Schurig

DEAN'S MESSAGE

Greetings from Blacksburg:

Doing the Math...

I find it curious that the profession of veterinary medicine has found itself constrained by a flurry of economic issues, ranging from supply issues to income issues to debt issues, for the past several decades. One would think that market forces would automatically balance the inputs and outputs of this economic system; but clearly, they do not seem to be doing so, at least as well as they could.

Who can argue the indispensable role veterinary medicine plays in our modern world? Our profession provides human-quality healthcare for 88 million cats and 75 million dogs that live, for the most part, as full-fledged "family members" in the modern household. Veterinarians are erecting barriers between emerging infectious diseases – 75 percent of which are of animal origin - and public health. From farm to fork, we are helping produce and ensure the safety of our food supply. And we are inventing better healthcare- for people and for animals – in government and private laboratories.

And yet... studies say we are looking at a shortfall of up to 22,000 veterinarians in little over a decade. We cannot place food animal veterinarians in rural America. About 25 percent of the veterinary positions in USDA's inspection service remain unfilled. Companion animal practices struggle to recruit new associates. And "bottom-line" challenges afflict many practices.

We have made important progress. When the Association of American Veterinary Medical Colleges (AAVMC), the American Veterinary Medical Association (AVMA) and the American Animal Hospital Association (AAHA) collaborated on the creation of the the National Commission on Veterinary Economic Issues (NCVEI) in 2000, the mean annual income of a veterinarian was $57,130 and the average starting salary for a new graduate was around $37,000. After seven years of national bench-marking and education reforms, those numbers had increased to $103,000 and $57,000 respectively. That puts veterinary medicine in the 20 highest paying occupations, according to the U.S. Department of Labor's Bureau of Labor Statistics.

But the business infrastructure of our profession now finds itself threatened again, this time by a pervasive challenge that may affect the steady stream of highly-qualified students seeking careers in veterinary medicine – something that some of us may have taken for granted. That problem is student debt and it threatens the very bedrock of the profession.

The average educational debt for new veterinarians is now estimated at more than $100,000; it can run as high as $165,000 to $220,000 if the student attends a state-run institution as a non-resident. Simple calculations demonstrate the unsustainability of this model. New graduates starting at almost $60,000 a year now face "mortgage-level" educational debt on top of normal costs of living. Sadly, there are no apparent solutions on the "cost" side of this equation. With declining state support a reality for all of higher education, tuition costs will most likely continue to rise. Factoring in the unknown costs of the impending energy crisis creates an even more disturbing scenario.

I am pleased to see the action being taken by the student-based national Veterinary Business Management Association to address this problem. Major meetings designed to confront this challenge have been held at the North American Veterinary Conference, at the annual meeting of the American Animal Hospital Association, and on several college campuses, including ours.

But the "debt/profitability elephant," as it is being called, is a challenge that must be embraced by the AAVMC, the AVMA, the AAHA, industry and government. I have every confidence we can solve this problem; but as leaders of this profession, and as a society that values animals and veterinary medicine, we must embrace it and take action. We will all suffer if the numbers don't work.

IN THE NEWS

VMRCVM Awarded Full Accreditation from AVMA

The VMRCVM has been awarded full accreditation from the American Veterinary Medical Association's Council on Education (AVMA-COE) for a seven-year period.

All AVMA accredited colleges of veterinary medicine must undergo a comprehensive evaluation by the AVMA-COE every seven years. The accreditation process includes a detailed institutional self-study that includes extensive surveys concerning programs and outcomes, the publication of a comprehensive accreditation document, and a major site inspection visit conducted by an AVMA-COE site evaluation team.

"This affirmation of the quality of our college's programs in learning, discovery and engagement is a direct result of the talent and dedication that our employees and our students bring to our college every day," said VMRCVM Dean Gerhardt Schurig. "I'd like to recognize them all for the role they have played in helping our college achieve this important distinction."

The accreditation process measures how well colleges of veterinary medicine meet certain standards that have been deemed essential to helping veterinary academia provide a quality educational experience for the profession.

Specific criteria evaluated during accreditation include organization, finances, physical facilities and equipment, clinical resources, library and information resources, students, admissions, faculty, curriculum, research programs and outcomes assessment, according to the AVMA.

A nine-member team visited the College Park, Md. campus, the Marion duPont Scott Equine Medical Center in Leesburg, and the Blacksburg campus during their six-day evaluation conducted in October 2007.

The site-visitation team conducted a rigorous inspection and evaluation of the physical plant and facilities, budgets, operations, and policies; and they conducted extensive interviews with faculty, staff, students, alumni, and university administrators in order to develop their perspectives on the strengths and weaknesses of the college's programs.

"The report was overwhelmingly positive," said Dean Schurig, noting that it did state the college's faculty office situation urgently needs improvement. "While the AVMA-COE understands the challenges we face with respect to the necessary expansion of our physical plant, they were very impressed with our college and their assessment included several references to the excellence of our students and faculty."

Dr. David Hodgson

Hodgson Serving as 2008 Olympic Veterinarian

Dr. David Hodgson, head of the Department of Large Animal Clinical Sciences, will serve as one of 20 official Olympic Committee Veterinarians for the 2008 Beijing Olympic Games.

It is a task he has enjoyed before. Having worked with the 2000 Olympic Games in Sydney and been involved with the 1996 games in Atlanta, he is familiar with the grandiosity and the elegance associated with what is considered one of the pinnacle events in all of equestrian sport.

"Having an opportunity to work with these elite athletes offers an interesting dimension of experience," said Hodgson, who added that the magnitude and scale of the event is truly impressive. "I'm honored to be a part of it. It's been really interesting to see how another side of the industry works."

About 26 countries are expected to field 212 horses during the Olympics, where equine sports include three-day eventing, dressage, and cross-country competition, he said. Each country will bring their own equine veterinarians to care for their own horses, but the Olympic Committee itself is responsible for providing veterinarians that steward the overall competition.

Duties range from providing emergency and routine care to ensuring that the animals are not subjected to any performance-enhancing drugs, he said.

Dr. Nathaniel White II

EMC's White Elected Vice President of AAEP

Dr. Nathaniel A. White II, the Jean Ellen duPont Shehan Professor and Director of the Marion duPont Scott Equine Medical Center, has been selected as the American Association of Equine Practitioners' next vice president. As such, White will move into a line of succession that leads to the presidency of the AAEP in 2010.

White has a long history of service with the AAEP. He chairs the AAEP Foundation Advisory Committee, and is a past chair of the Student Relations Committee and a former member of the board of directors. White organized the Equine Research Summit in 2006 as part of the AAEP's effort to highlight the need for equine research. He was recognized for his contributions to the AAEP and the profession in 2004 when he received the AAEP Distinguished Service Award.

White's service on the AAEP Executive Committee began at the association's 53rd Annual Convention in Orlando, Fla. in December, 2007.

The American Association of Equine Practitioners, headquartered in Lexington, Ky., includes nearly 9,000 members worldwide and is actively involved in ethics issues, practice management, research and continuing education in the equine veterinary profession and horse industry.

Dean Gerhardt Schurig shows AVMA President Dr. Greg Hammer where the college's new infectious diseases research building will be constructed. During Hammer's visit, Schurig outlined the college's urgent need to expand its facilities.

Dr. Ansar Ahmed

Ahmed Appointed Interim Head of Department of Biomedical Sciences and Pathobiology

Dr. S. Ansar Ahmed has been named interim head of the Department of Biomedical Sciences and Pathobiology. He will fill the vacancy left by Dr. Ludeman Eng who was recently appointed assistant dean for strategic innovations in the college.

Ahmed, a professor of immunology who has been a DBSP faculty member since 1989, will also continue to serve as director of the college's Center for Molecular Medicine and Infectious Disease.

"I am very pleased to name Dr. Ahmed to this position," said VMRCVM Dean Gerhardt Schurig. "His leadership and vision will play a critical role as we continue to develop a robust research program in the college."

Ahmed holds a DVM from the University of Agricultural Sciences in Bangalore and a Ph.D. from the School of Veterinary Studies, The Murdoch University, Australia. He is a member of the American Association of Immunologists and the International Cytokine Society.

Dr. Francois Elvinger

Elvinger Receives Animal and Plant Health Inspection Service Award

Dr. Francois Elvinger, an associate professor of epidemiology and production management medicine in the Department of Large Animal Clinical Sciences, and received the United States Department of Agriculture (USDA) Animal and Plant Health Inspection Service's (APHIS) annual Animal Health Award.

Elvinger was honored during the recent joint general session of the United States Animal Health Association (USAHA) and the American Association of Veterinary Laboratory Diagnosticians (AAVLD) in Reno, Nev.

Elvinger was recognized for the contributions he has made to animal health improvement in the United States in the areas of information management, animal disease surveillance, and the appropriate responses to the identification of disease.

In 1995, Elvinger coordinated a workshop entitled "Identification and Consolidation of Existing Data Sources and Standardization of Disease Definitions and Reporting," which led to the creation of the U.S. National Animal Health Reporting System (NAHRS).

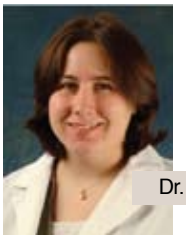
"Running Together," the bronze statue that greets visitors to the VMRCVM's Blacksburg campus, recently underwent a thorough cleaning and preservation process. Such care is necessary to preserve the bronze, according to Terry Lawrence, the medical illustrator and "artist-in-residence" in the Office of Public Relations and Communications, who developed the original concept behind the statue. Lawrence, along with Larry Bechtel, Virginia Tech's recycling coordinator and sculptor, spent a weekend learning how to properly care for the sculpture with Renee Marino from Lexington, Ky. Marino is the daughter of Gwen Reardon, the noted artist who sculpted the statue.

"NAHRS has become invaluable in APHIS' ability to accurately report the status of animal health in the United States," said APHIS Administrator Cindy Smith during the presentation ceremony. Elvinger has co-chaired the NAHRS steering committee since 1998.

He also serves as co-chair of the AAVLD Epidemiology Committee and the joint USAHA-AAVLD Committee on Animal Health Information Systems. Elvinger also has chaired the National Animal Health Surveillance Steering Committee since its inception in 2004.

This committee represents stakeholders and includes representatives from livestock and poultry industries, state animal agencies, diagnostic laboratory organizations, academic institutions, private practitioner organizations, and relevant federal agencies. The steering committee is responsible for guiding APHIS' National Surveillance Unit in the design, planning, and implementation of efficient and accurate surveillance for relevant animal diseases.

"It is in this capacity that Dr. Elvinger's leadership, vision, and passion for making things right has most benefited U.S. animal health in the twenty-first century," said Smith.



Dr. Carolina Ricco

Ricco Joins Department of Small Animal Clinical Sciences

Dr. Carolina Ricco has joined the college as an assistant professor of anesthesiology in the Department of Small Animal Clinical Sciences. She comes to the VMRCVM from the University of Minnesota where she completed a three-year residency program and earned her Master of Science degree in veterinary anesthesiology.

"We are very pleased to welcome Dr. Carolina Ricco to the college," said Dr. Greg Daniel, head of the Department of Small Animal Clinical Sciences. "Dr. Ricco comes to us with considerable training and experience in anesthesiology. She has a passion for teaching and her expertise in anesthesia will complement the quality of our anesthesia section which plays a vital role in the operation of both the large and small animal hospitals."

Ricco earned her DVM in 2001 from the Sao Paulo State University's Veterinary Medicine and Animal Science School in Brazil. She was second out of 1600 candidates during the admission process for her graduating class. After earning her DVM, Ricco completed a two-year residency at the school before accepting her position in Minnesota.

"I am very happy to be here," said Ricco of her arrival at the VMRCVM. "My goals for this year are to get acquainted with the school and the hospital, pass the American College of Veterinary Anesthesiology boards, and get my research started."

Phi Zeta Manuscript Competition

Winners have been announced in the college's Phi Zeta manuscript competition, according to Dr. Michael Leib, C.R. Roberts Professor of Small Animal Medicine, Department of Small Animal Clinical, and president of the college's Chi Chapter of Phi Zeta. Phi Zeta is the national veterinary honor society.

The winner in the clinical sciences category is Dr. Megan Daugherty, an internal medicine specialist in private practice in Richmond who completed a residency program in internal medicine at the college in 2006. Her paper, which is entitled "Safety and Efficacy of Oral Low-Volume Sodium Phosphate Bowel Preparation for Colonoscopy in Dogs," has been accepted for publication in the Journal of the American College of Veterinary Internal Medicine.

Winner in the basic sciences category is Dr. Mohamed Seleem, who completed his Ph.D. with Dr. Nammalwar Sriranganathan, for his paper entitled "Enhanced expression, detection and purification of recombinant proteins using RNA

stem loop and tandem fusion tags." He is now working as a post-doc in the Center for Molecular Medicine and Infectious Disease.

This is the first time that the Phi Zeta manuscript competition has been held in the college in several years, Leib said. The papers have each been submitted for consideration in the national Phi Zeta manuscript competition, according to Leib.

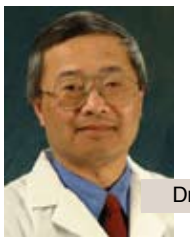
Equine Medical Center Presents Inaugural Distinguished Service Award to Mrs. Shelley Duke

Mrs. Shelley Duke, owner and manager of Rallywood Farm in Middleburg, Va., has been named the first recipient of the Marion duPont Scott Equine Medical Center's Distinguished Service Award.

The award was established to recognize individuals who have generously and tirelessly provided leadership and expertise to help the Equine Medical Center attain a higher level of achievement in service, teaching and research.

"Shelley is a friend, advocate, and leader for the Equine Medical Center," said Dr. Nat White, Jean Ellen Shehan Professor and Director. "Her enthusiasm, tremendous efforts and exceptionally high standards have contributed greatly to the hospital's transformation into a premier equine healthcare and teaching facility, and this commendation is richly deserved."

Duke, a member of the Virginia Tech Board of Visitors, has spent more than 20 years working towards the betterment of equine healthcare and veterinary programs at the university. She has served as chair of the center's council since 1999 and is credited with establishing the hospital's highly successful volunteer program.



Dr. Ludeman A. Eng

Eng Appointed Assistant Dean for Strategic Innovations

Dr. Ludeman A. Eng has been appointed assistant dean for strategic innovations in the college. He most recently served as head of the Department of Biomedical Sciences and Pathobiology (DBSP).

In his new position, Eng, an associate professor of cell biology and anatomy in the DBSP, will work with Dean Schurig on the implementation of various strategic initiatives, provide leadership and input to various boards and committees, and follow-up on board actions to ensure that policy and action items are completed and implemented.

He will also oversee the information technology group, represent the dean at college and university functions when needed, and continue his faculty responsibilities within the DBSP.

Eng served as president of the Virginia Tech Faculty Senate from 1990-1991 and is currently serving on both the Advisory Committee for the School of Biomedical Engineering and Science and the Advisory Committee for the Virginia Tech-Carilion Medical School.

Dr. Dennis Blodgett, a veterinary toxicologist in the Department of Biomedical Sciences and Pathobiology, examines a sample of tall fescue pasture grass with second year students (left to right) Justin Cunfer, Ashley Fitzgerald and Julie Dawson as part of an elective class called "Toxicology of Poisonous Plants Affecting Livestock." An endophytic fungus within the fescue plant can produce toxins that cause production problems in cattle and reproductive dysfunction in pregnant mares.

Agri-Business Council Visits VMRCVM, Virginia Tech

The VMRCVM, the College of Agriculture and Life Sciences and the College of Natural Resources joined together to present an informational tour and presentation for members and staff of the board of directors of the Agri-Business Council.

"The Virginia Agri-Business Council is a critical stakeholder organization for the college," noted VMRCVM Dean Gerhardt Schurig. "We're pleased to have this opportunity to showcase our college and our programs for them."

Three groups of visitors rotated through presentations based at each of the three colleges, which focused on the thematic areas of Infectious Diseases and Translational Medicine, Bioprocessing, and Biodesign and Biotechnology.

Dean's Forum on Infectious Diseases Taking Shape

The Deans' Forum on Infectious Diseases, part of an occasional series of university-wide academic symposia that focus on pressing issues such as the environment and energy, will be held in fall 2008, according to Dr. Stephen Boyle, professor, Department of Biomedical Sciences and Pathobiology.

Boyle and Dr. Steve Melville, associate professor of biological sciences in the College of Sciences, are co-chairing a ten-person steering committee that includes faculty members from the VMRCVM, the College of Sciences, the College of Agriculture and Life Sciences, the College of Natural Resources and the Virginia Bioinformatics Institute.

As part of the planning process, a university-wide strategic planning event was recently held for all faculty members and graduate students that are working in the area of infectious disease research.

During that meeting, an overview of the work that is currently being conducted in four over-arching areas of research – molecular pathogenesis, infectious disease ecology and epidemiology, host-pathogen interaction, and prevention/control – was presented.

Presentations were also made on the work that the Virginia Bioinformatics Institute, the Institute for Biomedical and Public Health Sciences (IBPHS), and the Institute for Critical Technologies and Sciences (ICTAS) are doing in the area of infectious diseases research.

For more information, visit: http://www.vetmed.vt.edu/idforum/

Virginia Pony Club Members Attend Event at Equine Medical Center

Forty-one Virginia Pony Club members from throughout the region recently attended a "Horse Health Half-Day" at Virginia Tech's Marion duPont Scott Equine Medical Center.

"As veterinarians and educators, we are committed to encouraging students to pursue careers in veterinary medicine," said Dr. Nat White, Jean Ellen Shehan Professor and Director of the Marion duPont Scott Equine Medical Center. "Pony Club is a very learning-centric organization and it was a pleasure to share our knowledge with these bright and enthusiastic participants."

The United States Pony Clubs, Inc. (USPC) is one of the leading junior equestrian organizations in the world. The USPC has over 600 individual clubs spread throughout 48 states and the Virgin Islands, with more than 12,000 members.

Schurig Announces Administrative Searches

VMRCVM Dean Gerhardt Schurig has announced the initiation of three major administrative searches designed to identify permanent leadership for the positions of head of the Department of Biomedical Sciences and Pathobiology (DBSP), director of the Veterinary Teaching Hospital, and associate dean for academic affairs.

The searches for the DBSP department head and the VTH directorship will be internal to the college and the associate dean for academic affairs search will be open to internal and external candidates, Schurig said, because impending budget constraints will make it impossible to recruit nationally for all of the positions.

Search committees will include faculty and staff representation, and the search committee for

the associate dean for academic affairs will also include student representation. Schurig has requested that the academic departments conduct confidential elections to fill some of the positions on the search committees.

Pamplin, VMRCVM Developing Innovative Business Development Program for Veterinarians

Business training is more important than ever in running the operational side of a veterinary practice, but veterinary medical college training programs can devote only modest curricular effort toward teaching doctors about the business aspects of a veterinary practice.

Recognizing that need, Virginia Tech is developing an intensive four-module "Veterinary Practice Business Management Program" designed to help veterinarians and practice managers hone their skills in leadership, strategic planning, marketing, accounting and other business essentials.

"There is a critical need for this kind of program in our profession," said Dr. Gerhardt Schurig, dean of the VMRCVM, adding that major studies conducted over the past 10 years have all called for better business training for veterinary students and practicing professionals. "The future well-being of the profession and its ability to meet society's needs is dependent upon a stable economic infrastructure."

The Management and Professional Development Program in the R. B. Pamplin College of Business at Virginia Tech is developing the program in collaboration with the VMRCVM. The four-month program is expected to be offered in fall 2008 and will be presented during one weekend a month over a four- month period, according to Frank Smith, director of Pamplin's Management and Professional Development program.

