



# Virginia maryland

and Regional College of Veterinary Medicine



Mr. Jefferson, a 98-pound calf cloned by PPL Therapeutics, Inc., was born in the College's Veterinary Teaching Hospital on February 16 - President's Day. PPL, a biotechnology firm that plans to develop transgenic cattle that will produce human pharmaceuticals, made headlines in early 1997 when they announced the birth of the world's first cloned animal: Dolly the sheep. The College has provided clinical services to PPL for the past two years.

## Assisted Reproduction Focus of CREATE Lab

Cloning and other advancements in assisted reproductive technologies have recently captured a niche on the news agenda and focused ethical issues for a national debate. But these same advancements have the capability to significantly boost agricultural animal productivity.

In an effort to better organize university expertise and equipment in this area, the Center for Reproductive

Excellence Using Advanced Technology and Endocrinology (CREATE) has been established at the Virginia-Maryland Regional College of Veterinary Medicine.

The CREATE Lab serves as an inter-disciplinary educational, research, and clinical resource that is unique throughout the Mid-Atlantic states, according to Dr. Bill Ley, professor, Department of Large Animal Clinical Sciences, and co-author of the grant

which funded the center.

Three distinct generations of assisted reproductive technologies (ART) have been developed for humans and domestic animals, according to Ley.

The first, artificial insemination (AI) with fresh, or frozen semen, was initially described about six decades

Please see **CREATE**: page 10



## Turnwald Named Associate Dean Academic Affairs

Dr. Grant H. Turnwald

A distinguished veterinary educator and clinician from Oklahoma State University has been named associate dean for academic affairs in the College.

Dr. Grant H. Turnwald, a veterinary internist who presently serves as Professor and Head of the Oklahoma State University College of Veterinary Medicine's Department of Veterinary Medicine and Surgery will assume the post in June, 1998.

"Virginia-Maryland has a strong sense of community, it is an institution Please see **Turnwald**: page 8

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Dean Peter Eyre

## Dean's Desk

Here at Virginia Tech, we are in the final stages of a major capital campaign that should crest \$300 million when it concludes. Considering Virginia-Maryland has only graduated 14 classes we have done very well, with just over \$17 million raised. The University of Maryland will launch a similar campaign in the near future.

Private gifts confirm something most of us know: our profession is blessed with a great deal of public support. But that good will is something we should never take for granted. We live in a time when our institutions... even our professions are subject to much scrutiny. Cultivating public support must be an ongoing effort, one structured upon responsiveness, service and integrity.

It is easy to understand how much our publics appreciate our ability to safeguard the lives of their beloved pets. And many understand the role veterinary medicine plays in putting dinner on the table. But I wonder sometimes how fully they understand this profession's emerging areas of impact:

Food Safety- USDA-FSIS estimates between five and thirty million cases of food-borne illness occur in this country annually, a toll which exacted an economic impact of \$3 billion in 1996. Veterinarians are key players in the interdisciplinary effort focused on containing these problems at all stages of the food chain.

Environment- Many of the chemicals which have fueled the industrial age are now emerging as culprits that cause everything from cancer to immuno-suppression and reproductive disorders for animals and people in a shared ecosystem. Domestic and wild animals serve as

sentinels for potential threats to human health and well-being.

Zoonotic Disease- Infectious diseases of bacterial, viral, and parasitic origin are a fact of life in a world where people and animals live closely together. By diagnosing and controlling these disorders in animals, veterinary medicine protects public health.

Biomedical Research- Companion animal research has benefited

human health in a myriad of ways, including the discovery of insulin, kidney dialysis, organ transplantation, artificial hips, etc., etc.

Naturally occurring animal diseases seen every day by veterinary clinicians often parallel those which affect people, and offer important opportunities for understanding both.

Those close to veterinary medicine will realize the growing importance of these emerging areas in an evolving profession. But we should not forget that our entire profession can be seated in most college football stadiums. We are small, and the public's main perception of our profession comes from within the context of the clinical practice setting.

We endanger our future if we assume that our publics "understand" this profession in all of its richness, and we must consider ways to more fully tell our "story."

*Cultivating public support must be an ongoing effort, one structured upon responsiveness, service and integrity.*

# My Dog Max

by Jeffrey S. Douglas, APR

A week has passed since my dog Max was put to sleep. A veterinarian here in the Veterinary Teaching Hospital gave him two shots while I held him and cried. I can think of him now without my heart jumping up in my throat.