For more information, contact Frank Smith at fmsmith@vt.edu or phone 540-231-5566. Additional information is available at www.vetbus.pamplin.vt.edu

Virginia Farm Bureau (VFB) President Wayne Pryor honors Dean Schurig during a recent VFB meeting.

Virginia Farm Bureau Honors Dean Schurig

Virginia Farm Bureau President Wayne Pryor recognized VMRCVM Dean Gerhardt Schurig for "Distinguished Service to Agriculture" during a recent statewide conference held for county Farm Bureau presidents in Roanoke.

Schurig was presented with a commemorative plaque following an address he shared with the group concerning the urgent shortage of food animal veterinarians in the United States.

Several recent studies have indicated there is a critical shortage of food animal veterinarians and the situation is growing worse every year, Shurig told the group, adding there were a variety of cultural, demographic and economic reasons behind the shortage.

"The whole veterinary public health infrastructure is in jeopardy and the consequences for rural America are profound," said Schurig. "Surveillance of livestock health and welfare in large parts of the country is left unaddressed."

Schurig detailed some of the measures the college is taking to encourage students to consider careers in food animal medicine. For example, the college offers more than $200,000 in scholarships to encourage veterinary students to pursue careers in food animal medicine.

Schurig also underscored the need to increase the number of veterinary school graduates by increasing the instructional capacities of the nation's 28 colleges of veterinary medicine.

Dr. William S. Swecker, Jr.

Swecker Elected to the American Veterinary Medical Association's Council on Education

Dr. William S. "Terry" Swecker, Jr., associate professor, Department of Large Animal Clinical Sciences, was elected the large animal clinical sciences representative on the American Veterinary Medical Association's (AVMA) Council on Education during the AVMA's House of Delegates meeting held in conjunction with their recent annual convention in Washington, DC.

"We are very proud of Dr. Swecker's election to such a significant leadership position," said VMRCVM Dean Gerhardt Schurig. "The role of the AVMA's Council on Education in ensuring the quality of academic veterinary medicine is a critical one."

Since 1948, the AVMA's Council on Education has been responsible for accrediting all North American colleges of veterinary medicine, which now includes 28 colleges in the United States and four in Canada.

The AVMA now provides accreditation for foreign colleges of veterinary medicine which voluntarily seek the classification, and meet or exceed all standard requirements.

Swecker will be charged with representing the interests of large animal medicine during the accreditation process and will serve in this capacity for a six-year term.

"I am honored to be elected to this important position. I would like to offer special thanks to Drs. Lisa Miller and Steve Lichiello, VVMA representatives on the AVMA House of Delegates and all District II delegates for their support during the election at the AVMA convention," said Swecker. "I look forward to representing large animal clinical sciences on the council."

Swecker received his D.V.M. in 1984 and his Ph.D. in 1990 from the VMRCVM. Prior to joining the faculty of the VMRCVM in 1990, Swecker was an associate veterinarian in Troutville, Va. He is a diplomate in the American College of Veterinary Nutrition.

Small Animal Clinical Sciences Department Head and board certified veterinary radiologist Dr. Greg Daniel and second year radiology resident Dr. Sarah Davies examine a horse as part of a research project that seeks to develop improved non-invasive imaging techniques for evaluating the equine thyroid.

Dr. Bradley Klein

Klein, Other VMRCVM Professors Edit Major Textbook

The newest edition of the world's most widely published textbook in veterinary physiology has been recently published, thanks to the leadership of Dr. Bradley Klein, associate professor in the Department of Biomedical Sciences and Pathobiology (DBSP) and several others from the Virginia-Maryland Regional College of Veterinary Medicine at Virginia Tech, including Dean Gerhardt Schurig.

Klein served as co-editor of the 720-page book, along with Dr. James G. Cunningham of Michigan State University. The "Textbook of Veterinary Physiology," which has been published in four languages, is considered a seminal textbook in academic veterinary medicine and a useful reference text for veterinary practices. Klein also edited the section on neuro-physiology that appears in the text. He is to be the editor-in-chief of future editions of the book.

The newest edition also includes a new section entitled "The Immune System" which was co-authored by Schurig and Dr. Ansar Ahmed, interim head of the DBSP. Both are veterinary immunologists and professors in the DBSP.

Also, Dr. Sharon Witonsky, an associate professor in the college's Department of Large Animal Clinical Sciences, served as clinical correlations editor of the book, which was published by Elsevier-Saunders. This edition contains 25 percent more clinical correlations boxes, which show how the principles and concepts of physiology can be applied to diagnostics and treatments.

Dr. M. Norris Adams

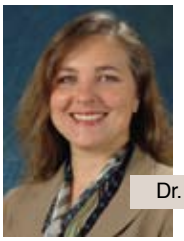
Adams, Barrett Join Equine Medical Center Faculty

Two new faculty members have joined the Equine Medical Center.

Dr. M. Norris Adams is a clinical assistant professor specializing in equine lameness and surgery and Dr. Jennifer G. Barrett has joined the center as an assistant professor of equine surgery.

Adams worked as an associate veterinarian and surgeon in New York, Pennsylvania and Connecticut before moving to Virginia to serve as a clinical assistant instructor in large animal surgery at the VMRCVM's VTH. For the past eight years, Adams has practiced in Northern Virginia at both the Piedmont Equine Practice in The Plains and the Middleburg Equine Clinic in Middleburg.

Adams earned his DVM from Mississippi State University in 1992 and completed an internship in Los Olivos, Calif., followed by a residency in large animal surgery at the University of Minnesota's Veterinary Teaching Hospital in 1998. He earned diplomate status in the American College of Veterinary Surgeons (ACVS) in 1999.



Dr. Jennifer G. Barrett

Barrett specializes in tissue regeneration, specifically involving tendons, ligaments, and cartilage, and will be conducting research in that area in addition to her clinical responsibilities.

Prior to joining the EMC, Barrett, who earned her DVM from Cornell University in Ithaca, N.Y., and a doctorate in molecular biology from Yale University in New Haven, Conn., conducted a residency in equine surgery at the University of Illinois' Veterinary Teaching Hospital in Urbana.

She held a postdoctoral research position in the University of Wisconsin's Comparative Orthopaedics Research Laboratory in Madison and completed an internship in equine medicine and surgery at Rood & Riddle Equine Hospital in Lexington, Ky.

Dr. Sandra Diaz

VTH Restores Dermatology Service

With the addition of Dr. Sandra Diaz as an assistant professor in the Department of Small Animal Clinical Sciences, the college is again offering dermatological services for its clients. These services were temporarily suspended following the departure of a former faculty member.

Diaz offers numerous dermatology procedures to VMRCVM patients including video otoscopy and deep ear flushes, formulation of short and long term diets for food allergies, punch, wedge & excisional biopsies and interpretation of dermatohistopathology, and therapeutic bathing. She also offers treatment and management of a variety of disorders including food, flea and contact allergies, chronic ear infections, and skin tumors.

Diaz received her Bachelor in Veterinary Sciences degree in 1994 and her DVM in 1996 from the Universidad Santo Tomas in Santiago, Chile. She received her Master of Science degree in 2006 from the University of Minnesota where she also completed her residency. Prior to joining the faculty of the VMRCVM, she was on staff at the NYC Veterinary Specialists and Cancer Center in New York, N.Y.

Actor and Golden Globe nominee Perry King talks to VMRCVM employees Vicki Walter, Aina Halili and Linda Skeens during a recent visit to the college. King, who has recently appeared on television shows like "Brothers & Sisters," "Cold Case," "Without a Trace," and others, is an animal lover who houses "rescue animals" on his ranch in northern California. He came to the college with a friend whose late pet was a patient in the VTH. During his remarks, King, who also played the President of the United States in the global-warming disaster movie "The Day After Tomorrow," observed that one of the traits he admires most about animals is their capacity to accept the circumstances that life casts upon them and make the best of things.

Dr. Iveta Bacvarova, a board certified veterinary nutritionist and an assistant professor in the Department of Large Animal Clinical Sciences, examines an obese patient in the college's VTH. An article in the Journal of Veterinary Internal Medicine recently estimated that 22-40 percent of the pet dogs in this country are obese, putting them at risk for health complications ranging from diabetes to orthopedic disorders.

Dr. Jennifer Hodgson

Dr. Jennifer Hodgson Delivers Historic Address

Dr. Jennifer Hodgson, associate professor, DBSP, became the first woman in the 98-year history of the University of Sydney's Faculty of Veterinary Science to deliver the commencement address during December graduation ceremonies in Sydney, Australia.

The college's dean and faculty executive - the equivalent of a college's administrative board in the United States - selects candidates for the honor, she said.

"I was honored to have been chosen to address my colleagues and so many of my former students," said Hodgson. "It allowed me to close a very important circle."

Hodgson was introduced to the crowd of over 600 by Her Excellency Professor Marie Bashir, chancellor of the University of Sydney and governor of the state of New South Wales.

During her address, Hodgson encouraged the graduates to recognize and seize opportunities, remember their good friends and gifted professors, and to recognize their responsibility to steward the profession in a way that fosters success and service.

Hodgson received her B.V.Sc. from the University of Sydney and her Ph.D. from Washington State University. She is a diplomate in the American College of Veterinary Microbiology and a Member of the Royal College of Veterinary Surgeons. Prior to joining the VMRCVM in 2007, she was the associate dean of learning and teaching in the University of Sydney's Faculty of Veterinary Science.

Dr. Jeff Wilcke

Wilcke Receives American Academy of Veterinary Pharmacology and Therapeutics Teaching Award

Dr. Jeff Wilcke, the MetCalf Professor of Veterinary Informatics in the Department of Biomedical Sciences and Pathobiology, was awarded the 2007 American Academy of Veterinary Pharmacology and Therapeutics' (AAVPT) Teaching Award during the 15th Biennial AAVPT Symposium held recently in Pacific Grove, California.

Wilcke was recognized for over 20 years of devotion to teaching veterinary professional and graduate students and his many contributions to clinical pharmacology.

During his career, Wilcke has participated in developing the Veterinary Antimicrobial Decisions Support (VADS) System and the KinetiClass software program for veterinary students. He has also authored numerous book chapters, reviews, abstracts, and proceedings and has presented numerous CE programs for graduate veterinarians.

In addition to his teaching responsibilities, Wilcke also serves as the director of the drug information lab in the VMRCVM and as the director of the American Veterinary Medical Association Secretariat SNOMED International.

Ms. Maureen Perry

Pharmacy Supervisor Earns Diplomate Status

Ms. Maureen Perry, pharmacy supervisor in the Veterinary Teaching Hospital, has earned diplomate status in the International College of Veterinary Pharmacy (ICVP). This places her in the elite company of only 18 other pharmacists throughout the world who have achieved the distinction.

Perry oversees a pharmacy that contains an inventory of over 1,000 different items including intravenous fluids, oral and injectable drugs and dispenses roughly 35,000 prescriptions each year for both hospitalized animals and outpatients.

While human and veterinary pharmacists receive the same core training, veterinary pharmacists must learn to calibrate medicine for a variety of species while human pharmacists need only worry about one.

Perry graduated from Massachusetts College of Pharmacy in Boston in 1983. Prior to joining the college in 1999, she worked in human medicine.

VMRCVM Graduates Earn Banfield Quality Award

VMRCVM graduates typically score well on the national veterinary licensing examination. The class of 2007, for example, had a pass rate of 99 percent and the class of 2004 had a 100 percent success rate. Other years the college is at or above the 96 percent pass rate that is the national average.

Now, another sign of the high quality of VMRCVM graduates has emerged. The VMRCVM has been recognized nationally as the college of veterinary medicine that provides Banfield – the Pet Hospital™ with the highest quality graduates, based upon a series of qualitative measurements that include medical record review, preventive care scores, client loyalty scores and other metrics.

Each year, Banfield recognizes colleges of veterinary medicine and hospitals within the corporation for performance that best represents one of Banfield's "Five Guiding Principles." Those include quality, growth, mutuality, freedom and responsibility, according to Dr. Trevor W. Ashley ('01), who serves as Banfield's Alumni Representative to the VMRCVM.

Ashley serves as chief of staff/partner doctor for banfield - the Pet Hospital ™ of Arundel Mills in Hanover, Md. His hospital was recognized as the "2007 Hospital of the Year" for Banfield.

The awards were presented at Banfield's annual Leadership Educational Symposium held in Portland.

William Preston Society Visits VMRCVM

Almost 40 members of Virginia Tech's William Preston Society recently visited the college as part of their annual meeting.

The society, which is comprised of former members of the Board of Visitors of Virginia Tech and former presidents of Virginia Tech, provides an opportunity for those leaders to remain engaged and learn more about the achievements and challenges facing the university community.

The meetings often include presentations and tours that focus on various colleges and programs.

William Preston Society members toured the college of veterinary medicine and heard from Dr. Lud Eng, assistant dean for strategic innovation, who was representing Dean Schurig.

Eng presented an overview of the college's programs and discussed the college's emerging translational medicine initiatives. Eng also briefed society members about the college's collaborative activities with various medical schools, including the new Virginia Tech-Carilion School of Medicine.

Mr. Cecil Maxson, a former member of the BOV and great friend of the VMRCVM who is serving as the society's current president, was instrumental in creating the opportunity for the group to visit the VMRCVM.

Jeffrey S. Douglas

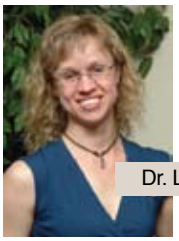
Communications Director Douglas, Alum' Colby, Named to National AAVMC Strategic Planning Group

Jeffrey S. Douglas, communications director for the VMRCVM, and Dr. Leslie Colby ('96), are two of 13 people from throughout the nation serving on a strategic planning committee for the Association for American Veterinary Medical Colleges (AAVMC).

The group includes three veterinary college deans and several other senior administrators in academic institutions, AAVMC personnel, representatives from the Department of Defense, and Bayer Corporation, which is providing resources to support the strategic planning effort.

In a letter chartering the task, AAVMC Executive Director Dr. Marguerite Pappaioanou said that as a result of the efforts of many excellent leaders, academic veterinary medicine is facing the challenges of the 21st century with a great deal of strength.

"Even with our successes to date, however, it is important to remember that going beyond the status quo will be necessary to meet the needs of the AAVMC family and its external stakeholders into the future," she wrote. "With the world facing uncertainty in the areas of homeland security, agroterrorism, natural disasters, and emerging zoonotic diseases, our colleges and departments must be prepared to meet society's needs."



Dr. Leslie Colby

"I'm really honored by this opportunity to serve," said Douglas. "AAVMC is the change agent for the profession, and they are doing vital work in society. I look forward to helping out in any way that I can."

Douglas joined the college in 1983 and presently leads the college's public relations and legislative relations efforts.

A former president of the national Association of Veterinary Advancement Professionals and the Blue Ridge Chapter of the Public Relations Society of America (PRSA), Douglas earned his professional accreditation from PRSA in 1994. In 2004, he was inducted into the PRSA College of Fellows, a hallmark of lifetime achievement that has been attained by only about 400 of PRSA's 20,000 members.

He has worked closely with the AAVMC since 1998 and was instrumental in their creation of a permanent "Advancement Committee."

Douglas earned a B.S. in journalism and a M.S. in corporate and professional communication from Virginia's Radford University.

Since 2002, Colby has been a clinical assistant professor in the Unit for Laboratory Animal Medicine in the University of Michigan Medical School, Ann Arbor, Mich.

Colby is a three-time graduate of Virginia Tech. She received her B.S. in animal science in 1992, her DVM in 1996 and her M.S. in veterinary science-bacteriology/immunology in 1997. She was also a post-doctoral fellow in laboratory animal science in the VMRCVM from 1999-2002. In 2005, she was board certified as a diplomate by the American College of Laboratory Animal Medicine. She also serves as a consulting veterinarian to Molecular Imaging Research, Inc. in Ann Arbor.

Dean Gerhardt Schurig (left) accepts a check in the amount of $40,000 from Deputies Brandt Gawor (center) and John Hoover (right) with the Franklin County Sheriff's Department to support the law Enforcement K-9 Memorial Statue project. The anonymous gift will allow organizers to begin efforts to commission a sculptor to design the statue which will be placed on the campus of the VMRCVM.

K-9 Memorial Project Hits Fundraising Goal

Thanks to a $40,000 gift from an anonymous donor, the Law Enforcement K-9 Memorial Statue project will soon become a reality on the VMRCVM's Virginia Tech campus.

Deputies John Hoover and Brandt Gawor with the Franklin County Sheriff's Department presented the check to VMRCVM Dean Gerhardt Schurig during a brief ceremony held in conjunction with the Virginia Veterinary Conference.

Receipt of the gift means that the committee organizing the program can begin efforts to commission a sculptor to create a statue of a police dog. The proposed memorial statue will be installed on the veterinary college's Virginia Tech campus.

The fund-raising campaign was officially launched in October 2005 and donations have been received from a variety of individuals and organizations.

Dean Schurig thanked the officers and the anonymous donor and said that the college was pleased to be moving forward with the project.

The sculpture could be installed and dedicated during spring 2009, according to VMRCVM Communications Director Jeff Douglas, who has been working with Hoover since the inception of the project.

Equine Medical Center Hosts Virginia Agribusiness Council Meeting

The Virginia Agribusiness Council (VAC) recently held a roundtable forum with Virginia Department of Agriculture and Consumer Services (VDACS) Commissioner Todd Haymore at the Marion duPont Scott Equine Medical Center.

The session, which was open to the public, was the final stop in a statewide tour during which Haymore, who was appointed in June 2007, met with representatives from all sectors of the commonwealth's agribusiness industry.

This meeting was designed to give VAC members an opportunity to discuss with Haymore the challenges and opportunities facing their communities. More than 25 local leaders and representatives of the produce, dairy, equine, golf course and environmental conservation industries participated in the session. Five similar events were held in Caroline County, Suffolk, Danville, Staunton and Wytheville.

"This was a wonderful opportunity to showcase our center and to reinforce the message that the equine industry is a vital contributor to the commonwealth's economy," said Dr. Nat White, Jean Ellen Shehan Professor and Director of the Marion duPont Scott Equine Medical Center. "We look forward to working with the commissioner and VAC leadership in their efforts to advance Virginia agriculture."

Center for Public and Corporate Veterinary Medicine Partners with FDA and Others to Offer Seminar Series

The Center for Public and Corporate Veterinary Medicine (CPCVM) on the college's Maryland Campus has partnered with the Food and Drug Administration (FDA) to enhance their career-development oriented graduate seminar series this semester.

The funding was made possible through the efforts of Dr. Bettye Walters, director of the CPCVM, and Dave Waterman, assistant director of program development for Virginia Tech's Continuing and Professional Education.

"This is a collaborative effort with our center, the University of Maryland-College Park, Virginia Tech, and the Food and Drug Administration and we will all benefit from it," said Walters.

The funding will help sponsor presentations by "high-profile" speakers who discuss current topics and new methodologies in veterinary science. As part of the program, speakers will first make presentations to students on the College Park campus and then travel to FDA headquarters in Rockville, Md. to talk to the FDA veterinarians. They will also spend time with post-doctoral students. This will provide students with an opportunity to network and seek practical career advice from some highly successful future colleagues, explained Walters.

The first seminar of the series was held on January 24. Dr. David Mosser, a professor in the Department of Cell Biology and Molecular Genetics in the University of Maryland, presented "The Many Mysteries of the Activated Macrophage."

Others included Dr. Linda Detwiler, assistant director of the Center for Public and Corporate Veterinary Medicine; Dr. Robert Lamb, a member of the National Academy of Sciences, and a well-known researcher in the field of influenza and paramyxovirus; Dr. Brian Kelsall, head of the Mucosal Immunobiology Section of the National Institutes of Health, president of the Society of Mucosal Immunology, and editor-in-chief of the Journal of Mucosal Immunology.

Dr. Craig D. Thatcher

Thatcher Named Dean at Arizona State University

Dr. Craig D. Thatcher, former head of the Department of Large Animal Clinical Sciences (DLACS), will leave the VMRCVM to become dean of the School of Applied Arts & Sciences at Arizona State University effective June 30.

Thatcher joined the VMRCVM in 1983 and has served the college and the university in a variety of ways over the past 25 years. As one of the leading veterinary nutritionists in the nation, Thatcher played an important role in the development of the college's teaching, research and service programs in clinical nutrition and production management medicine.

He has also helped lead a major $3.2 million National Science Foundation (NSF) graduate education and research program at Virginia Tech.

"Craig has made lasting contributions to our college in many different ways and we wish him luck and success in this new leadership position," said VMRCVM Dean Gerhardt Schurig. "His highly collaborative approach to problem-solving and program development should serve him well as an academic dean."

Since stepping down as head of the DLACS in 2004, Thatcher chaired the Food Nutrition and Health Advisory Committee in the Institute for Biomedical and Public Health Sciences. He co-directs the NSF Macromolecular Interfaces with Life Sciences Integrated Graduate Education and Research Traineeship (MILES-IGERT).

Thatcher earned his Ph.D., and M.S. in nutritional physiology and his DVM in veterinary medicine all from Iowa State University, and his B.S. in animal husbandry from Delaware Valley College of Science and Agriculture.

Dr. Grant Turnwald

Turnwald Completes Appointment as Associate Dean

Dr. Grant Turnwald, who has served the college as associate dean of academic affairs for the past ten years, has announced he will vacate the post effective May 31, 2008 and retire from the faculty in 2009.

"Our academic programs operate at the heart of what a college or university is all about, and we are very grateful for the outstanding leadership Dr. Turnwald has provided for these efforts," said VMRCVM Dean Gerhardt Schurig.

Turnwald said he is pleased by the progress that has been made in a number of different areas during his administration.

"I think we have accomplished some important changes, both inside and outside of the curriculum, that will enhance our students' technical, personal and professional development," said Turnwald. "I believe these changes will help make our graduates more successful in their careers."

A new core/track/elective curriculum that was several years in planning and development was introduced soon after his arrival. "I am very pleased that our students now have an opportunity to focus on their area of interest beyond the core curriculum via newly developed track courses," he said, adding that elective offerings have been expanded to include courses ranging from behavior medicine to complementary medicine.

Turnwald said he is also pleased that in the new curriculum that has less core material, VMRCVM students have maintained the same high pass rate on the national licensing exam that was achieved in the previous traditional curriculum. In response to the 1999 AVMA economic study and VMRCVM outcomes assessment data, four core credits and one elective credit are now included in the curriculum to focus on personal and business finance, teamwork, law and ethics, communications, business management, career development and other topics, he said.

He is also pleased with the success of the student/practitioner mentorship program that was established with the Virginia and Maryland Veterinary Medical Associations in 2000 to better acquaint students with the real world of private and public veterinary practice. "That's been a very successful program that continues to expand," he said. "I'm especially grateful to all of the veterinarians who recognize the value of this program and are willing to invest their time in ensuring its continuing success."

During his administration, the first-year student orientation was expanded from a three-day information dissemination session to a week-long personal and professional development exercise, complete with a low ropes course, team-building sessions, as well as communications and leadership training.

Turnwald said he is proud of the progress that has been made in developing policies and procedures for the DVM curriculum and the development of multiple databases and procedures manuals related to the academic affairs program.

"I am pleased to be at a college where good teaching is both valued and rewarded" he said, adding he feels privileged to have the opportunity to interact with some truly outstanding faculty, staff, and students.

Turnwald earned his Bachelor of Veterinary Science in 1966 from the University of Sydney, Australia and his M.S. in 1979 from Texas A & M University.

Prior to joining the college in 1998, he was professor and head of veterinary medicine and surgery at Oklahoma State University. He was also an assistant/associate professor at Louisiana State University and has been in large and small animal private practice in New Zealand and Australia.

He is board certified by the American College of Veterinary Internal Medicine and is a member of the American Veterinary Medical Association, the American College of Veterinary Internal Medicine, and the Virginia Veterinary Medical Association. He currently serves on the Editorial Board of the Journal of Veterinary Medical Education. He consults with the AVMA in quality assurance of the Clinical Proficiency Examination for foreign veterinary graduates seeking U.S. licensure.

Virginia Veterinary Conference

Dr. Greg Hammer (center), president of the American Veterinary Medical Association, was awarded the "Paul F. Landis Veterinarian of the Year Award" during the recent Virginia Veterinary Conference. Also pictured are Dr. Steve Karras (left), the new president of the VVMA, and Dr. Tom Massie (right), the new president-elect of the VVMA.

The annual Virginia Veterinary Conference held at the Hotel Roanoke February 21-24, 2008 attracted about 550 attendees, including 230 veterinarians, according to VVMA Executive Director Robin Schmitz. More than 120 VMRCVM students also attended, Schmitz said, which is about twice as many as last year.

The event included scores of continuing education programs, a presentation by Howard Rubin on the National Commission on Veterinary Economic Issues (NCVEI), a motivational presentation entitled "The Difference is Diversity, the Key is Communication" by veterinarian and former Miss America Debbye Turner, an address by Dr. Greg Hammer, president of the American Veterinary Medical Association and numerous receptions and social events.

During the Saturday evening Awards Banquet, the VVMA recognized a variety of individuals for their excellence in different areas of the profession.

Dr. Greg Hammer was awarded the "Paul F. Landis Veterinarian of the Year Award."
Dr. Lisa Miller, a past president of the VVMA and current AVMA Delegate, was recognized with the "Distinguished Virginia Veterinarian Award." The "Mentor of the Year Award" was presented to Dr. Rocky Deutsch ('85).

The "Friend of the VVMA Award" was presented to Roanoke attorney Clark Worthy in appreciation for his legal assistance, the "Veterinary Service Award" was awarded to Dr. Sam Tate for his leadership with the state's Animal Response Team (SART) program, and Margaret Morton, deputy editor of Leesburg Today newspaper, was presented the "Excellence in Veterinary Reporting Award" for her work in writing about the state's EHV-1 outbreak in early 2007.

New officers were also voted in. Dr. Steve Karras of Cave Spring Veterinary Clinic in Roanoke is the new president; Dr. Tom Massie ('95) of Rose Hill Veterinary Practice in Washington, Va. was elected president-elect; Dr. Bill Tyrrell, ('92) of Chesapeake Veterinary Cardiology Associates in Leesburg was elected vice-president; and Dr. Kelly Gottschalk of Wellesley Animal Hospital in Richmond was elected secretary-treasurer.

Virginia Farm Bureau Tours Equine Medical Center

Approximately 50 delegates from the Virginia Farm Bureau recently toured the Marion duPont Scott Equine Medical Center as part of the 2007 Virginia Farm Bureau Federation Annual Convention.

The hour-long visit began with a welcome and introduction by Dr. Nat White, Jean Ellen Shehan Professor and Director of the Marion duPont Scott Equine Medical Center, and concluded with a question and answer session with Dr. Martin Furr, Professor and Adelaide C. Riggs Chair in Equine Medicine.

The Virginia Farm Bureau Federation is an organization of farmers and rural families with more than 148,000 members. It is part of the American Farm Bureau Federation which boasts more than 5.5 million members in the United States and Puerto Rico.

The group meets annually to discuss various aspects of the farming industry including methods, marketing and advocacy. The theme of this year's convention was "Feeding the World: Agriculture Matters."

VMRCVM's Electronic Stallion Service Auction Benefits Equine Reproductive Research

For the third year in a row, an equine veterinarian in the Virginia-Maryland Regional College of Veterinary Medicine at Virginia Tech is using an internet-based stallion service auction to benefit equine reproductive programs in the college.

The electronic auction was developed by Dr. John Dascanio, an associate professor in the Department of Large Animal Clinical Sciences (DLACS), and a board certified equine reproductive specialist (theriogenologist).

One of the reasons Dascanio was motivated to create the program is because of the relative shortage of funds to support equine reproduction. Many organizations fund colic, lameness, laminitis and other disorders, but few specifically support equine reproductive work. The Stallion Auction raised approximately $12,000 over the past two years.

A scholarship has been awarded to a senior veterinary student using funds raised from the auction. Currently, an educational website on equine reproduction is being designed for horse owners, veterinary students and veterinarians (www.horserepro.com) with auction proceeds.

Dr. Temple Grandin (left), autographs a copy of her newest book for Dr. David Hodgson (right), head of the Department of Large Animal Clinical Sciences. Grandin, an expert in autism and animal behavior, recently visited the college to speak to faculty, staff, and students on "Animals in Translation: Understanding animal behavior through the mind of a visual thinker."

NEWSMAKERS

Faculty/Staff Achievements

Dr. Beverly Purswell, professor, DLACS, recently presented work on the effect of hypothyroidism on reproduction in the dog at the annual meeting of the Society for Theriogenology in Monterey, Calif. The study was completed by Purswell and **Drs. David Panciera**, professor, DSACS, and **Kara Kolster** ('04).

Dr. Terry Swecker, associate professor, DLACS, recently presented a paper entitled "Relationship of pre-harvest serum antioxidants to post-harvest oxidative damage in beef of steers finished on pasture or a high concentrate diet" during the 13th International Conference of Production Diseases in Farm Animals in Leipzig, Germany.

Dr. Terry Swecker, associate professor, DLACS, was recently elected as the Large Animal Clinical Services Representative on the American Veterinary Medical Association (AVMA) Council on Education.

Dr. Michael Leib, C. R. Roberts Professor of Small Animal Medicine, DSACS, recently led eight hours of continuing education in Kansas City, Mo. during an Ask the Expert Luncheon: "Dietary management of GI diseases," "Diagnostic approach to chronic vomiting," "Helicobacter gastritis in dogs and cats," "Acute pancreatitis in dogs-A diagnostic dilemma," "Diagnostic approach to chronic diarrhea," "Large bowel diarrhea in dogs-What's new?," and "Common errors in the diagnosis and management of GI diseases."

Dr. Michael Leib, C. R. Roberts Professor of Small Animal Medicine, DSACS, recently served as the moderator of a roundtable discussion in Chicago, Ill. entitled: "Acute vomiting in dogs: Diagnosis and management." The event was sponsored by Advanstar Veterinary Healthcare and supported by Pfizer Inc.

Drs. J. Jones, S. Appt, D. Bourland, T. Clarkson, and J. Kaplan recently co-authored "Multi-detector CT morphology of the ovary in Cynomolgus Macaques (*Macaca fascicularis*) in the *Journal of Laboratory Animal Science*.

Dr. Tisha Harper, assistant professor, DSACS, recently received an ACORN Grant from the American Kennel Club Canine Health Foundation in support of research on the accuracy of MRI for the diagnosis of meniscal lesions in dogs with naturally occurring cranial cruciate ligament insufficiency.

Dr. David Grant, assistant professor, DSACS, recently presented a seminar by invitation on canine lower urinary tract diseases to the Vancouver Academy of Veterinary Medicine in Vancouver, Canada.

Dr. Philip Pickett, professor, DSACS, recently presented a 32-hour lecture/hands-on laboratory session on ophthalmic diagnostic techniques for veterinarians involved in laboratory animal studies for drug toxicity prior to marketing drugs for human use in Vienna, Va.

Drs. D.E. Flilpowicz, resident, DSACS, **O.I. Lanz**, associate professor, DSACS, R. McLaughlin, S. Elder, and **S. Werre**, research assistant professor, DBSP, recently presented "A Biomechanical Comparison of Locking Compression Plates vs. Limited Contact Dynamic Compression Plates in a Distal Humeral Metaphyseal Gap Model" during the 2007 American College of Veterinary Surgeons Veterinary Symposium in Chicago, Ill.

Dr. Otto Lanz, associate professor, DSACS, recently presented two lectures entitled "Septic Abdomen-To Drain or Not Drain?" and "Complicated Aspects of Hepatic Resection" during the 2007 American College of Veterinary Surgeons Veterinary Symposium in Chicago, Ill.

Dr. Michael Leib, C.R. Roberts Professor of Small Animal Medicine, DSACS, recently presented 12 hours of continuing education at the Wild West Veterinary Conference in Reno, Nev. Courses included: "Diagnostic approach to chronic vomiting," "Helicobacter gastritis," "Large bowel diarrhea: What's new?," "Giardia: an update," "Fluid therapy for GI diseases," "Dietary management of GI diseases," "GI endoscopy: the technician's role," and "GI cases."

Drs. D.L. Panciera, B.J. Purswell, and K.A. Kolster ('04) recently co-authored "Effect of short-term hypothyroidism on enology 6 reproduction in the bitch" in *Theriogenology*.

Dr. Michael Leib, C.R. Roberts Professor of Small Animal Medicine, DSACS, recently presented four hours of continuing education at Tidewater Veterinary Academy. Courses included: "Diagnostic approach to chronic vomiting," "Heliocobacter gastritis," "Esophageal obstruction with Greenies®," and "Interesting GI cases."

Dr. Stephen Smith, professor, DBSP, presented "Non-lethal Diagnostic Techniques for Fish" and "Aquatic Animal Welfare" during the American Veterinary Medical Association annual meeting in Washington, DC.

Dr. Stephen Smith, professor, DBSP, presented "Unique mycobacterial resistance and clearance in channel catfish" and "Efficacy of common disinfectant against *Aeromonas spp*. and *Edwardsiella spp*." during the annual meeting of the Eastern Fish Health Workshop in Gettysburg, Pa.

Dr. Steven Holladay, professor, DBSP, and **Dr. J. Claudio Gutierrez**, a Ph.D. Candidate in Holladay's lab, recently authored "Aortic and Ventricular Dilation and Myocardial Reduction in Gestation Day 17 Fetuses of Diabetic Mothers" in *Birth Defects Research Part A: Clinical and Molecular Teratology*. Pictures from their paper were also chosen as the cover for the journal, the number one journal in Development and Teratology.

Drs. D.R. Binder ('07), **I.P. Herring**, and T. Gerhard recently co-authored "Outcomes of nonsurgical management and efficacy of demecarium bromide treatment for primary lens instability in dogs: 34 cases (1990-2004)" in the *Journal of the American Veterinary Medical Association*.

Dr. Kevin Pelzer, associate professor, DLACS, recently presented three hours of continuing education at the Pennsylvania Veterinary Medical Association's 125th Annual Scientific Meeting at the Keystone Veterinary Conference in Hershey, Pa. Topics presented were: "Disease Outbreak Investigation," "Utilizing Laboratory Tests in Clinical Practice," and "Critical Evaluation of Clinical Literature."

Dr. Kevin Pelzer, associate professor, DLACS, recently served as a facilitator during the Tuft's Veterinary Leadership Experience Weekend in North Crafton, Mass.

Dr. Kevin Pelzer, associate professor, DLACS, was a speaker during the recent International Kiko Goat Association Annual Meeting in Gray, Tenn.

Drs. J.J. Schorling, former resident, DSACS, **I.P. Herring**, associate professor, **W.R. Huckle**, associate professor, DSACS, and **J.P. Pickett**, professor, DSACS, presented their research entitled "Biochemical and Immunocytochemical Characterization of Canine Corneal Cells Cultured in Two Different Media" during the 38th Annual Conference of the American College of Veterinary Ophthalmologists in Kona, Hawaii. They completed the work with the late Dr. R.B. Duncan.

Drs. D.R. Binder ('07) and **I.P. Herring** recently presented their research entitled "Fluorescein Nasolacrimal transit time in opthalmically normal dogs and cats" during the 38th Annual Conference of the American College of Veterinary Ophthalmologists in Kona, Hawaii.

Dr. Harold McKenzie, assistant professor, EMC, was recently named a member of the American Journal of Veterinary Research Board of Scientific Reviewers.

Dr. Harold McKenzie, assistant professor, EMC, gave four presentations during the Maryland Veterinary Medical Association Summer Meeting in Ocean City, Md. They included: "Infectious lower respiratory tract infections in the horse," "Immunomodulatory therapy: Fact of fiction?," "The systemic inflammatory response syndrome in horses," and "Management of inflammatory airway disease in the equine athlete."

Dr. Harold McKenzie, assistant professor, EMC, presented "Nutrition support of sick neonatal foals" during the American Association of Equine Practitioners Annual Convention in Orlando, Fla.

Dr. Harold McKenzie, assistant professor, EMC, recently presented "Progression and treatment of infectious lower respiratory tract disease in horses" during the 25th Veterinary

Medical Forum of the American College of Veterinary Internal Medicine in Seattle, Wash.

Dr. David Panciera, professor, DSACS, recently presented "Update on diagnosis and treatment of feline hyperthyroidism," "Canine hypothyroidism," "Canine hypoadrenocorticism: Clinical manifestations and treatment," "Diagnosis of canine hyperadrenocorticism," and "Treatment options for management of canine hyperadrenocorticism" during the Oklahoma State University Center for Veterinary Health Sciences' Fall Conference for Veterinarians.

Drs. C.P. Ober, D. Barber, and **G.C. Troy** recently co-authored "What is your diagnoisis?" in the *Journal of the American Veterinary Medical Association*.

Dr. Jennifer Brown, clinical assistant professor, EMC, recently presented a lecture entitled "Update on Sound Analysis in Horses" during the 2007 American College of Veterinary Surgeons Symposium in Chicago, Ill.

Dr. David Lindsay, professor, DBSP, is the president of the American Association of Veterinary Parasitologists.

Drs. S. Ramamoorthy, N. Sanakkayla, R. Vemulapalli, N. John, **D.S. Lindsay, G. G. Schurig, S.M. Boyle**, and **N. Sriranganathan** recently co-authored "Prevention of lethal infection of C57BL/6 mice by vaccination with *Brucella abortus* strain RB51 expressing *Neospora caninum* antigens" in the *International Journal of Parasitology*.

Drs. S. Ramamoorthy, N. Sanakkayla, R. Vemulapalli, N. John, **D.S. Lindsay, G. G. Schurig, S.M. Boyle, R. Kasimanickam**, and **N. Sriranganathan** recently co-authored "Prevention of vertical transmission of C57BL/6 mice vaccinated with *Brucella abortus* strain RB51 expressing *N. caninum* protective antigens" in the *International Journal of Parasitology*.

Dr. Virginia Buechner-Maxwell, associate professor, DLACS, recently presented "Nebulized magnesium and albuterol: A novel treatment for equine RAO" during the Veterinary Comparative Respiratory Society Conference at Purdue University. The work was completed with **Drs. Undine Christmann**, Ph.D. candidate, DLACS, and **Sharon Witonsky**, associate professor, DLACS.

Dr. Jeff Wilcke, MetCalf Professor of Veterinary Informatics, DBSP, was recently elected to represent the United States on the Content Committee of the International Health Terminology Standards Development Organization (IHTSDO).

Ms. Jill Kormendy, administrative assistant to the Veterinary Teaching Hospital administration, and **Ms. Laila Kirkpatrick**, a clinical laboratory technician in the VTH's laboratory services, recently received the 2007 Staff Recognition Award.