Max was a hundred-pound German Shepherd that spent almost ten years as part of our family. I still remember when we got him around the Fourth of July, 1988. He was adorable, all paws and ears and spunk, and he instantly became a huge part of our life.

Only one problem: chronic diarrhea. I still remember Blacksburg veterinarian and General Assembly Delegate Jim Shuler calling us on the Outer Banks with news that our sickly pup had actually formed his first stool.

Not long after, we had him worked up big-time under the supervision of Dr. Michael Leib, a faculty member here who's one of the world's leading veterinary gastroenterologists. Endoscopy and biopsies and pathology and we had a diagnosis: eosinophilic gastroenteritis. Bottom line: Max was allergic to food. For some reason, his body mounted an inflammatory response to just about everything he ate.

We knew early on that we were in for a ride, but no way could we even think about giving up on him. My wife and I were recently married, and all of a sudden there was a "dependent." The best shot we had was managing his diet exclusively with a prescription dog food. So we did, and by and large it worked, though

diarrhea remained a big part of life with Max. His medical records grew inches thick.

We got on with things and he did what dogs do and we shared a lot of life together. He was a fixture in the back of our Cherokee. He romped through the surf of the Atlantic and the mountains of the Blue Ridge. He was ferocious at the door but good company to friends and he'd chase a tennis ball until he dropped.



*They share with us the thousands of events that are the triumphs and tragedies of everyday life. They comfort us and validate us and when they die, we grieve for them in the same way we do for people.*

He was our protector and our companion. And when our daughter's arrival in 1993 ushered in a new pecking order, he took it in stride. When I was on the road, I knew Max was taking care of my girls.

But there were hard times too. His diarrhea would flare about once a week. He would be out two, three, four times in the middle of the night, banging on the door to go out, then barking non-stop under the bedroom window until I'd let him back in. And of course there were the muddy feet and endless shedding most accept as the price you pay.

But you don't remember that stuff. You remember the unconditional love and the big dog-smile and the wagging tail when you get home from work. The way he'd raid the woodpile and strut around the yard with logs in his mouth. The way he licked my face like there was no tomorrow, and the soothing peace of just petting him.

If I left the house, he stared out the front window until I returned. If I left a room he followed me. If he was in the room, he stared at me. Words like loyalty and dedication don't begin to describe the force that gushed from that dog's big heart. No way I ever deserved such devotion.

As Max got older, he got sicker. Another weird immune system problem caused capillary blood vessels to grow into his corneas, slowly blinding him. We fought a losing battle with steroids and cyclosporin. Then he started

dripping urine throughout the house. He grew lame in his hindquarters. Testing showed spinal deterioration and cancer.

We spent five weeks spoiling him some more, then finally came the reckoning. We did the last walk, the last ride, the last special dinner. Our family said its goodbyes and I brought Max in to be euthanized.

The end seemed surrealistic. Max was mildly sedated when I met him in the room, and I wished I was too. I remember vignettes with clarity: the kindness and compassion of the attending veterinarian, me telling Max over and over how much I loved him... what a good dog he had been.

The first injection was an anesthetic. He breathed easier and grew more and more relaxed in my arms. The final was a mega-dose of a barbiturate, which stopped his heart. In moments, Max was gone.

This is not about a personal grieving experience. It is a tribute to the life of a wonderful dog and a reminder for those who love animals or know

*Life deals far worse than the passing of a pet. But there is an ethereal quality to the nature of love which develops between a loving owner and a devoted animal.*

people who do. We hear it so much these days that the phrase seems trite. But pets really are a part of the family.

They share with us the thousands of events that are the triumphs and tragedies of everyday life. They comfort us and validate us and when they die, we grieve for them in the same way we do for people.

Life deals far worse than the passing of a pet. But there is an ethereal quality to the nature of love which develops between a loving owner and a devoted animal. It should be dignified and respected, and I for one, will always appreciate the flowers and cards and expressions of sympathy our family received from our friends.

As my father wrote to me upon hearing the news: "There may be other pets, but there will never be another Max."

*Words like loyalty and dedication don't begin to describe the force that gushed from that dog's big heart. No way I ever deserved such devotion.*

# Virginia-Maryland News briefs



Under the leadership of Dr. Stephen Smith, the College's Aquatic Medicine Laboratory has evolved into a major resource for the region's emerging aquaculture, finfish and shellfish industries.