Ms. Sandy Hancock, VMRCVM quality assurance officer, was recently honored by the Society of Quality Assurance as the first recipient of the University Specialty Section scholarship.

Ms. Lynn Young, director of alumni relations and student affairs, was recently initiated into the Alpha Omicron Circle of Omicron Delta Kappa.

Dr. Stephen Smith, professor, DBSP, recently-presented "Warm and Cool Water Fish Health" during the National Conservation Training Center and Nevada Department of Fisheries in Boulder City, Nev.

Dr. Jeri Jones, associate professor, DSCAS, **Dr. Sarah Davies**, resident, DSACS, **Kristen Sheckelford** ('11), and **Dr. Stephen Werre**, research assistant professor, DBSP, recently presented "Positional CT of the L7-S1 Intervertebral Foramina in dogs with Lumbosacral Syndrome" during the Annual Meeting of the American College of Veterinary Radiology in Chicago, Ill.

Drs. J.H. Rossmeisl, the late **R.B. Duncan**, **W.R. Huckle**, and **G.C. Troy** co-authored "Expression of vascular endothelial grown factor in tumors and plasma from dogs with primary intracranial neoplasms" in the *American Journal of Veterinary Research*.

Drs. Chris Ober, resident, DSACS, **Jeri Jones**, associate professor, DSACS, **Otto Lanz**, associate professor, DSACS, and **Martha Larson**, professor, DSACS, presented "Comparison of Ultrasound, CT and MRI in Detection of Acute Wooden Foreign Bodies in the Canine Manus" during the Annual Meeting of the American College of Veterinary Radiology.

Dr. Stephen Boyle, professor, DBSP, recently edited the chapter "*Brucella*" in *Genome Mapping in Animals and Microbes*.

Drs. Aloka B. Bandara, Andrea Contreras, Sherry H. Poff, **S. Ramamoorthy, Nammalwar Sriranganathan , Gerhardt G. Schurig**, and **S.M. Boyle** co-authored "Mutants of either *ure*-1 or ure-2 operons in *Brucella suis* are attenuated in macrophages and clear faster from spleens of BALB/c mice" in *Biomed Central – Microbiology*.

Dr. Erik Noschka, resident, DLACS, has earned his Ph.D. in physiology from the University of Georgia.

Dr. Rachel Tan, resident, DLACS, recently presented research entitled "Measurement of pH and glutathione peroxidase activity in biological samples collected from recurrent airway obstruction affected horses and their controls" during the Veterinary Comparative Respiratory Society Conference at Purdue University. The work was completed with **Drs. C. Thatcher**, professor, DLACS, **V. Buechner-Maxwell**, associate professor, DLACS, **U. Christmann**, Ph.D. candidate, DLACS, **M. Crisman**, professor, DLACS, and **S. Werre**, research assistant professor, DBSP.

Dr. Chris Ober, resident, DSACS, has passed his board examinations and his now a diplomate in the American College of Veterinary Radiology.

Alumni Achievements

Dr. Lisa Crofton ('**84**) has passed her board examinations and is now a diplomate in the American College of Veterinary Pathologists.

Dr. Sara Calvarese ('**02**) has passed her board examinations and is now a diplomate in the American College of Veterinary Ophthalmologists.

Dr. Anne Cook ('**01**) has passed her board examinations and is now a diplomate in the American College of Veterinary Ophthalmologists.

Dr. Matthew Landry ('**03**) has passed his board examinations and is now a diplomate in the American College of Veterinary Ophthalmologists.

Dr. Mark Bobfchak, a former intern in the VMRCVM, has passed his board examinations and is now a diplomate in the American College of Veterinary Ophthalmologists.

Dr. Jamie Schorling, 2004-2007 resident in the VMRCVM, has passed her board examinations and is now a diplomate in the American College of Veterinary Ophthalmologists.

Dr. Lesley Ann Colby ('**96**) was been named the recipient of Virginia Tech's 2006-2007 Outstanding Recent Alumni Award for the Virginia-Maryland Regional College of Veterinary Medicine.

Student Achievements

Nathanial Burke ('**11**) received Virginia Tech's 2007-2008 William Preston Society Thesis Award in the "Life Sciences" category.

Nathanial Burke ('**11**) has been nominated to the Conference of Southern Graduate Schools for the 2008 Master's Thesis Award in the "Life Sciences" category.

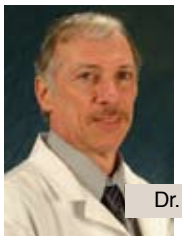
Michael Nolan ('**09**) recently presented a paper entitled "Diseases, maintenance and veterinary care of wild and captive horseshoe crabs" during the International Symposium on the Science and Conservation of Horseshoe Crabs in Long Island, N.Y. The paper was co-authored by Dr. Stephen Smith, professor, DBSP.

Michael Nolan ('**09**) recently presented a paper entitled "Pharmacokinetics of oxytetracycline in the horseshoe crab" during the Annual Meeting of the Eastern Fish Health Workshop in Gettysburg, Pa. The paper was co-authored by Dr. Stephen Smith, professor, DBSP.

John Machen, a M.S. graduate student in the lab of Dr. Stephen Smith, professor, DBSP, recently presented a paper entitled "Immune response of hybrid striped bass to a commercial Vibrio vaccine." The paper was co-authored by Smith.

Dr. Undine Christmann, Ph.D. candidate, DLACS, recently presented research entitled "Surfactant in healthy horses: what are the effects of clinical parameters?"during the Veterinary Comparative Respiratory Society Conference at Purdue University. The work was completed with **Drs. V. Buechner-Maxwell**, associate professor, DLACS, D. Hite, **C. Thatcher**, professor, DLACS, **S. Witonsky**, associate professor, DLACS, **R. Tan**, resident, DLACS, **B. Dryman**, laboratory specialist, VMRCVM, B. Grier, and **S. Werre**, research assistant professor, DBSP.

Drs. M. Seleem, M. Ali, M. W. Abd Al-Azeem, **S.M. Boyle**, and **N. Sriranganathan** co-authored "High-level heterologous gene expression in *Ochrobactrum anthropi* using an A-richUP element" in *Applied Genetics & Molecular Biotechnology*.



Dr. Thomas J. Inzana

Researchers Receive USDA Grant to Study the Function of Biofilm in Bovine Respiratory Disease

Tyler J. and Frances F. Young Professor of Bacteriology Dr. Tom Inzana works in his laboratory.

Dr. Thomas J. Inzana, the Tyler J. and Frances F. Young Professor of Bacteriology in the Department of Biomedical Sciences and Pathobiology in the Virginia-Maryland Regional College of Veterinary Medicine, has been awarded a grant from the United States Department of Agriculture to study the role biofilm plays in the development of Bovine Respiratory Disease Complex (BRDC).

The $374,000 grant will allow Inzana and his fellow investigators, Drs. Indra Sandal and William Scarratt, to study the role of biofilm in the virulence of *Histophilus somni* (*Haemophilus somnus*), which is one of the bacteria responsible for BRDC.

"If we can understand the protective or disease-enhancing effect a biofilm provides to *H. somni* then we can develop more successful and efficacious vaccines for this and other biofilm diseases," said Inzana.

A biofilm is an organized community of bacteria that forms a glue-like substance that adheres to a variety of surfaces.

The plaque on your teeth is a biofilm, as is the slime that often forms on meat that has been left out too long. While some biofilms are harmless, they can also cause a variety of diseases in humans and animals, explains Inzana. Middle-ear infections and cystic fibrosis are both examples of biofilm diseases that can form in humans.

A biofilm can be particularly hard to treat because the bacteria are encased in an organized matrix that forms a protective architecture, resulting in enhanced bacterial resistance to antibiotics.

In bovines, BRDC is a particularly troublesome disease that remains a major economic problem, despite years of extensive research, according to Inzana. BRDC accounts for over 60 percent of all deaths in feedlot cattle, said Inzana, which leads to major financial losses for producers.

Inzana and his fellow researchers believe *H. somni* naturally occurs in a biofilm state within the bovine host. This may cause *H. somni* to be more resistant to treatment and host defenses because of the protection the biofilm provides. If left untreated, the bacteria can spread beyond the animal's respiratory tract into the myocardium and the brain causing further damage and eventually death.

While vaccines against *H. somni* are currently on the market, none have proven to be adequately protective. Inzana and his team believe this is because of the lack of attention previously given to the role of biofilm in the disease process.

"Our goal is to understand the molecular basis for biofilm formation and to identify ways to prevent or treat the biofilm," said Inzana.

Inzana is quick to point out the benefits of the research he and his colleagues are doing are not exclusive to bovine health. The study has the potential to advance the understanding of other biofilm diseases in animals and in humans, and it creates the possibility of using the bovine as a model to study human biofilm diseases, particularly those arising from host-specific bacteria, he said.

Inzana is the associate vice-president for research programs in the Office of the Vice-President for Research at Virginia Tech. He is also the director of clinical microbiology for the college of veterinary medicine's teaching hospital. In addition, from 1998-2002, Inzana served as coordinator of the Center for Molecular Medicine and Infectious Disease (CMMID).

During his career, Inzana has also served as a visiting professor at the University of Pennsylvania School of Medicine and SUNY at Buffalo School of Medicine. Inzana's research interests are the development of improved vaccines for bacterial pathogens and biowarfare agents, the development of improved diagnostic tests for bacteria and biowarfare agents, the molecular basis of bacterial capsules and lipopolysaccharides in bacterial virulence, and the host immune response to bacterial pathogens.

The plaque on your teeth is a biofilm, as is the slime that often forms on meat that has been left out too long. While some biofilms are harmless, they can also cause a variety of diseases in humans and animals.

He also studies the molecular basis for pathogenesis of *Actinobacillus pleuropneumoniae, Francisella tularensis*, and *Burkholderia mallei.* Inzana is board certified by the American Board of Medical Microbiology and Public Health and a Fellow of the American Academy for Microbiology. He is a member of the American Society for Microbiology, the American Association of Veterinary Laboratory Diagnosticians, the Conference of Research Workers in Animal Diseases, and the International Endotoxin and Innate Immunity Society.

Meng Honored as One of Most Cited Researchers

Dr. X. J. Meng, professor, Department of Biomedical Sciences and Pothobiology, was recently honored as one of the most frequently cited scientists working in the field of microbiology by academic publishing giant Thompson Scientific.

Meng has entered the top one percent of highly-cited scientists in the field of microbiology, according to Thompson's "Essential Science Indicators." The 31 original articles and review papers that Meng has authored in the field of microbiology over the past 10 years were cited a total of 896 times in other scholarly works over the same time period.

Meng has also been identified as being in the top one percent of highly-cited scientists in the field of clinical medicine, according to Thompson. From the ten-year period beginning in January 1997 and ending in August 2007, Meng authored a total of 68 scientific papers that have been cited 1,842 times to date.

In an on-line interview published by Thompson, Meng reflected on his approach to his work and what he hopes to achieve.

"I have a keen interest in comparative and translational medicine, and my main research focus has been in the field of comparative viral pathogenesis with emphasis on emerging, re-emerging, and zoonotic viral diseases that are important to both human and veterinary public health," he said. "The ultimate goals for most of my research projects are to develop vaccines and other preventive and control measures against important viral diseases of man and other animals."

Meng is an excellent example of the intersection between human and animal health, according to VMRCVM Dean Gerhardt Schurig, who noted that the American Medical Association's House of Delegates passed a resolution in June 2007 that formally recognized the concept of "one medicine" and called for greater collaboration between human and veterinary medicine.

Meng believes that his training in both human and veterinary sciences provides him with an opportunity to make a unique contribution in human and animal health and biomedical sciences.

"I have been trained in both medical and veterinary sciences; therefore, I feel that, by conducting biomedical research in the field of comparative viral pathogenesis, I can contribute in a meaningful way to both human and veterinary medicine," he stated in the Thompson article. "Historically, comparative medicine and animal models have been instrumental in understanding the pathogenesis and mechanism of many human diseases."

Dr. X. J. Meng

Meng Awarded Nearly $3 Million in Grants from NIH to Study Hepatitis E Virus

Dr. X.J. Meng, a professor of virology in the Virginia-Maryland Regional College of Veterinary Medicine's Department of Biomedical Sciences and Pathobiology at Virginia Tech, has been awarded two research grants totaling almost $3 million from the National Institutes of Health (NIH) to study the hepatitis E virus (HEV). The ultimate goal of the work is to develop a vaccine to protect people and animals from Hepatitis E.

"This is an exceptional achievement," said VMRCVM Dean Gerhardt Schurig. "The environment for NIH funding is more competitive than ever, so I think this makes a major statement about the world-class nature of Dr. Meng's work."

HEV is an important human pathogen, according to Meng. The disease caused by HEV, Hepatitis E, is a major public health problem in developing countries in Asia and Africa, and in Mexico. Hepatitis E is also endemic in the United States and many other industrialized countries, according to Meng. Although the overall mortality associated with HEV infection is generally low (less than one percent), it can be as high as 28 percent in infected pregnant women. Currently, there is no vaccine to prevent Hepatitis E.

HEV is an important human pathogen, according to Dr. Meng. The disease caused by HEV, Hepatitis E, is a major public health problem in developing countries in Asia and Africa, and in Mexico. Hepatitis E is also endemic in the United States and many other industrialized countries, according to Meng.

The major obstacle for Hepatitis E research and vaccine development has been the lack of a practical animal model system for HEV research and the inability to propagate HEV in cell culture, explains Meng. With funding from NIH, Meng's group recently discovered two HEV-related animal viruses in the United States: swine hepatitis E virus (swine HEV) from pigs, and avian hepatitis E virus (avian HEV) from chickens. It has since been demonstrated that swine HEV can cross species barriers and infect humans, and that human HEV can infect pigs. Hepatitis E is now regarded as a zoonotic disease.

With the discoveries of the two new animal viruses, Meng's group quickly developed a pig model and a chicken model to study the hepatitis E virus. Prior to Meng's discoveries of the two animal hepatitis E viruses, scientists were forced to use non-human primates in order to study the disease.

Conducting HEV research with primates at one of the NIH regional primate centers is expensive and contains some ethical concerns,

according to Meng, so developing the new animal models will be a major step forward in the research.

The first NIH grant, entitled "Mechanism of hepatitis E virus replication and pathogenesis," conveys total funding of $1,561,797 and the co-investigators are Dr. Patrick G. Halbur, and Dr. Yao-Wei Huang. The second grant, entitled "A chicken model to study hepatitis E virus pathogenesis" includes funding of $1,266,300 and the co-investigators are Dr. F. William Pierson, Dr. Tanya LeRoith, and Dr. Yao-Wei Huang. Both grants began on March 1, 2008 and will support four years of work.

Meng's laboratory in the Center for Molecular Medicine and Infectious Disease is considered one of the world's leading hepatitis E virus research centers. Previously, he had received nearly $2 million dollars from the National Institute of Health.

The grants will enable researchers to learn more about the molecular mechanisms of HEV replication and pathogenesis by using pigs and chickens as animal model systems. Specifically, the researchers will study how HEV causes hepatitis, the gene(s) responsible for virulence, the mechanism(s) for cross-species infection by HEV, and how to attenuate the virus for vaccine development purpose. Ultimately, the researchers hope to develop a vaccine against this important human pathogen.

Meng's laboratory in the Center for Molecular Medicine and Infectious Disease is considered one of the world's leading hepatitis E virus research centers. Previously, he had received nearly $2 million from the National Institute of Health to study the same virus. Meng currently chairs the hepatitis E virus study group on the International Committee on Taxonomy of Viruses (ICTV).

Funded by the USDA and several private corporations, Meng's lab also studies several economically important animal viruses including porcine circovirues, and porcine reproductive and respiratory syndrome virus. Recently, Meng's lab successfully developed the first USDA fully-licensed vaccine, Suvaxyn® PCV2 One Dose™, against porcine circovirus associated diseases, an economically important swine disease worldwide. Virginia Tech has licensed the vaccine to Wyeth Inc. and Fort Dodge Animal Health Inc., and the vaccine is currently on the U.S. and Canadian markets, and has now begun to enter the global markets. The vaccine is saving millions of dollars each year for the swine industry.

Prior to joining the VMRCVM in 1999, Meng served as senior staff fellow of the Molecular Hepatitis Section of the Laboratory of Infectious Diseases at the National Institutes of Health's National Institute of Allergy and Infectious Diseases (NIAID).

Meng earned an M.D. from Binzhou Medical College in Binzhou, Shandong, People's Republic of China; a M.S. in microbiology and immunology from the Virus Research Institute, Wuhan University College of Medicine, Wuhan, Hubei, Peoples Republic of China; and a Ph.D. in immunobiology from the Department of Microbiology, Immunology and Preventive Medicine at the Iowa State University College of Veterinary Medicine, Ames, Iowa.

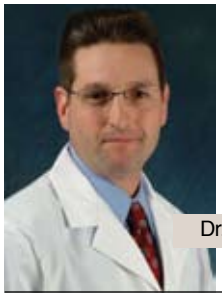
Meng Elected Honorary Diplomate in American College of Veterinary Microbiology

Dr. X. J. Meng, professor, DBSP has recently been elected as an Honorary Diplomate in the American College of Veterinary Microbiology. The honor is reserved for those individuals who have "achieved unquestioned eminence in veterinary microbiology," according to Dr. Jim Roth, the president of the ACVM and director of the Center for Food Security and Public Health at Iowa State University.

"The ACVM Board of Governors and the ACVM membership have each voted by an overwhelming majority to extend Honorary Diplomate to you," wrote Roth in a communication informing Meng of the honor. "Your many contributions to veterinary microbiology are highly valued. The ACVM is honored to count you among our most valued colleagues."

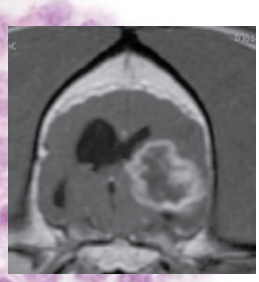
The ACVM is the American Veterinary Medical Association recognized specialty college for veterinarians with special expertise in microbiology.

Meng was recognized for the many contributions he has made to the field of veterinary microbiology throughout his career. The award will be formally presented to Meng during the 2008 annual meeting of the Conference for Research Workers in Animal Disease in Chicago later this year.



Dr.John Rossmeisl

VMRCVM Researcher Studying Brain Tumors in People and Animals



A veterinary neurologist on faculty in the college has been awarded funding from the Wake Forest University Translational Science Institute to study innovative approaches for treating brain tumors in dogs, cats and humans.

Dr. John Rossmeisl, an assistant professor in the Department of Small Animal Clinical Sciences (DSACS), is working with Wake Forest University Medical Center researchers to develop better therapeutic approaches for managing very serious forms of brain tumors called gliomas.

Rossmeisl will work closely with a cluster of scientists and physicians at Wake Forest University and with VMRCVM veterinary pathologist Dr. John Robertson, director of the college's Center for Comparative Oncology, on the project. The VMRCVM is a participating institution on a major translational research initiative at Wake Forest University funded by the National Institutes of Health (NIH).

To develop more precisely targeted systems for administering therapeutic agents to cancer cells, Rossmeisl and his colleagues are attempting to further establish the molecular similarity of human and canine gliomas.

"Gliomas are an aggressive and deadly form of brain cancer that affect dogs and people," said Rossmeisl, who is board certified in veterinary neurology by the American College of Veterinary Internal Medicine (ACVIM). "Because there are so many similarities between clinical signs and pathobiology, the dog has emerged as an excellent model for studying gliomas in humans."

Every year, about 120,000 new cases of primary and secondary brain cancer are diagnosed, according to the National Cancer Institute. Much less is known about the incidence of brain tumors in domestic animals, according to Rossmeisl. Clinical signs associated with brain tumors in both people and animals can include seizures, abnormal behaviors, weakness of the limbs, loss of balance, blindness and other problems.

Gliomas arise from glial cells, according to Rossmeisl, which play numerous supporting roles for neurons, brain cells that control thought, sensations and motion. Glial cells outnumber neurons by a factor of about 10 to one in the brain, and they play an essential role in creating the architecture and structure of the brain and supporting its functions.

There are several different specific types of glial cells, but two that interest Rossmeisl and colleagues most are called astrocytes and oligodendrocytes. Oncogenic abnormalities associated with each of these can lead to cancers called astrocytomas and oligodendrocytomas, according to Rossmeisl.

The most common approaches for managing these tumors involve surgical excision, radiation therapy and chemotherapy. But conventional radiation and chemotherapy affect normal cells in addition to the cancerous cells they target, so perfecting approaches that exclusively target the molecular abnormalities present in each individual's cancer cells and spare healthy cells is a major thrust in modern oncology.

To develop more precisely targeted systems for administering therapeutic agents to cancer cells, Rossmeisl and his colleagues are attempting to further establish the molecular similarity of human and canine gliomas.

Scientists know that when astrocytomas spontaneously arise in people, they over-express three proteins: interleukin 13 receptor alpha2 (IL-13R), which is a cancer testis tumor like agent; EphA2, a tyrosine kinase receptor; and fos-related antigen 1, an AP-1 transcription factor.

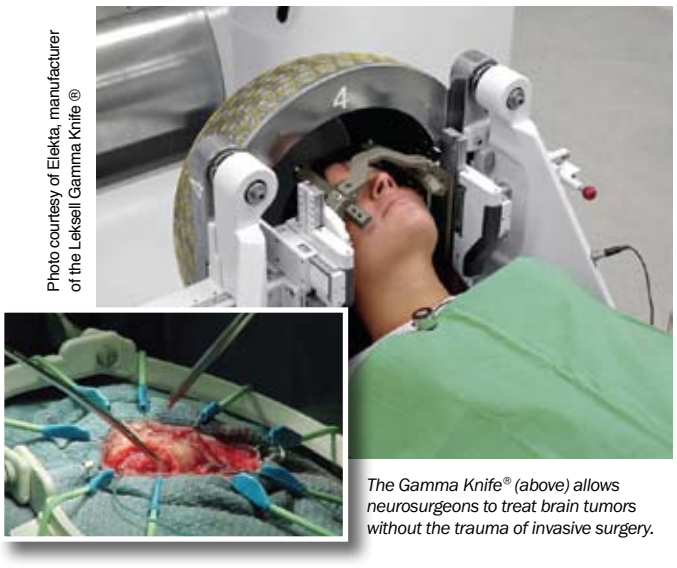
Rossmeisl and colleagues working in the VMRCVM's Center for Comparative Oncology have opened a clinical trial and are currently enrolling animals from around the region that have been positively diagnosed with a brain mass consistent with the appearance of a glioma on magnetic resonance imaging (MRI).

The researchers will be studying tissue samples from affected animals in search of these proteins that are not otherwise present in normal brain tissues. Identifying these proteins could further document the dog's suitability as a model for studying pre-clinical human disease, according to Rossmeisl, and ultimately lead to the development of more precisely targeted methods for managing these tumors.

Another portion of the work is focused on the development of powerful new cancer treatments. Through a process known as convection enhanced delivery (CED), the researchers are removing the diseased tissues and testing the application of a proprietary experimental compound. This agent is used to "bathe" the margins of the area in which the tumor was removed and it has been designed in a way that it will only bind with receptors in tumor cells expressing abnormal proteins.

Please see ***Tumor*** page 32

Photo courtesy of Elekta, manufacturer of the Leksell Gamma Knife ®



The Gamma Knife® (above) allows neurosurgeons to treat brain tumors without the trauma of invasive surgery.

VMRCVM Research Team Contributes to Landmark Heparin Study

VMRCVM researchers have provided critical support for an international research effort led by the Massachusetts Institute of Technology (MIT) that has led to major progress in resolving the global public health threat caused by contaminated heparin.

Heparin, a blood thinner commonly used in kidney dialysis and heart surgery, has been linked to allergic reactions, hypotension and other medical disorders that have led to 81 deaths in the United States and Germany so far.

Government officials and scientists from countries around the world have been working since January 2008 to learn more about mysterious adverse patient reactions associated with heparin. United States Food & Drug Administration (FDA) officials believe the contaminant originated from Chinese factories that manufacture the drug for Baxter International.

The MIT led multi-institutional study, which was recently published in the New England Journal of Medicine and Nature Biotechnology, has demonstrated a biologic linkage between the suspected contaminant – over-sulfated chondroitin sulfate (OSCS) – and the onset of clinical disease. Establishing this relationship will play an important role in helping authorities determine the safety of the global heparin supply and help prevent the deadly problem from occurring again.

The story of the VMRCVM's role in the multi-center research effort is an example of the unexpected opportunities that can arise from routine scientific inquiry and academic collegiality. It also speaks of the dedication and agility of a team of Virginia Tech researchers, administrators and technical personnel that was able to design, obtain approval, assemble needed resources, perform and complete a critically needed scientific experiment on a seemingly impossible timeline.

Existing research conducted by Dr. Ram Sasisekharan and colleagues at the Massachusetts Institute of Technology had established that the contaminant, OSCS, was responsible for the clinical problems that were being observed in humans, but the biological link for proving OSCS induced the adverse events was needed for further validation. Professor Sasisekharan's team at MIT had *in vitro* data to indicate that the contact system was activated in plasma from pigs when exposed to OSCS or contaminated heparin. FDA wanted animal modeling work conducted for further proof.

Dr. Elankumaran Subbiah, a virologist and assistant professor in the Department of Biomedical Sciences and Pathobiology, had an existing collaboration with Sasisekharan at MIT on influenza A viruses. Faced with the urgent FDA request for rapid animal modeling work, Sasisekharan decided to contact Subbiah to see if the VMRCVM could conduct the critical animal modeling work on an extremely fast time-frame.

Subbiah immediately contacted Dr. Nammalwar "Nathan" Sriranganathan, a professor in the DBSP and senior researcher in the Center for Molecular Medicine and Infectious Diseases; Dr. Kevin Pelzer, an associate professor in the Department of Large Animal Clinical Sciences joined the team. Nathan set the ball rolling by contacting all the administrative links and assembled all the resources necessary for this "Herculean" task.

Facing a daunting task but understanding the urgency of the global public health problem at hand, the team decided to proceed. Working feverishly into the night, the group established a study design and had it approved by the Virginia Tech's Institutional Animal Care and Use Committee (IACUC) within nine hours. This would not have been possible with out the cooperation of the IACUC team, and Associate Vice Provost for Research Compliance Dr. David Moore, who signed off on the project at 2 a.m. from India.

The story of the VMRCVM's role in the multi-center research effort ... speaks of the dedication and agility of a team of Virginia Tech researchers, administrators and technical personnel that was able to design, obtain approval, assemble needed resources, perform and complete a critically needed scientific experiment on a seemingly impossible timeline.

The team then worked with Dr. Cynthia Wood at the Virginia Tech's College of Agriculture and Life Sciences and were able to procure the research animals. Thus began an arduous, two-week, 24/7 marathon process that ultimately concluded that the OSCS might in fact activate the suspected pathways in pigs, just as they were believed to do in people, mimicking the adverse events reported. The work played a pivotal role in validating the MIT hypothesis. Additional experiments are being planned at the VMRCVM to determine the dose response as well as effects of routes of administration to confirm the findings.

"Every single star aligned properly to get this done," said Subbiah, adding that the work could have never been accomplished without the support and collaboration from many different sectors of the Virginia Tech research community, from the IACUC team to members of the VMRCVM administration to Veterinary Teaching Hospital Director Dr. William Pierson and anesthesiologist Dr. Cindy Hatfield to the swine facility.

Project team members included Subbiah, Sriranganathan, Pelzer, and graduate student Thomas Rogers-Cotrone. Key assistance was also provided by TRACCS members Pete Jobst and Andrea Aman, according to Subbiah.

The result of this landmark study is published in the New England Journal of Medicine as an advanced online publication on April 23, 2008. Please see: http://content.nejm.org/cgi/content/full/NEJMoa0803200

Oncolytic virus therapy has gained much attention recently as a result of the progress in understanding virus-host interactions and because currently available chemotherapy is not entirely satisfactory for several reasons, including the possibility of an individual's development of resistance to drugs.

Researchers Awarded NIH Grant to Expand Study of Poultry Virus as Human Cancer Treatment

Researchers on the Blacksburg and College Park, Md. campuses of the VMRCVM have been awarded a major new grant from the National Institutes of Health (NIH) to support innovative work that seeks to develop a treatment for cancer from a common avian virus.

This is the second major grant awarded to Drs. Elankumaran Subbiah, assistant professor, Department of Biomedical Sciences and Pathobiology, and Siba Samal, associate dean on the college's University of Maryland's campus, for the work which seeks to create a cancer therapy from genetically altered Newcastle disease virus.

According to the American Cancer Society (ACS), cancer accounts for nearly one-quarter of all deaths in the United States, exceeded only by heart diseases. It is estimated that 1.4 million new cases of cancer were diagnosed in 2007 alone.

The $430,000 NIH R21 grant will allow Subbiah and Samal to build upon existing work that is focused on the use of reverse genetics to alter NDV to treat prostate cancer.

The $430,000 NIH R21 grant will allow Subbiah and Samal to build upon existing work that is focused on the use of reverse genetics to alter NDV to treat prostate cancer.

Reverse genetics (RG) is the process of generating a recombinant virus from cloned complimentary DNA (cDNA) copy, explains Subbiah. Through the RG system, recombinant viruses can be designed to have specific properties that make them attractive as biotechnological tools, live vaccines, and cancer therapies. This is achieved through the introduction of the desired changes in the cDNA, which are then transferred faithfully to the recombinant virus.

"This differs from the previous work in that the recombinant NDV will be targeted against different types of proteases," said Subbiah. "Different types of cancer cells secrete different types of proteases. We are tailoring the virus to match the type of protease secreted by the cancer cells."

Normal, healthy cells have an interferon antiviral system that activates upon infection with NDV, thereby preventing replication of the virus, explains Subbiah. Cancer cells, however, have defective interferon antiviral systems, he said. NDV utilizes these defects to replicate specifically in the diseased cells. The replication of NDV generates apoptosis - also known as programmed cell death or cell suicide- in the diseased cell.

According to Subbiah, the use of poultry viruses as cancer therapy poses no threat to humans and several other oncolytic viruses are currently being explored to treat cancer. However, Subbiah's work is the first to alter Newcastle disease virus through a reverse genetic system for selective protease targeting.

Oncolytic virus therapy has gained much attention recently as a result of the progress in understanding virus-host interactions and because currently available chemotherapy is not entirely satisfactory for several reasons, including the possibility of an individual's development of resistance to drugs.

"We are excited about the endless possibilities that Newcastle disease virus offers to treat cancer," said Subbiah.

Subbiah received his B.V.Sc. in 1984, M.V.Sc. in 1989, and Ph.D. in veterinary microbiology in 1996 from the Madras Veterinary College in Madras, India, and was boarded in virology from the American College of Veterinary Microbiologists in 2003. He was a research assistant professor at the VMRCVM's University of Maryland-College Park campus prior to joining Virginia Tech in 2006.

Samal received his B.V.Sc. from Orissa Veterinary College in 1976, his M.V.Sc. from the Indian Veterinary Research Institute, and M.S. and Ph.D. degrees from Texas A&M University. He joined the faculty at the University of Maryland in 1988, and is currently the associate dean of the VMRCVM and chair of the Department of Veterinary Medicine at the University of Maryland, College Park.

Hodgson Helping Equine Health Around the World

As a member of WEVA's board of directors and scientific program chair, Hodgson is playing an important role in WEVA's efforts to extend the reach of modern veterinary medicine to horses around the world.

Advancements in training and technology have elevated the quality of equine veterinary medicine practiced in many industrialized countries. But that high quality of care is not available in many areas of the world.

The World Equine Veterinary Association (WEVA) is working hard to correct that problem, according to Dr. David Hodgson, head of the Department of Large Animal Clinical Sciences in the Virginia-Maryland Regional College of Veterinary Medicine at Virginia Tech.

As a member of WEVA's board of directors and scientific program chair, Hodgson is playing an important role in WEVA's efforts to extend the reach of modern veterinary medicine to horses around the world.

WEVA was founded in 1985 as a branch of the World Veterinary Organization, according to Hodgson. WEVA's mission is to promote equine welfare by providing information and training in modern equine veterinary medicine in emerging and less-developed areas of the world.

"The vast majority of horses in the world are in countries without the resources that places like America and other knowledge and economic-rich countries enjoy," explains Hodgson. "Without WEVA, many of these countries would not have access to the benefits of modern equine veterinary medicine."

Every two years, WEVA, partnering with local veterinary associations, hosts week-long conventions that feature equine professionals from around the world speaking on the latest treatments and research in the industry, as well as on topics specific to the region. Localities submit proposals to the board, which then selects the host country.

Hodgson participated in WEVA's recent convention in Moscow, Russia, where, in addition to his duties as a board member, he also presented several research papers. Hodgson also recently spoke to Indian equine practitioners as a participant in one of the smaller, intermediate meetings that are held by the association over weekends throughout the year.

While being a part of this organization involves hard work and dedication on the part of Hodgson and his fellow board members, it also comes with great benefits. "To travel to these countries and see the people and animals and the impact we are having on their quality of life is hugely rewarding," said Hodgson.

As scientific program chair, Hodgson is responsible for organizing the next conference which will be held in Brazil in 2009.

WEVA is led by a board of fourteen members - twelve representatives from around the world as well as the two immediate past presidents. Hodgson was elected to the board two years ago as the Australasia representative while he was on faculty at the University of Sydney. He became a North American representative after his move to the United States in July.

Hodgson earned a B.V.Sc. and a Ph.D. from the University of Sydney. He is a diplomate in the American College of Veterinary Internal Medicine (ACVIM) and a Fellow in both the Australasian College of Biomedical Scientists and in the American College of Sports Medicine.

In addition to his immediate past position as a professor and head of the Faculty Horse Unit at the University of Sydney, Hodgson also served as head of the Department of Veterinary Clinical Sciences and veterinary hospital director at the University of Sydney. He has also held positions at the University of Pretoria in South Africa and Washington State University.

Hodgson has published numerous academic papers and has received many awards for his work, including the Rural Industries Research and Development Corporation's Equine Researcher of the Year, which is awarded by the Australian government to the country's leading contributor to equine research.

First VMRCVM student participates in Veterinary Clinic Student Exchange Program

Melinda Cep (left), a third year student, spent three weeks in Valdivia, Chile conducting public health research with the Instituto de Medicina Preventiva Veterinaria.

The first VMRCVM student to participate in the "Veterinary Clinic Student Exchange Program" that was created as part of a 2005 memorandum of understanding between the college and the University of Austral in Valdivia, Chile, has recently returned to Blacksburg after her time in the South American country.

Melinda Cep, a third year student, spent three-weeks in Valdivia conducting public health research with the Instituto de Medicina Preventiva Veterinaria.

"We are very pleased to have Melinda participate as our college's inaugural student in this program, "said Dr. Bettye Walters, director of international programs at the VMRCVM's University of Maryland-College Park campus. "We strive to impress upon our students the importance globalization plays in veterinary medicine and expose them to as many international opportunities as possible."

The on-going research Cep participated in is designed to study the complex role the environment has on the risk of human infection with Leptospira, a significant public health threat in the country.

"My experiences in Valdivia have encouraged me to pursue my interest in public health and international veterinary medicine," wrote Cep.

Leptospira is a zoonotic pathogen that is transmitted from animals to humans and can cause a variety of unpleasant flu-like symptoms, in addition to jaundice, red eyes, and a rash. If left untreated, it can cause kidney damage, liver failure, meningitis, and even death. However, some affected with the disease may display no symptoms at all. Humans become infected with the pathogen through contact with water, food, or soil that has been contaminated by an affected animal.

"Leptospira is often considered a disease of the poor," wrote Cep of her experiences, "but it is also contracted by tourists and other high-risk individuals."

Environmental exposure to this pathogen is affected by water contamination, housing and waste disposal, and animal reservoir density.

By investigating the human, animal, and environmental factors that increase the likelihood of human exposure and infection, better control of human leptospirosis may be possible through cost-effective public health interventions, according to Cep.

Cep and her fellow researchers visited a total of 60 homes in different housing communities to collect water and rodent samples and survey one family member from each home to gather data for the project.

After her field-work, Cep was then involved with processing the samples in the laboratory, where she gained valuable laboratory analysis and bio-security experience while she was performing public service.

In addition to her work with Leptospira, Cep also had the unique opportunity to visit a local aquaculture company and observe cases at the veterinary school's teaching hospital.

"My experiences in Valdivia have encouraged me to pursue my interest in public health and international veterinary medicine," wrote Cep. "I am forever indebted not only to the faculty of our university, but the faculty at the Universidad Austral de Chile, including Drs. Carla Rosenfield, Marcelo Gomez, and Rafael Tamayo, for allowing me the opportunity to visit their campus and assist with this ongoing research project."

Dr. Geo-suk Suh (right), president of Chonbuk National University in Korea, and his colleagues tour the VMRCVM with Jeffrey Douglas, director of public relations and communications. President Suh was in Blacksburg to sign a MOU with Virginia Tech.

Virginia Tech Signs MOU with Chonbuk National University in Korea

Virginia Tech recently signed a memorandum of understanding (MOU) with Chonbuk National University (CBNU) in Jeonju, Korea that will establish an exchange program and help CBNU create a zoonotic disease research center.

Virginia Tech University Provost and Vice President for Academic Affairs Mark McNamee and Chonbuk National University President Geo-suk Suh signed the MOU.

The MOU will support the development of a variety of collaborative programs designed to benefit each university's educational and research programs through the exchange of faculty, students, scientific information and other material.

Drs. Stephen Boyle and Nammalwar Sriranganathan, both professors in the Virginia-Maryland Regional College of Veterinary Medicine's (VMRCVM) Department of Biomedical Sciences and Pathobiology at Virginia Tech, and Dr. Byeong-Kirl Baek, dean of the newly established Korean Zoonoses Research Institute at CBNU, will serve as the key contacts for facilitating the opportunities outlined in the MOU. In addition, Boyle and Sriranganathan will serve as scientific consultants for the Korean institute as they begin to establish their zoonotic research program which seeks to investigate animal diseases that can spread to humans.

"We truly have one of the unique opportunities in the world to make disease prevention more comprehensive and effective in terms of educating veterinarians, physicians and scientists in the pursuit of novel and improved diagnostics, vaccines and therapeutics," said Boyle.

While the initial plans for collaboration are primarily between the VMRCVM and the Korean Zoonoses Research Institute, it is expected the MOU will eventually be expanded to encompass other exchange programs throughout both universities, said Boyle.

The development of the Korean Zooneses Research Institute and MOU with Virginia Tech was prompted by a recent brucellosis endemic in Korea and subsequent visit from Baek to the VMRCVM to study the RB51 vaccine. That vaccine, now being used widely around the world, was developed by current VMRCVM Dean Gerhardt Schurig, Boyle, and Sriranganathan after years of research in the college's Center for Molecular Medicine and Infectious Disease (CMMID).