## Aquatic Medicine Research Program Surpasses Million Dollar Funding Mark

The Aquatic Medicine Program of the College has surpassed the \$1 million mark in sponsored research, says program and laboratory director Dr. Stephen Smith, associate professor, Department of Biomedical Science and Pathobiology.

In addition to his own grant support from the Virginia Sea Grant Program and the HATCH and Animal Health and Disease programs of the federal government, other researchers in the VMRCVM have contributed to the funding success of this

program. These include a NIH grant with Dr. Steven Holladay and Virginia Sea Grant funding with Dr. Thomas Caceci.

Established in 1992, the Aquatic Medicine Laboratory conducts a variety of broad and applied research projects, all intended to promote freshwater and marine fish health and production activities. The laboratory works closely with other Virginia Tech researchers on aquaculture and other programs which support the commercial finfish and

shellfish industries. Collaborative research has also been conducted with the U.S. Fish and Wildlife Service and the veterinary colleges of several other universities with aquatic programs.

"This is an important benchmark," said Smith. "We're pleased by the progress we've made and look forward to providing the high-quality, responsive research and diagnostic service these industries will need in the years ahead."

## VMRCVM Links Three Campuses With Video-conferencing System

The College has acquired a state of the art room-based videoconferencing system which has provided a real-time audio and video link between its three campuses.

"We're excited about putting this technology on

line," said VMRCVM Dean Peter Eyre. "The system will foster increased collaboration between our campuses and create new opportunities to communicate with those we serve."

The technology is

already being used for administrative meetings and academic presentations. The College plans to develop the application so that it will support continuing education opportunities for veterinarians and producers.

## Two New Faculty Members Join VMRCVM

Two new faculty members have joined the College's Virginia Tech campus.

David S. Lindsey has joined the Department of Biomedical Sciences and Pathobiology as an associate professor.

Lindsey earned a B.S. in biology from Troy State University and a Ph.D. in parasitology from Auburn University.

Prior to joining the college, he served as a Senior

Research Fellow in the College of Veterinary Medicine at Auburn University.

Francois Elvinger has joined the Department of Large Animal Clinical Sciences as an associate professor.

Elvinger earned a degree of veterinary medicine and the Dr.med.vet. from Hannover Veterinary School in Germany, and a Ph.D. from the Department of Dairy Science at the University of

Florida. He is board certified by the American College of Veterinary Preventive Medicine.

Prior to joining the College, he served as associate professor of veterinary epidemiology, Department of Medical Microbiology, Veterinary Diagnostic and Investigational Laboratory, College of Veterinary Medicine, University of Georgia.

## Wildlife Symposium Featured

The College's Wildlife and Exotic Animal Club recently presented a symposium on wildlife medicine entitled "Health and Medicine of North American Wildlife: Exploring the Heart of Nature."

Featured speakers included Dr. Mitchell Bush with

the Front Royal Conservation and Research Center, Dr. Michael Cranfield with the Baltimore Zoo, Dr. Michael Philo with the USDA, APHIS-Veterinary Services in Montana, and Dr. Dave Hunter with the Idaho Department of Fish and Game.

Topics included Capture and Chemical Restraint of Wildlife, Brucellosis in Yellowstone Bison and Livestock, Raptor Rehabilitation, Brainworm Infestation in White-tail Deer, The Role of Veterinarians in Conservation, and others.



Fourth-year student Greta Stamberg bottle feeds a baby camel in the Veterinary Teaching Hospital. The neonate required several days of intensive support before it was returned to its mother and its owner, a southwestern Virginia physician.

## Marrow Registry Drive

Is it biomedical awareness or simply a big heart for others? Hard to say, but about 50 students and 15 faculty members in the College recently signed up for a recent Human Bone Marrow Typing Drive seeking donors for the National Marrow Donor Program.

Sponsored by Omega Tau Sigma, the drive sought to register donors for the

National Marrow Donor Program, which maintains a database of typed individuals willing to donate.

Bone marrow transplants are often the final resort for individuals suffering from diseases like leukemia, aplastic anemia, and other maladies, according to OTS representative John Guest, Class of '99.

Approximately 1,000

individuals a week are diagnosed with these life-threatening disorders, Guest said. Unfortunately, only about 30% match well with family members; the rest must look to the NMDP.

Hill's Pet Products contributed \$500 in funding to help support the \$30 per person registration and typing costs, according to Guest.