Brucellosis is a zoonotic disease that causes reproductive problems in cattle and other ruminants and undulant fever in humans. The Centers for Disease Control (CDC) in Atlanta considers brucellosis a Category A bioterrorism agent. As a result of the development and implementation of the RB51 vaccine, brucellosis has been essentially eradicated from the U.S. cattle population; however, it is still a major problem in Korea and in other countries around the world. RB51 is currently being tested in Korea as is a second generation of the vaccine known as RB51x which will protect against additional zoonotic diseases.

"The development of an improved RB51 vaccine, in principal, protects additional animals and humans," said Boyle. "This is one of the many benefits of two extremely developed countries collaborating to utilize technologies to tackle disease."

While the initial plans for collaboration are primarily between the VMRCVM and the Korean Zoonoses Research Institute, it is expected the MOU will eventually be expanded to encompass other exchange programs throughout both universities, said Boyle.

Mohan and Chahal spent time working with Dr. Larry Giebel at Quince Orchard Veterinary Hospital as part of the international externship program coordinated by the VMRCVM.

First Students Participate in International Externship Program

The first two students to participate in a new international externship program established between the VMRCVM and CCS Haryana Agricultural University (HAU) in Hisar, India have recently returned to India after their visit to the United States.

The students, Hari Mohan and Pawan Chahal, were selected by the HAU administration to participate in the new program based upon academic merit. They spent two fast-paced, in-depth weeks studying modern clinical practices in Maryland and Virginia.

"It is becoming increasingly important that veterinary students become aware of the concept of globalization and the impact it will have on them and on our profession," said Dr. Bettye Walters, director for international programs in the VMRCVM, who organized the program.

During their two weeks in the United States, the students spent a great deal of time with Dr. Larry Geibel, a long-time friend of the college, and his staff at the Quince Orchard Veterinary Hospital. Two of Giebel's daughters have earned their DVM degrees in the college and a third is currently enrolled. They also visited each campus of the VMRCVM.

As the program continues to grow, VMRCVM students will have the opportunity to travel to India during their winter break to learn about livestock and poultry management practices, camel production and their diseases, foreign animal diseases, and water buffalo production, according to Walters.

"The overall benefit of this program will be an increased number of veterinarians who have the competency to investigate issues of critical importance to the international agribusiness economy," explained Walters.

Primary support for the exchange program is derived from the United States – India Agricultural Knowledge Initiative on Agricultural Education, Teaching, Research, Service, and Commercial Linkages.

USDA Grant Supports New VMRCVM/Indian University Collaboration

A major new research and educational collaboration between the Virginia-Maryland Regional College of Veterinary Medicine (VMRCVM) and Tamil Nadu Veterinary and Animal Sciences University (TANUVAS) in Chennai, India has been established and participants have conducted their inaugural international workshop.

The United States Department of Agriculture's (USDA) "United-States India Agriculture Knowledge Initiative (AKI)," a program that seeks to enhance capacity building in food animal agricultural research and veterinary education, is supporting the new venture.

Representatives from the Virginia-Maryland Regional College of Veterinary Medicine's Virginia Tech and University of Maryland at College Park campuses recently participated in a three-day, avian viral diseases and animal biotechnological applications workshop in Chennai as part of the project.

"The workshop in India was a truly remarkable experience," said Dr. Roger Avery, associate dean for research and graduate studies in the college. "The enthusiasm of the participants was palpable and many opportunities for cooperation were identified. The strengths of the cooperating institutions are very complementary which means that all the partners will benefit greatly."

In Chennai, technical sessions were conducted on emerging and trans-boundary viral diseases, viral genome studies, molecular epidemiology, poultry health and production, the development of diagnostics, and vaccines and embryo biotechnology such as in-vitro fertilization and stem cell research.

"The US-India AKI workshop was very informative, especially regarding the quality of research efforts by graduate students at TANUVAS," said Dr. Nammalwar Sriranganathan, a professor in the VMRCVM's Department of Biomedical Sciences and Pathobiology (DBSP) and the principal investigator on the AKI grant award.

"They were extremely current in their technology and we were very impressed by their ability to answer pertinent and difficult questions from the audience" he said. "We look forward to continued cooperation in our capacity building in veterinary education and research."

In addition to workshops such as the one held in Chennai, an exchange program between the universities has been instituted as part of recently signed Memorandum of Understanding between Virginia Tech and TANUVAS.

The United States Department of Agriculture's (USDA) "United-States India Agriculture Knowledge Initiative (AKI)," a program that seeks to enhance capacity building in food animal agricultural research and veterinary education, is supporting the new venture.

"We intend to send five to six senior DVM students this upcoming year for their three-week summer clinical externship to TANUVAS," said Dr. Elankumaran Subbiah, an assistant professor in the DBSP and co-investigator on the AKI, who was a member of the organizing committee of the workshop.

Other college faculty members attending the workshop included Dr. Ansar Ahmed, interim head of the Department of Biomedical Sciences and Pathobiology (DBSP) and director of the Center for Molecular Medicine and Infection Disease, and Dr. Ruby Paramadhas, clinical instructor in the DBSP, both from the Blacksburg campus.

Participants from the University of Maryland-College Park (UMCP) campus included Dr. Siba Samal, associate dean of the UMCP campus; Dr. Nathaniel Tablante, an associate professor, extension specialist, and director of the Veterinary Medical Sciences Graduate Program; Dr. Daniel Perez, associate professor; Dr. Bettye Walters, director of international programs; Dr. Utpal Pal, assistant professor; and Dr. Ioannis Bossis, assistant professor.

Dr. Chinta Lamichhane, director of Synbiotics Corporation, USA, also participated as the representative of the industrial partner for the AKI project.

Equine Medical Center Faculty Care for Critically Ill Foals

During the first 30 days of life, newly born horses (called "foals") are especially sensitive to bacteria and other dangers commonly found in their every day surroundings. Each year between January and June, dozens of these foals are brought to Virginia Tech's Marion duPont Scott Equine Medical Center for treatment where the hospital's experts work diligently to return the critically ill young animals to full health.

"We work with extremely compromised patients that sometimes arrive to us with diseases involving multiple organs," said Dr. Anne Desrochers, clinical assistant professor in equine medicine at the Marion duPont Scott Equine Medical Center. "It is very fulfilling to see many of these little babies go home happy and healthy after having been so sick."

Common problems that can affect foals include prematurity, neonatal sepsis (infection), hypoxic ischemic encephalopathy (brain damage resulting from a lack of oxygen which is also known as "dummy foal") and diarrhea. "These diseases can occur due to exposure to pathogens in utero or after birth" said Desrochers.

Due to their delicate nature, neonates that are brought in for emergency treatment are always seen first by members of the hospital's internal medicine team who specialize in the physiologic interaction among internal body systems. These board certified experts oversee and implement their care along with help from residents, interns and nurses.

"The nature of a neonate's illness can be more volatile because their immune defenses are not quite as vigorous as those of adults," said Dr. Martin Furr, Professor and Adelaide C. Riggs Chair in Equine Medicine.

Furr notes that all horses have very sensitive organ systems that can be damaged by sitting or lying down for extended periods of time. A foal's small size (the average healthy neonate weighs approximately 100-120 lbs) allows the clinicians to prevent this problem by moving the patient often and repositioning their body as needed.

"Their small size enables us to manage their posture so that they don't become compromised as a result of lying on the mats," said Furr.

Unlike in human medicine in which infants are often separated from their mothers, foals that are brought to the center are typically kept in the same

stall as the mare. This practice is both a convenience for the owner and a benefit to the patient.

"When the foal is healthy and gets back home, we want them to have a full and normal life with their mothers so, in most cases, it is best if they stay together during treatment," said Desrochers. "The mares are usually extremely cooperative because they seem to understand that we're here to help."

Integral to the success of the Marion duPont Scott Equine Medical Center's neonatal care service is the Foal Watch Volunteer Program which matches volunteers with cases requiring around-the-clock attention. Participants in the program sit with sick patients for assigned periods of time in order to observe and report any physical or behavioral changes.

"It is important to be very alert with neonates because their weakened state makes them susceptible to other complications," said Furr. "Our faculty, staff and volunteers, very carefully monitor these patients to avoid problems such as sores, eye infections and imbalance in blood glucose levels."

According to Penny Archer, director of volunteer services at the center, the Foal Watch Volunteer Program runs from the time that the first foal is admitted in early February to the time that the last patient leaves in late June. Horse experience is not necessary but all participants undergo mandatory training.

Integral to the success of the Marion duPont Scott Equine Medical Center's neonatal care service is the Foal Watch Volunteer Program which matches volunteers with cases requiring around-the-clock attention.

"The goal is to supplement the EMC's workforce with a capable and trained volunteer team," said Archer. "They are an extra pair of eyes, hands and ears in the intensive care unit."

Although the task of bringing a sick foal back to health can be very challenging and demanding, those who participate in the healing process note that it is also extremely fulfilling.

"The first time they start nursing, the first time that they take steps, it makes your job worthwhile," said Desrochers. "It's very demanding to deal with because the foals are usually so sick and vulnerable and not every patient recovers, but at the end of the day, it is always worth it."

Information regarding the Marion duPont Scott Equine Medical Center's clinicians and services is available online at www.equinemedicalcenter.net. Appointments for neonatal consultations may be scheduled by calling 703-771-6800.

Girl Scout Troop Says Thank You to VMRCVM "Miracle Workers"

Client Gayle Rancer (top) and her daughter Sydney are pictured with their beloved horse, Denali. Gayle's Girl Scout troop recently made a donation to the college in appreciation for the life-saving care Denali received.

The winter holidays were a time for many to reflect and give thanks for the blessings in their lives. For one family and a generous troop of Girl Scouts, their thankfulness included the health of a horse named Denali and the "miracle workers" in the Virginia-Maryland Regional College of Veterinary Medicine at Virginia Tech.

Nearly every Girl Scout in Troop # 5110, past or present, in Summers County, W.Va. has ridden and loves Denali, the nine-year old Arabian gelding owned by Troop Leader Gayle Rancer, her husband Mark Rosenberg, and their daughters Sydney and Layla.

In the year since he joined the Rancer-Rosenberg family, Denali has quickly become an integral part of Gayle's life. The horse has also become a favorite of Gayle's Girl Scout troop, so when early on the morning of September 12 Gayle and her family found Denali on his back with his feet up in extreme pain, they wasted no time calling their local veterinarian, Dr. Faye Gooding of Tri-County Veterinary Services.

Unfortunately, despite their best efforts, Denali's condition only worsened. He kept collapsing, his heart rate continued to slow, and his pain became unmanageable. The family was soon faced with a very hard decision concerning Denali's future and well-being: Should they consider putting him down and ending his misery or should they seek additional treatment in the hope he would be able to make a full recovery?

"The clock was ticking," said Gayle. "Denali was facing a life or death situation." After consultation with Gooding, they decided to attempt treatment. They loaded Denali into his horse trailer and raced towards the VMRCVM in Blacksburg.

Upon their arrival, they were greeted by an emergency equine team that included Dr. Dale Rigg, Dr. Linda Dahlgren, Dr. Virginia Buechner-Maxwell, Dr. Erik Noschka, and DVM students Ashley Davis and Janie Dotson. Gayle would later dub the team "miracle workers" for the incredible care and expertise they demonstrated with Denali.

The team immediately took Denali for exploratory surgery where he was diagnosed with "right dorsal displacement of pelvic flexure and 16 feet of devitalized jejunum due to strangulating lupoma." In other words, his small intestines were wrapped around a large, fatty tumor. Sixteen feet of his small intestines were dead and would have to be removed along with the tumor. This was a very serious surgery and there was no guarantee Denali would survive; however, it was his only chance.

With no time to spare, Denali was rushed into surgery while Gayle and Mark waited and hoped. Remarkably, Denali came through the surgery even better than expected and as the days passed, his recovery amazed even his doctors. He even earned the nickname "Wonder Boy" from Rigg. Five days after his surgery, Denali was strong enough to return to his family and the girls of Troop #5110 in West Virginia.

"Our family is thrilled beyond belief to have him home, and extremely proud of his stamina," said Gayle. "His miraculous surgery has given us a grateful, appreciative and very happy horse. His surgery was major, and his recovery has required a lot of quality time with him. Our gift was watching him enjoy his freedom when we released our horse back into his pasture. We love this guy so much!"

The girls of Troop #5110 are also happy to have Denali back with them. To show their appreciation to the VMRCVM for the care Denali received, the troop has donated a portion of the proceeds from their cookie sales to the college to help offset the remaining balance of "Running Together," the beautiful, bronze statue depicting a girl leading her horse with her dog keeping pace that greets visitors at the VMRCVM's Blacksburg campus.

"We are delighted by the contribution made by Girl Scout Troop #5110. It shows a great amount of initiative, compassion and caring. Their character and generosity set a good example for all of us," said Amanda Dymacek, assistant director of development for the college. "What a wonderful way to say 'thank you'."

EMC Provides Life-Saving Surgery for Smithsonian National Zoo's Zebra

Virginia Tech's Marion duPont Scott Equine Medical Center recently lent assistance to the Smithsonian National Zoological Park when one of its two zebras became ill with a life-threatening case of colic.

Dr. Jennifer Brown, clinical assistant professor in emergency care and equine surgery at the Marion duPont Scott Equine Medical Center, performed an operation on the two-year-old male Grevy's zebra named Dante at the Smithsonian's onsite veterinary hospital in the District of Columbia.

The zoo's veterinarians were first alerted to a problem by Dante's keepers who contacted them on the morning of Sunday, August 26.

Veterinarians and technical staff prepare the National Zoo's zebra for emergency surgery.

"Any time that one of these animals is sick, it is pretty challenging because, as prey animals, they tend to hide pain," said Dr. Carlos Sanchez, associate veterinarian at the National Zoo. "Dante's keepers said that he seemed really depressed. His coat was darker on one side suggesting that he had been lying down for an extended period of time during the night and he was just not acting like himself."

A dart was used to anesthetize the zebra and a diagnostic examination for colic was performed.

"The main difference between zebras and domestic horses is that you can't approach zebras without sedating or anesthetizing them because they are dangerous animals that can hurt you pretty bad," said Sanchez. "We have to anesthetize them even to get a blood sample or heart rate, and, in this case, to perform a colic exam."

Mineral oil was administered through a nasogastric tube and intravenous fluids through a catheter placed on the zebra's jugular vein in order to correct dehydration and soften blockages in the intestines which are a common cause of colic.

"We expected that the mineral oil and other treatments would do the job," said Sanchez. "Dante was monitored closely for the remainder of the day and looked better but not as good as we would have expected so we started to consider surgical treatments. On Monday, we decided to contact the Equine Medical Center's team about helping with the surgery since they specialize in treating this type of condition."

According to zoo officials, its highly trained veterinary staff is occasionally supplemented with outside experts.

"We have a really talented multi-faceted staff at the zoo and one of the great things about them is that they have a network of experts to call upon," said John Gibbons, spokesperson for the National Zoo. "The expertise that we have here is enhanced through the use of outside specialists, like the Equine Medical Center's doctors, when needed."

When Brown received the call from Dr. Suzan Murray, chief veterinarian at National Zoo, she knew that the situation was dire.

"Dante was experiencing moderate colic," said Brown. "Systemically he was stable but it was a critical situation."

As a condition that frequently afflicts horses, colic is one of the Marion duPont Scott Equine Medical Center's most commonly treated emergencies with almost 250 such cases having been seen at the center from July 2005 to June 2006. Zebras are members of the Equidae or equine family and therefore have digestive systems that are also susceptible to the disease.

"Although our faculty members primarily treat domesticated horses, they are fully equipped to treat all members of the Equidae family," said Dr. Nat White, Jean Ellen Shehan Professor and Director of the Marion duPont Scott Equine Medical Center. "We treat donkeys and mules and the occasional exotic species."

Like a horse, a zebra's digestive system consists of intestines that stretch from 11 to 12 times its body length, all of which can be easily affected by external factors including changes in diet or exercise. For Brown, who has performed hundreds of colic surgeries on horses, having a patient with stripes was highly unusual but technically very similar.

"Once they covered his stripes up with my drape, I couldn't tell the difference between him and a horse," said Brown. "They have almost the same gastrointestinal tract although colic is fairly uncommon among zebras."

A medical team including Brown, surgery resident Sam Hart, licensed veterinary technician Tina Cooman and fourth year veterinary student Samantha Baglin, traveled from Leesburg to the zoo in Washington to conduct the surgery. National Zoo staff attending Dante's procedure included Dr. Suzan Murray, chief veterinarian; Dr. Carlos Sanchez, associate veterinarian; Dr. Luis Padilla, associate veterinarian; Dr. Katherine Hope, zoo medicine resident; Lisa Ware, veterinary technician; and Kim Williams, licensed veterinary technician.

"We brought down some of our equipment because we didn't know what they would have but the zoo's hospital was very well equipped for this," said Brown.

Colic is one of the Marion duPont Scott Equine Medical Center's most commonly treated emergencies with almost 250 such cases having been seen at the center from July 2005 to June 2006. Zebras are members of the Equidae or equine family and therefore have digestive systems that are also susceptible to the disease.

The 605-pound zebra was already under anesthesia having been sedated by the zoo's veterinarians before the Marion duPont Scott Equine Medical Center's medical team arrived.

"Another difference between domestic and non-domestic equids is anesthesia," said Sanchez. "We use ultra-potent narcotics on zebras, the same ones used on rhinoceroses and elephants, because the animals are so hard to anesthetize."

During the 90-minute procedure, Brown performed an exploratory laparotomy in order to confirm the colic diagnosis. A twist of the large colon was found that was the source of Dante's illness. The twist was corrected and there was not any significant damage to the intestines.

"Dr. Brown made the surgery look easy but it was not," said Sanchez. "Fortunately, she didn't have to remove any section of the intestines."

Brown was pleased with the outcome of the procedure and left the determination of a post-treatment regimen to the zoo's veterinarians who specialize in caring for wild animals.

"Zebras can not even be hooked up to an IV without anesthesia so we left his recovery to the experts," said Brown.

Following the surgery, Dante was kept at the zoo's hospital in a padded stall, treated with antibiotics and pain medication, and gradually reintroduced to a normal diet. He was discharged approximately 10 days after the surgery.

"We didn't have the luxury of checking the incisions in person once he was released from the hospital, but we took pictures with a zoom lens camera and could see that they healed well," said Sanchez.

Several months after Dante was treated for colic and zoo officials report that, as part of the African Savannah Exhibit, he is once again happily greeting the more than two million visitors who flock to the park each year. Along with Gumu, a four-year-old Grevy's zebra stallion, Dante is part of a conservation effort managed by Species Survival Plans (SSPs), a cooperative breeding and conservation program for selected species in zoos and aquariums in North America.

Like a horse, a zebra's digestive system consists of intestines that stretch from eleven to twelve times its body length, all of which can be easily affected by external factors including changes in diet or exercise.

The National Zoo participates in the Grevy's Zebra SSP not by breeding animals but rather by housing juvenile stallions until they are sexually mature at approximately four to five years of age. They are then sent to accredited organizations in North America that do actively breed this species.

"Dante is a young zebra and very healthy," said Sanchez. "He handled the surgery really well. The outcome was wonderful and we were grateful that everything went as planned."

For Brown, working with the zoo's veterinarians to cure Dante's colic was a gratifying experience.

"It felt good to be able to help and it was fun to do something different," said Brown. "I certainly would go again if they needed me."

For more information concerning the Smithsonian National Zoological Park, visit http://nationalzoo.si.edu.

Treatments for Upper Respiratory Disease Available at Equine Medical Center

Labored breathing, flared nostrils and strange noises during exercise are symptomatic of upper respiratory disease in horses. These conditions can be detrimental to an equine athlete's health and can also inhibit performance during competition. At Virginia Tech's Marion duPont Scott Equine Medical Center, a variety of treatments are available for correcting disorders of the upper respiratory system and improving the odds of performance success.

"Respiratory disease is probably second only to lameness in terms of performance limiting illnesses in horses," said Dr. Harold McKenzie, assistant professor of equine medicine. "The function of the respiratory tract is gas exchange — getting the oxygen in, getting the carbon dioxide out — so anything that limits the flow of air is likely to impair athletic ability."

Although all horses can suffer from diseases affecting the nasal passage, larynx, soft palate, pharynx and sinuses that comprise a horse's upper airway system, these conditions predominantly affect athletes competing in racing, dressage, hunting, jumping, polo, driving and other disciplines.

"Performance horses go out and train at high speeds and breathe at a faster rate to keep up with oxygen debt," said Dr. Nat White, Jean Ellen Shehan Professor and Director. "Any problems with air flow due to soft tissue damage or control of the upper airway movement can cause increased noise during breathing and a lack of oxygen reaching the lungs."

The most common upper airway complication that Dr. Ken Sullins, professor of equine surgery, has seen in his patients is laryngeal hemiplegia, also known as "roaring," which is acquired as a result of trauma to the left recurrent laryngeal nerve. Other illnesses that frequently reduce air flow include dorsal displacement of the soft palate, pharyngeal collapse, airway obstruction, pharyngeal lymphoid hyperplasia, entrapped epiglottis and arytenoid chondritis.

"The causes vary from inflammatory conditions to degeneration of nerves that control upper airway function," said Sullins. "The upper airway is very sensitive to irritation and significant issues stem from airway turbulence during exercise when the throat is inflamed."

According to Sullins, when a patient at the Marion duPont Scott Equine Medical Center is presented with an upper respiratory problem, the diagnosis is usually based on an analysis of the animal's health history, a physical exam, monitoring during exercise on a high-speed treadmill, and imaging of the upper airway system by ultrasound and standing video endoscopy. Other imaging technologies, including nuclear scintigraphy, ultrasound and digital radiography, may be also be used if further visuals are required.

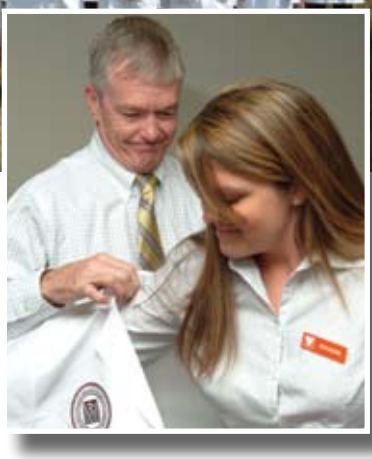
"If the cause cannot be identified during the endoscopy, then we put the horse on a treadmill and monitor them while they run," said Sullins.

Although medical therapy is available for some of these maladies, surgical intervention is often required.

"Fundamentally, most, if not all, upper respiratory problems are mechanical in nature and therefore tend to be treated through structural repairs," said McKenzie. "So if something is obstructing the flow of air, you can suture it back or remove it and the problem goes away."

Further research is needed in order to pinpoint the specific causes of many upper airway complications in performance horses. However, the specialists who study the diseases have their own theories.

"There seems to be a geographical component for some laryngeal infections," said Sullins. "We suspect that it might have something to do with racetrack surfaces or air quality in specific areas. Certainly horses that race on turf have reduced incidence of this type of problem."



The 91 students in the class of 2011 pose for a formal portrait on the college grounds.

For only the second time in college history, the child of a VMRCVM faculty member was admitted to the DVM program. Rennie Waldron (right) is presented with her lab coat by her father Dr. Don Waldron, a professor in the Department of Small Animal Clinical Sciences (DSACS).

Virginia-Maryland Regional College of Veterinary Medicine's Class of 2011 Admitted in Ceremonies

The college's Class of 2011 was formally "admitted" following a "White Coat Ceremony" in which the 91 new students were issued white laboratory coats and administered the "Veterinary Student's Oath."

Attended by almost 300 family, friends, and others, the matriculation ceremony followed a week-long orientation program filled with events as varied as leadership and communications training on "ropes" courses in Shawsville's Camp Altamont to behavioral and personality inventories.

During the ceremony, VMRCVM Dean Gerhardt Schurig spoke with the students about the human-quality healthcare people demand for their animals and the profession's responsibilities in fostering human health.

"Our historic role in public health, though often misunderstood, has become more important than ever," said Schurig. "Infectious diseases, bioterrorism, food safety, these are all critical areas for veterinary medicine. Much of what is happening in public health today is at the intersection of veterinary medicine and human medicine."

Dr. Lauren Keating, president of the Virginia Veterinary Medical Association (VVMA), and Dr. Jack O'Mara, president of the Maryland Veterinary Medical Association (MVMA), participated in the ceremony.

Dr. Ed Jendrek, the MVMA's Delegate to the American Veterinary Medical Association, presented each of the students with a Littmann stethescope as a gift from the MVMA, the VVMA and Professional Veterinary Products, Ltd. MVMA Executive Director Ron Sohn also attended the ceremonies.

The ceremony included several highlights, including the introduction of Dr. Larry Giebel, a prominent veterinarian from Gaithersburg, Md., whose three daughters have each attended the VMRCVM. Lauren is a member of the incoming class, Erin earned her DVM in 2004, and Meghan earned her degree in 2005.

The Class of 2011 also boasts another first: For the first time the child of a VMRCVM alumnus has been admitted to the college. Keelan Anderson is the daughter of Dr. Arn Anderson, a member of the Class of 1991.

For only the second time in college history, the child of a VMRCVM faculty member was admitted to the DVM program. Rennie Waldron is the daughter of Dr. Don Waldron, a professor in the Department of Small Animal Clinical Sciences.

"Our historic role in public health, though often misunderstood, has become more important than ever," said Schurig. "Infectious diseases, bioterrorism, food safety, these are all critical areas for veterinary medicine. Much of what is happening in public health today is at the intersection of veterinary medicine and human medicine."

Drs. Waldron and Geibel, as well as Dr. Max Poffenbarger, a veterinarian who is the father of Class of 2011 member Hope Poffenbarger, each assisted in the ceremonial presentation of the white laboratory coat to their child.

Admission to one of the nation's 28 colleges of veterinary medicine is very competitive. Over 914 individuals from 46 undergraduate institutions applied for admission to the VMRCVM's Class of 2011 and 200 personal interviews were conducted to select the 91 new students.

Former Army Veterinarian Leading New Community Practice

A former active duty lieutenant colonel in the U.S. Army Veterinary Corps has been tapped to lead a new training clerkship in the Virginia-Maryland Regional College of Veterinary Medicine that is designed to more thoroughly acquaint veterinary students with the "real world" of veterinary medicine.

Dr. Bess J. Pierce, who joined the college on August 15, is leading the Veterinary Teaching Hospital's new "Community Practice" clerkship, which was created last May to provide veterinary students with additional exposure to more routine veterinary healthcare experiences.

"I love teaching and the academic environment," said Pierce, whose 15 years of active military service have included posts ranging from the Pacific Rim to the nation's capitol. "I just couldn't pass this opportunity up."

Since it began seeing cases in the early 1980's, the Veterinary Teaching Hospital has offered primary care services for clients who reside within a 35-mile radius of the Virginia Tech campus. Clients who reside outside of the immediate practice area must have their animals referred in to the Veterinary Teaching Hospital by their community veterinarian.

Over the past several years, however, the Veterinary Teaching Hospital caseload has become increasingly focused on challenging and complex cases referred in by general practitioners from communities across Virginia and Maryland who are seeking the sophisticated diagnostic and therapeutic support that is offered by the board-certified veterinary specialists on faculty in the VMRCVM.

Pierce is excited about the opportunity to lead the new program and eventually hopes to create a two-year residency program in the VMRCVM that would lead toward board certification in the Canine/Feline Specialty by the ABVP. She created a similar program for the DoD Military Working Dog Veterinary Service based in San Antonio.

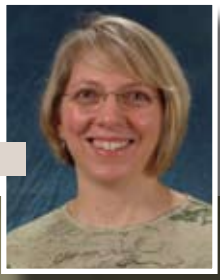
While the college is well-equipped and pleased to provide that advanced level of care for those critically ill patients, the Department of Small Animal Clinical Sciences recognizes that it also has an instructional obligation to provide students with broad experience in managing the kinds of cases that they will likely see most of the time in their general practices.

Fourth-year DVM students in the college spend their final 12 months of training in a series of three-week clerkships that provide them with direct "hands-on" experience in areas such as medicine, surgery, radiology, pathology and many other areas of medicine.

All students, whether they are tracking in small animal practice, large animal practice, mixed animal practice, food animal, or public and corporate veterinary medicine, are required to complete the new "Community Practice" rotation. The caseload has been growing steadily in the new clerkship, Pierce says, and they are now seeing from 120-160 cases per rotation.

"This is where they get their every-day skills in veterinary medicine," said Pierce, who is board-certified by both the American College of Veterinary Internal Medicine (ACVIM) and the American Board of Veterinary Practitioners (ABVP). "This ensures a common training experience for all students. So far there's been excellent feedback."

Pierce's career with the U.S. Army Veterinary Corps, which is responsible for public health, food safety and animal care, has provided her with excellent experience for her new assignment.



Dr. Bess J. Pierce

Community Practice Clerkship leader Dr. Bess Pierce and fourth-year student Andrew O'Carroll work with a patient in the VTH.

After serving as chief veterinarian at California's Edwards Air Force Base and a staff veterinarian with the Okinawa Branch Veterinary Services in Okinawa, Japan, she conducted a three-year residency in internal medicine at the University of Florida College of Veterinary Medicine.

Following that, she returned to Japan to serve as chief veterinarian of the U.S. Army's Japan District Veterinary Command, Okinawa Branch for three years. From there, she moved to San Antonio, Texas, where she served as chief of medicine and outpatient clinics for the Department of Defense (DoD) Military Working Dog Service.

"The military working dogs are the best in the world, and it is a privilege to work with them," says Pierce, who estimates that there are approximately 2000-2500 military dogs in service. These dogs accomplish many of the same tasks that police dogs do, including explosives and drug detection, patrol and apprehension.

Most recently she was assigned to the National Capital District Veterinary Command at Fort Belvoir, Va., which includes about 90 soldiers and civilians, and eight Veterinary Corps Officers. In addition to caring for military animals, that command also provides veterinary care for other federal agencies that use working dogs, such as the Transportation Security Administration.

Pierce is excited about the opportunity to lead the new program and eventually hopes to create a two-year residency program in the VMRCVM that would lead toward board certification in the Canine/Feline Specialty by the ABVP. She created a similar program for the DoD Military Working Dog Veterinary Service based in San Antonio.

Pierce remains a lieutenant colonel in the Veterinary Corps, U.S. Army Reserve, and will spend six or seven weeks a year working at the DoD Military Working Dog Veterinary Service in San Antonio.

Working in a university and being able to maintain her military career has provided her with "the best of both worlds," she said.

Heather Groch, president of the VMRCVM's chapter of the Veterinary Business Management Association, addresses about 100 students and others who gathered for the "World Café" discussion on veterinary student debt.

Veterinary Business Management Association Presents "Debt/ Profitability Elephant" Program

Spiraling veterinary student debt and the lack of a sustainable and profitable business model for many private practices in the modern business environment threaten the future growth and stability of the veterinary profession.

As part of a national effort to address this problem, student members of the VMRCVM's chapter of the Veterinary Business Management Association (VBMA) recently presented "Building a Healthy Financial Future for the Veterinary Profession" in the College Center.

The average educational debt for new veterinarians is estimated at more than $100,000 and can be as much as $165,000 to $220,000 if the student attends a state-run institution as a non-resident. Beginning salaries for new practitioners average $60,000.

The rising educational debt to salary ratio is considered one of the most serious issues facing the long-term stability and growth of the veterinary profession and a number of studies and programs have been devised to examine the problem and consider solutions, according to Dr. Grant Turnwald, associate dean for academic affairs. Euphemistically entitled "Laying our Hands on the Elephant" because of the tendency for organizations and institutions to recognize yet ignore the "elephant in the room" – or major obstacle or challenge, the event brought together DVM students, faculty members, veterinary practitioners and others in a productive, open forum, problem-solving format known as "World Café."

The meeting was facilitated by Dr. Carol Mase, a biologist, veterinarian, educator, and coach-consultant. Mase also facilitated a major meeting on this topic that was held in January in conjunction with the North American Veterinary Conference in Orlando. Organized by the National VBMA, the meeting featured about 250 leaders in veterinary academia, industry, and lending organizations and about 100 student leaders from the VBMA.

Some of the salient concepts that emerged from that meeting were that many in the profession remain unaware of the magnitude of the problem; recent graduates lack core competencies in communication, leadership and other areas which may be affecting their performance and confidence; recent graduates are not familiar with components of profitability and business aspects of practice management; and Veterinary Teaching Hospitals need to remain focused on producing well-rounded veterinarians prepared for primary care in private practice.

"World Café" is a group problem-solving technique that encourages participants to move from group to group in an open format that encourages the creation and cross-pollination of ideas. The process is noted for evoking solutions that represent the collective intelligence of a group.

The VMRCVM is believed to be only the second of the nation's colleges of veterinary medicine to convene a "summit" on what is being termed the "Debt/Profitability Elephant" by organizations in the profession that are actively working on the problem, according to Heather Groch, president of the VMRCVM's VBMA chapter.

The VMRCVM's "Elephant in the Room" event focused on several key areas, according to Groch. These included increasing the perceived value of the veterinary profession, both internally and externally; how new graduates can make veterinary practices more profitable; increasing student competence in the non-technical skill areas required for success in the profession; and the implications and rationale for post-graduate DVM internships.

National meetings on the topic were held at the annual meeting of the American Animal Hospital Association (AAHA) in Tampa, Fla. on March 27-30 and are also scheduled for the American Veterinary Medical Association's annual convention in New Orleans, La. to be held July 19-22.

The college recently joined the VCN, a network dedicated to providing electronic recruitment services to the veterinary medical and animal health industries.

College Now Participating in Veterinary Career Network

Students in the VMRCVM now have access to a national database of career opportunities.

To better serve students, alumni and others, the VRMCVM has joined together with the American Veterinary Medical Association (AVMA), the Maryland Veterinary Medical Association (MVMA), the Virginia Veterinary Medical Association (VVMA) and many other professional organizations to participate in the Veterinary Career Network (VCN).

The VCN is a network of associations, schools and colleges of veterinary medicine that are dedicated to providing electronic recruitment services to the veterinary medical and animal health industries.

"The Veterinary Career Network is an excellent technological step for the college," said Dr. Michael Reardon, veterinary career advisor. "It makes the hiring process more efficient for both job-seekers and employers."

Potential employers have the benefit of posting job opportunities to only the VMRCVM or to the entire VCN community. Postings visible only to members of the VMRCVM will continue to be free of charge while postings to the entire VCN will incur a standard VCN job-posting fee.

Students have the advantage of uploading their resume into both the VMRCVM and VCN systems in a single step. In addition, they can also view job openings in both systems in one search.

Sara Salmon Elected President of VMRCVM Alumni Society

Dr. Sara Salmon ('98) (left) has succeeded Dr. Doug Graham ('98) (right) as president of the VMRCVM's Alumni Society.

A new president and president-elect of the college's Alumni Society were formally installed during a recent meeting of the board held in conjunction with the "Virginia Veterinary Conference" at the Hotel Roanoke.

Dr. Sara Salmon ('98) succeeded Dr. Doug Graham, ('98) as president, and Dr. Michael Watts ('00) was installed as president-elect of the Alumni Society. Salmon, a Charlottesville practitioner who has recently concluded an internship in emergency and critical care, is with Veterinary Emergency Treatment Service, Inc. Watts works with Clevengers Corner Veterinary Care in Amissville, Va.

Dean Schurig briefed the group on recent activities at the college and made a brief presentation on the college's capital expansion plans.

Director of Alumni Relations and Student Affairs Lynn Young briefed the board on recent alumni programming and discussed plans for the future.

Details about upcoming alumni activities can be found on the Alumni Society's home page on the college web site.

www.vetmed.vt.edu

Dr. Sara Salmon

ALUMNI

Alumni

As president of the Alumni Society and a several year member of the Alumni Board of Directors, my favorite task is attending Alumni Society events. Here I have the opportunity to visit with alumni from many classes and learn about their lives. I am continually impressed by the diversity of our graduates and the many fascinating careers they have embarked upon since their days in Blacksburg. Our graduates lead engaging lifestyles - practicing, professing, parenting, researching, leading companies large and small, volunteering, government and military service. We are a busy bunch of veterinarians! With this wealth of experience and leadership amongst its members, we have tremendous potential to change, guide and grow our young society.

Combining our strengths through Alumni Society involvement is a great first step. We are all responsible to contribute for the future cannot guide itself. I encourage you all to participate in the Alumni Society in whatever ways you are willing. Attend your reunion weekend or a regional event, offer to serve on the Alumni Council, or maybe just visit our website to list your practice as alumni-friendly for our fourth-year students to consider for externships. I promise it won't hurt or require excessive amounts of time! And you too will be impressed by not only what VMRCVM graduates are already doing, but what we possess the potential to do in the future!

Looking forward to meeting new alumni friends at future events,

Many wags and woofs,

Sara V. Salmon, DVM
Alumni Society President

2008-09 VMRCVM Alumni Calendar

June 22	MVMA Summer Conference http://www.mdvma.org - Rocky Gap, Md.
July 21	American Veterinary Medical Association Conference www.avma.org - New Orleans
August 3	Family Day at the National Zoo - DC
September 26	VVMA Fall Conference and Mentor Program - Blacksburg
October 11	Morven Park Steeplechase Races - Leesburg
October 24	VMRCVM Parents' Weekend and Fall Awards Ceremony - Blacksburg
November 6	VMRCVM Homecoming and Reunion for Classes of '88, '93, '98, '03 http://www.alumni.vt.edu/reunion/vmrcvm/index.html - Blacksburg
December 8	American Association of Equine Practitioners Conference http://www.aaep.org - San Diego
January 18	North American Veterinary Conference http://www.tnavc.org/portal - Orlando
February 16	Western States Veterinary Conference http://www.wvc.org - Las Vegas
April 4	VMRCVM Open House - Blacksburg

About 120 VMRCVM alumni and family members gathered in Blacksburg for the annual alumni meeting. As part of the weekends festivities, a "tailgate" barbecue was held prior to the Virginia Tech/Ohio University Football game.

Do You Know Where Your Classmates Are?

Dr. Julie Holland

The process of surviving and thriving in vet school throws people of many backgrounds and personalities in a small space for a long time under a lot of pressure. The main things we all have in common are a love of animals, a history of hard work in school, and a drive to succeed. The pressure cooker of vet school sorts us into loose categories: friends, friendly acquaintances, those we don't know well, and those we don't care to know. When senior year rolls around, classmates from all those categories become people you are forced to depend on to survive the rotation. Surprisingly, this usually turns out very well. Classmates you barely knew rescue you mentally and physically in rounds, late shifts, and in moments of despair - frequently for no obvious reason. New bonds of friendship begin.

What happens to your classmates? In the first five years after graduation, most veterinarians are working long hours, struggling to find a job they are happy with, surviving internships and residency, buying or starting practices, and frequently marrying and starting families. After five years, you may occasionally run into classmates at continuing ed meetings, or work hard to stay in touch with your closest friends. And, after five years, you barely remember the names of the classmates you were never close to.