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## College Hosts Virginia Cancer Society Meeting

The College recently hosted the 18th Annual Seminar of Cancer Researchers in Virginia.

Researchers from throughout the state and region presented a variety of

presentations profiling current investigations into some of the causes and treatments of cancer during the meeting.

Dr. Pierre Henkart, of the Experimental Immunology Branch, National Cancer

Institute in Bethesda, Maryland, delivered the keynote address entitled "Caspase Activation as an Emerging Molecular Definition of Apoptosis and its Relevance to Cancer."

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## Cancer Conference Presented

The College recently presented the Seventh Annual Student Cancer Conference, a day-long symposium for students, practicing veterinarians and physicians.

Major presentations

concerning "Immune Regulation of Cancer" were presented by Dr. Lesley Fox, a veterinary oncologist at the University of Florida, Dr. James Mule', director of the Tumor Immunology Program

at the University of Michigan Comprehensive Cancer Center, and Dr. George Sandusky, Senior Research Scientist at Eli Lilly and Company.

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## VMRCVM Faculty to Lead Virginia, Maryland VMA's in 1998-1999

While veterinary college faculty members are occasionally elected to leadership positions in private-practitioner oriented state veterinary medical associations, it does not occur often.

So it borders upon the extraordinary in the states of Virginia and Maryland this year where their respective state veterinary medical associations will each be led by a faculty member from the Virginia-Maryland Regional College of Veterinary Medicine.

During the Virginia Veterinary Medical

Association's annual meeting in February, Dr. Beverly Purswell assumed a one-year term as President. When the Maryland Veterinary Medical Association convenes for its annual meeting in June, Dr. Edward H. Stephenson will assume a one year term as President.

Both Purswell, associate professor, Department of Large Animal Clinical Sciences, and Stephenson, associate professor and director of the Center for Government and Corporate Veterinary Medicine, College

Park Campus, have held other leadership positions with state and national veterinary and other professional associations.

"The College has worked diligently to foster strong relationships with the associations in the states we serve," said VMRCVM Dean Peter Eyre. "Perhaps this makes a statement about how effective we've been."



Dr. Beverly Purswell



Dr. Edward H. Stephenson

## New Classroom Construction Underway

Work is underway on the construction of a third auditorium style classroom facility for the College.

The new classroom will be constructed adjacent to the

MDL laboratories in the first floor of the College's former Phase II building and contain the same audiovisual and advanced information technology amenities as the

original two classrooms.

Construction of the 2,000 square foot classroom is expected to take six months.

## Sweet Named Outstanding Alumnus

Dr. Lauren Sweet, a member of the Class of '93, has been named the Outstanding Young Alumna from the College of Veterinary Medicine at Virginia Tech.

Sweet, who completed the College's innovative govern-

ment and corporate veterinary medicine program, has held several positions with Chicago-based Continental Grain Company.

In a letter of commendation, Continental Grain Company Vice President

Thomas Burnell praised Sweet as a "role model in our organization" who possesses the "personal and professional ethics which should make your University proud."

## Awards Night 1997

Several faculty members were honored for excellence in teaching during the College's 14th Annual Awards Program.

Dr. Bonnie J. Smith, assistant professor, Department of Small Animal Clinical Sciences, was awarded the "Norden Distinguished Teacher Award," a national award presented on the basis of "outstanding teaching ability, leadership and high moral character."

Dr. Hara Misra, professor, Department of Biomedical Sciences and Pathobiology, earned the "Class of 2000 Teacher of the Year Award; Dr. Holly S. Bender, associate professor, Department of Biomedical Sciences and Pathobiology, was awarded the "Class of 1999 Teacher of the Year Award;" and Dr. S. Dru Forrester, associate professor, Department of

Small Animal Clinical Sciences, was presented the "Class of 1998 Teacher of the Year Award."

Also, 64 students were formally presented 34 different scholarships during the annual event, which seeks to recognize both the donors who fund the scholarships, and the students who earn them.



Dr. Bonnie J. Smith

## State Fair Exhibit Presented

The VMRCVM, VVMA, and VALVT again teamed up to present an exhibit at the Virginia State Fair this year.

Many thanks to all the workers who volunteered their time and especially to Laura Schoolcraft, LVT and Krista Scoggins, DVM for organizing the event. This year's booth highlighted rabies and its increased incidence this year.