Since 1989, I have been publishing a newsletter for my class every year. Those professors who were here then can tell you, it was a particularly loud, boisterous, bright, troublesome class, not especially close, not at all cohesive even as we set out to change the world. After 18 years, we are different. Each year we eagerly await the newsletter. We have followed marriages, births, some deaths, some tragedies. We howl with laughter at the amazing things the class comics come up with each year. We marvel at the number of board certified specialists, the innovative practice owners, the traveling acupuncture/herbal medicine gurus, the bunny specialists. I know who writes and approves labels for the new drugs, who has written a drug formulary for exotics, who is teaching the future students, who runs a practice management consulting team, who runs the zoo, who studies epidemiology. I know who travels all over the world, teaching vet care in Africa, consulting on avian flu in eastern Europe, developing training programs for Hispanic dairy farm workers, lecturing on exotic species. Professionally, it is an awesome degree and variety of accomplishment. Personally it is similar. We have incredible artists, authors, parents, children and pets. The children born while we were in school have graduated from college.

Where are your classmates? I know where every one of my classmates lives and works. Most of mine will be at the reunion. Those that are not, will catch up on the latest news in the next newsletter. Every class should do this. It is easy. A few minutes of time from most, a dedicated commitment from one. It will change your class too. I am proud to be the scribe for the Class of 1989.

Julie Holland, DVM, Class of 1989

If you are interested in starting a class newsletter, please contact Lynn Young at youngl@vt.edu

Fall Meeting Attracts Alums, Organized Veterinary Medical Community

About 120 VMRCVM alumni and family members gathered in Blacksburg, September 14-15 for the annual alumni meeting. The alumni gathering also coincided with the annual fall meeting of the Virginia and Maryland Veterinary Medical Associations in Blacksburg and 2007 Student Mentorship Program.

Festivities began on Friday morning with the annual mentorship breakfast. About 60 of the 105 practitioners who are participating in the mentorship program were on hand to meet and spend time with their student mentees during the event.

Begun eight years ago, the mentor program seeks to provide veterinary students with advice and insights from practitioners about the "real-world" of veterinary medicine.

Dean Gerhardt Schurig congratulated those assembled for making the collaborative programs such a success and commended the event for providing practitioners, students, alumni and college faculty and staff members with an opportunity to network and exchange ideas.

Following welcoming remarks from Virginia Veterinary Medical Association President Dr. Lauren Keating and Maryland Veterinary Medical Association President Dr. Greg Svoboda, Dr. Richard Hartigan, past-president of the VVMA, then recognized college faculty members who had been awarded 2007-08 Veterinary Memorial Fund research grants.

Next, a panel discussion entitled "DVM Degree- Now What?" was presented. A variety of experts shared information about the multi-faceted world of modern veterinary practice during that event.

Participants included Dr. Steve Karras, moderator and president-elect of the VVMA, Cave Spring Veterinary Clinic, Roanoke; Dr. Richard Hartigan, Pfizer Animal Health; Dr. Keating; Dr. Tom Massie, vice-president of the VVMA, Rose Hill Veterinary Practice, Washington, Va.; Dr. Julia Murphy, Virginia Department of Health; Dr. Valerie Ragan, Agworks Solutions, LLC, Washington, D.C.; Dr. Sarah Sheafor, SouthPaws Veterinary Specialists and Emergency Center, Fairfax, Va.; and Dr. John Wise, Westwood Animal Hospital, Staunton, Va.

On Friday evening, an alumni dessert reception was held at the Inn at Virginia Tech. On Saturday morning, about 150 gathered for a "tailgate" barbecue held prior to the Virginia Tech/Ohio University football game.

DEVELOPMENT

Dr. Frank Pearsall

Development Report from the Blacksburg Campus – Frank Pearsall ('84)

Great news! Your support for the college campaign has already totaled over $19 million, mostly for student and faculty support. So we are well on our way to our $31 million goal as part of the university's billion dollar campaign. Our focus for the next three years is to raise more for facilities, as that is now our limiting factor for clients, faculty, and students.

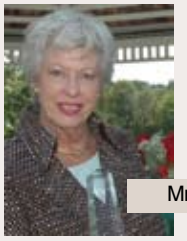
After 25 years, we have outgrown our physical plant. Accordingly, we are calling on our alumni and other veterinarians in Virginia and Maryland to give and to encourage their interested clients to give as well. We are encouraging all to think in terms of five-year pledges. The good news is that there is no shortage of money when you consider the enormous number of animal lovers. The challenge is getting the message out about the need. You can play an important role by pledging and by spreading the word.

As you read this, you may have begun to see posters in your vet's office talking about the acute need to increase the number of veterinarians being trained. If we do not increase class size, we will have the problem of knowing how to help, but having too few to deliver the help to your pets and large animals. Accompanying these posters are brochures to explain the need more fully and how you and other animal lovers can help. Please ask for one when you visit your vet. If they do not have one, we can provide them. Together we can make a huge difference in the future of veterinary health care. As you will read, advances in veterinary medicine not only help animals, but also support advances in human health care as well.

Below you can see evidence of the many ways we can each make a difference. Outright gifts and multi-year pledges are essential for new construction, but deferred gifts also play an important role. For example, the late Alabama couple, Dr. Tyler Young and his wife Fran, provided will bequests that have now come in totaling almost $4,000,000. These gifts will move their professorship in bacteriology, currently held by Dr. Thomas Inzana, up to a chair, providing additional funding and prestige to enhance our ability to both attract and retain the finest faculty. Their gifts will also provide significant support for both DVM and post-DVM students.

Also, you will note a number of important gifts by alumni, both personal and as part of a clinic team. Giving by a large percentage of alumni is important to developing the momentum needed for success in this campaign.

If you would like more information on how you can help, please contact me or my associate, Amanda Hall Dymacek by email at pearsall@vt.edu or halla@vt.edu or by phone at 540-231-4716. We welcome your continued partnership as we move forward. It is through your partnership that we have come so far in a fast 25 years. The future is bright as we continue "Running Together."



Mrs. Shelley Duke

Mrs. Shelley Duke Pledges $10 Million Estate Gift to EMC

Mrs. Shelley Duke, owner and manager of Rallywood Farm in Middleburg, Va., has pledged a gift of more than $10 million through her estate to Virginia Tech's Marion duPont Scott Equine Medical Center.

This estate gift, the largest in the hospital's history, is expected to eventually establish a major emergency and critical care program.

"We are extremely grateful for Shelley's generosity and vision," said Dr. Nat White, Jean Ellen Shehan Professor and Director of the Marion duPont Scott Equine Medical Center. "Her gift is extraordinary in terms of the impact that it will have on horses treated at the Equine Medical Center and on veterinary medicine around the world."

Duke said she made this pledge for the future advancement of the Equine Medical Center in large part due to the strong relationships that she has developed with the center's faculty and staff as a leader, client, and volunteer.

"I wanted to ensure that there will always be a place for horses within the Mid-Atlantic Region to be treated when they are critically ill or injured," said Duke. "In terms of equine surgery and internal medicine, I just don't know where you can find better care and knowledge at work."

A member of the Virginia Tech Board of Visitors, the *Ut Prosim* Society, and the Legacy Society, Duke has spent more than 20 years working towards the betterment of equine healthcare and veterinary programs at the university.

She has served as chair of the Equine Medical Center Council since 1999 and is credited with establishing the hospital's highly successful volunteer program. Duke was named the recipient of the Marion duPont Scott Equine Medical Center's first Distinguished Service Award in September.

"Shelley Duke's impressive background in real estate and investment banking has made her an invaluable advisor on our Board of Visitors, the Virginia Tech Foundation Board, the Women and Leadership in Philanthropy Council and numerous other boards and committees," said Virginia Tech President Dr. Charles Steger. "We are especially grateful that her passion for competitive riding and other equine pursuits has translated into tireless work in support of the Marion duPont Scott Equine Medical Center."

Duke hopes that her planned gift may inspire others to support innovation in the field of veterinary medicine. "If someone has a special interest that they would like to see realized at the Virginia-Maryland Regional College of Veterinary Medicine, then they can make it happen," she said.

The Equine Medical Center is seeking to raise $15 million as part of the campaign and the VMRCVM has set a goal of $31.2 million.

Gifts of $25,000 or Above
July 1, 2007 – February 29, 2008

(Includes Deferred Giving newly documented)

$500,000 from Robert Lloyd Wallace and his mother, Montese B. Wallace, of Charlotte, N.C. in a bequest for unrestricted support of the college. This was a result of care received for their dog, Grace, in our Veterinary Teaching Hospital and advice from their veterinarian, Dr. John Schaaf ('84).

$297,000 from Randy and Suzie Leslie of Blacksburg in a bequest for DVM students from Virginia with financial need and a focus on small animal practice. This was a result of exceptional care received for Zeke in our Veterinary Teaching Hospital.

$250,000 from Irene Stephens of Bluefield, Va. as an additional bequest provision similar to that of her husband, Ron, for support of post-DVM students with an interest in research.

$130,000 in additional outright giving from W. Stuart and Freda B. Johnson for the Translational Medicine Complex and the Johnson Animal Compassion Fund. Gifts from them now total $310,810 for the Translational Medicine Complex and $175,718 for the Johnson Animal Compassion Fund.

$121,403 additional outright giving from Jane Talbot of Blacksburg in completion of the funding of the 25th Anniversary Sculpture, "Running Together," in honor and memory of her late husband, Dr. Richard Burritt Talbot, founding dean of the college and also in unrestricted support of the college. This brings her support to over 99 percent of that needed for the almost $300,000 statue project.

$101,751 additional outright funding from Dr. James and Lois Bostic of Virginia Beach for the Translational Medicine Complex, bringing their total for this project to $151,751.

$100,000 from Chesapeake Veterinary Cardiology Associates of Leesburg for the Translational Medicine Complex. The gift is being made through five-year pledges from the practice for $50,000 on behalf of Dr. William Tyrrell ('92), Dr. Steven Rosenthal, Dr. McGregor Ferguson ('99), and Dr. Bonnie Lefbom ('91), combined with personal pledges of $25,000 from Dr. Tyrrell and his wife Jennifer and from Dr. Lefbom.

$50,000 from Dr. Elizabeth Kirby Pridgen ('84) and her husband Thomas Pridgen in a five-year pledge for the Translational Medicine Complex. This gift was given as a tribute to the memory of her parents, James T. and Pearl R. Kirby, in respect for their example of taking care of business.

$38,911 outright from the Evelyn E. & Richard J. Gunst Charitable Lead Trust for small animal research. This brings total support with 19 gifts from the Gunst Trust to $345,188.

$31,522 in additional outright funding from the W. R. Winslow Residuary Trust representing 21 years of support totaling $615,343 for DVM students primarily from Maryland.

$30,000 bequest set up by Joseph and Rita Hughes of Texas for unrestricted use by the college. This gift was the result of the relationship had with alumnus Dr. Steve Escobar and his enthusiasm for the college shared with friends and fellow animal lovers.

$25,000 from Dr. Rob Johnson ('00) of Baltimore in a five-year pledge for the Translational Medicine Complex.

2007 VMF Research Grants Awarded

Over $110,000 in clinical research grants have been awarded to six principal investigators in the VMRCVM through the 2007-08 distribution of Veterinary Memorial Fund research grants, an increase of over $20,000 from the previous year.

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.

Professors and grant requests that have been funded include:

Dr. David Panciera, professor, Department of Small Animal Clinical Sciences (DSACS)," Effect of Phenobarbital Administration in Dogs with Seizure Disorders on Adrenal Function," $14,896.

Dr. Ian Herring, associate professor, DSACS, "Vascular Endothelial Growth Factor Levels in Aqueous Humor of Normal Dogs with Intraocular Disease," $14,240.

Dr. Otto Lanz, associate professor, DSACS, "Comparison of *In Vitro* Pullout Strength of Positive Profile End-Threaded Pins, Self-Tapping Cortical Bone Screws, and Cancellous Bone Screws Implanted in the Canine Caudal Cervical Spine," $13,986.

Dr. Michael Leib, C.R. Roberts Professor of Small Animal Medicine, DSACS, "Effects of Prednisone Alone or Prednisone with Ultralow-Dose Aspirin on the Gastroduodenal Mucosa of Healthy Dogs," $20,584.

Drs. Tisha Harper, assistant professor, DSACS, and Peter Shires, former VMRCVM professor, "Effect of Post Surgical Rehabilitation on TTA and TPLO Stabilized Canine CCL Deficient Stifles," $14,982.

Dr. Don Waldron, professor, DSACS, "Evaluation of Epidural Morphine and Incisional Bupivacaine for Analgesia Following Hemilaminectomy in the Dog," $20,442.

Panciera was also awarded second year funding for "Efficacy and Safety of Iopanoic Acid for Treatment of Experimentally-Induced and Naturally-Occurring Hyperthyroidism in Cats,"$11,608.

Tumor: continued from page 17

"Their potential value is tremendous to humans and dogs with cancer," said Rossmeisl. These treatments may represent a significant advancement in prolonging survival in dogs and people with these highly aggressive cancers."

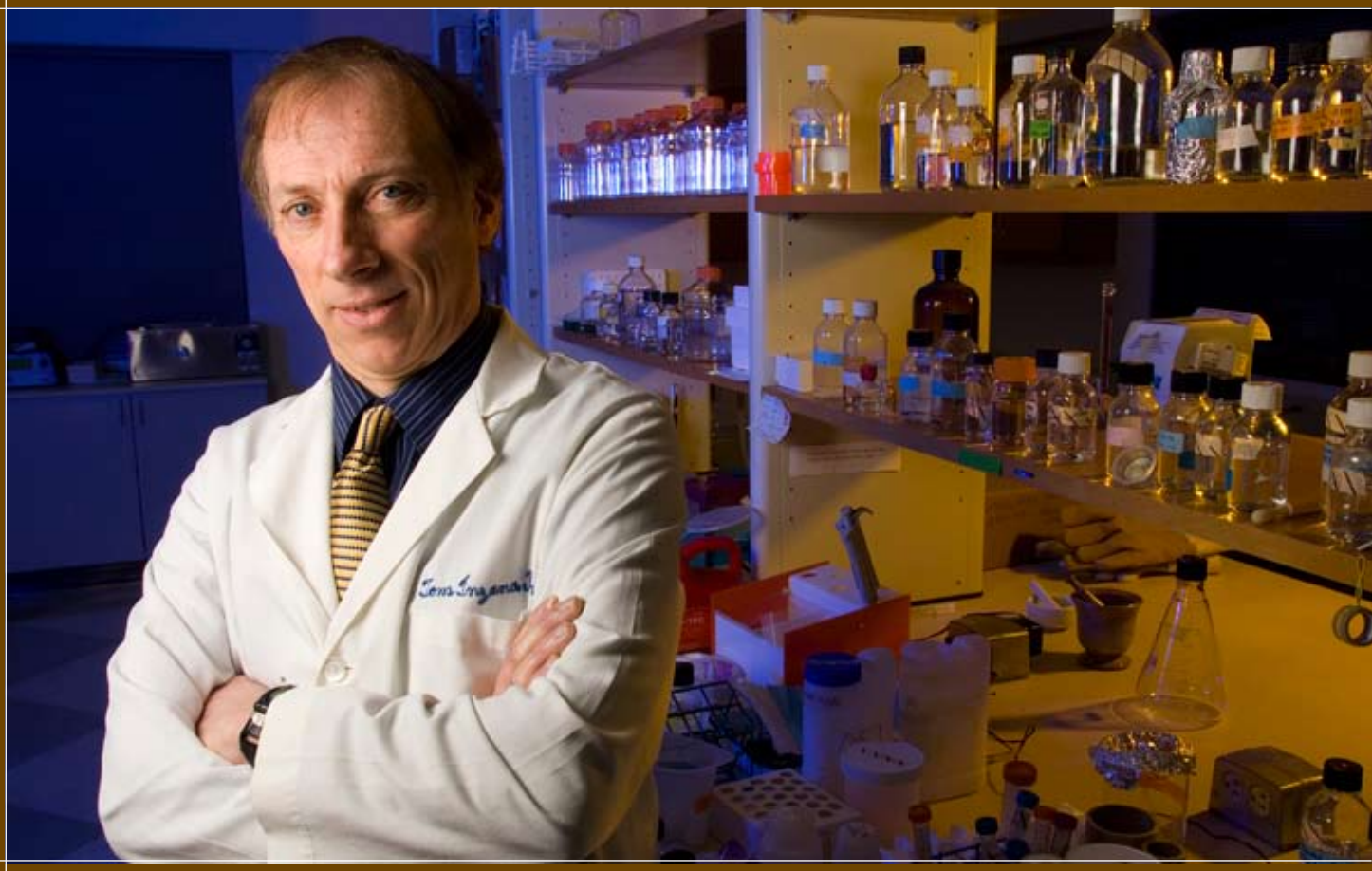
The researchers will also be looking at improved processes for performing radiation therapy on brain tumors in dogs.

"Currently, the standard of care in veterinary radiotherapy is fractional radiotherapy delivered with a linear accelerator," explained Rossmeisl. This form of radiation therapy is typically delivered with frequent administration of relatively small doses of radiation multiple days per week over several weeks. Though it can be fairly precisely targeted, it can affect tissues unrelated to the tumor.

The grant will enable the researchers to perfect protocols for treating canine patients with stereotactic radiosurgery – more commonly known as the "Gamma Knife®." The Gamma Knife® uses a specialized head-frame to target an exactingly focused beam of killing radiation with pin-point accuracy on the tumor itself. As opposed to a traditional course of radiotherapy that can take weeks, the gamma knife can accomplish the task in one session lasting a few hours.

For more information regarding the CCGT study, contact Luann Mack-Drinkard (clinical research technician) at lmackdr@vt.edu or by phone at (540) 231-4621, or the study co-director, Dr. John Rossmeisl at jrossmei@vt.edu.

Say hello to the future.



Meet Dr. Tom Inzana, the Tyler J. and Frances F. Young Professor of Bacteriology. A specialist in identifying and combating pathogens at a molecular level, Dr. Inzana has already made significant breakthroughs in vaccines for swine and cattle. Now he's turned his attention to developing a test to protect people and animals from tularemia. And what he discovers in the lab, he shares with his students in the classroom.

When you make a gift in support of the world-renowned faculty at Virginia Tech, you are inventing the future. You are supporting the next generation of scholars, scholars like Tom Inzana, who are making today's discoveries while they train tomorrow's leaders.

Find out how you can invent the future. Contact us today.

540/231-2801 or 800/533-1144
Fax: 540/231-2802
University Development (0336)
Gateway Center,
Blacksburg, VA 24061
www.givingto.vt.edu

The CAMPAIGN for VIRGINIA TECH
Invent the Future

Photo by Jerry Baber

Dr. Dale Rigg (left), a clinical instructor in the Department of Large Animal Clinical Sciences (DLACS), Dr. Erik Noschka (right), a resident in the DLACS and Dr. Mike Cissell (middle), also a resident in the DLACS, perform an arthroscopic surgery to remove an osteochondritis dissecans (bone chip) fragment in an equine patient in the Veterinary Teaching Hospital. Each year, the hospital sees over 500 large animal cases and performs over 400 large animal surgeries. State-of-the-art technology such as arthroscopy, plasma transfusion, video-endoscopy, ultrasonography, echocardiography, and ultrasonic nebulization assists the hospital with providing top quality care and treatment for its large animal patients.

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