### Veterinarians

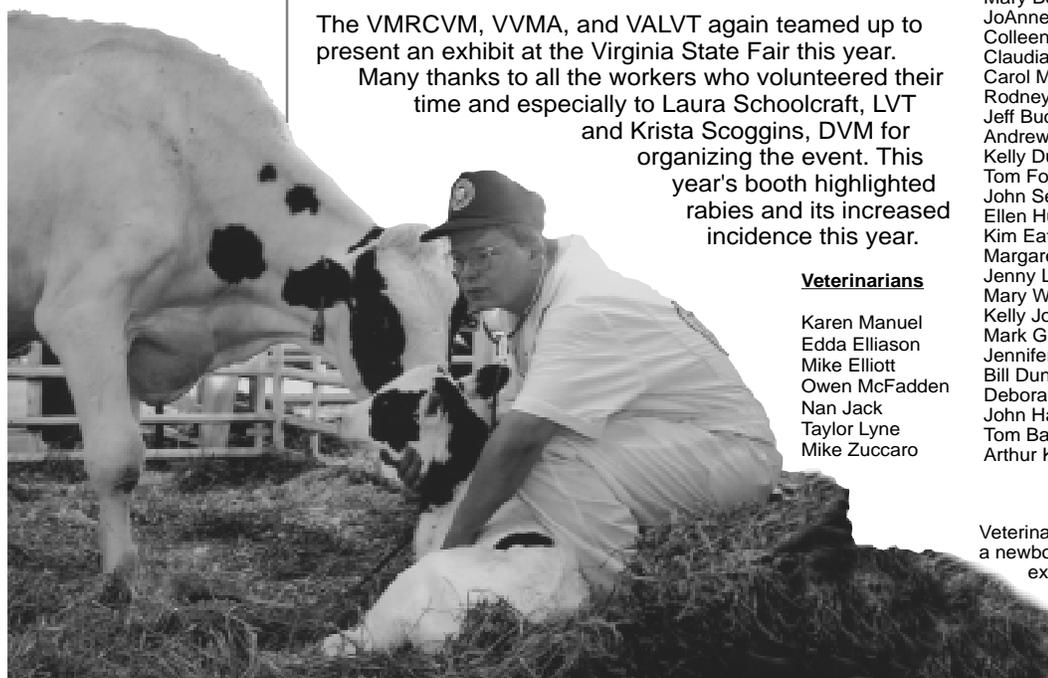
Karen Manuel  
Edda Elliason  
Mike Elliott  
Owen McFadden  
Nan Jack  
Taylor Lyne  
Mike Zuccaro

Dale Cupp  
Mary Beth Terrel  
JoAnne Baldwin  
Colleen Kida  
Claudia True  
Carol Moyer  
Rodney Cole  
Jeff Buck  
Andrew Eerio  
Kelly Duruman  
Tom Fore  
John Settle  
Ellen Huth  
Kim Eaton  
Margaret Washburn  
Jenny Larsen  
Mary Whitfield  
Kelly Jo Gottschalk  
Mark Gottschalk  
Jennifer Kistler  
Bill Dunnivant  
Deborah Kinney Nay  
John Haile  
Tom Bailey  
Arthur Kavitt

Erin Barron  
Karen Holmstrand  
Charlie Hickey  
Carter Burkey  
Nannette Goodwin  
Marissa Gonzalez  
Richard Kitterman  
Krista Scoggins

### Technicians

Theresa Silvius  
Katie Polls  
Jenny Packard  
Mary Malucci  
Michelle Williams  
Ginger Rapp  
Taryn Singleton  
Donna Wentz  
Amanda Belcher  
Angela Carter  
Teri Doty Frank  
Claudia Barrientos  
Laura Schoolcraft  
Rebecca Laskie



Veterinary student Phillip Washington tends to a newborn calf during "The A'B'C's of Life" exhibit at the Virginia State Fair. Five faculty members and 15 students provided veterinary medical support for about a dozen cows and 15 ewes that were born during the fair's two-week run.

## Llama Website Created



The site can be found at [www.llamapaedia.com/index.html](http://www.llamapaedia.com/index.html)

Llama fans interested in learning more about these fascinating camelids may wish to investigate a new website established by two veterinary students in the College.

Fourth year students Greta Stamberg and Derek Wilson have created "Llamapaedia," a comprehensive website filled with practical information concerning llama health and management.

Stamberg, part of Graceful

Legend Llamas in Barnesville, Maryland, has provided the llama expertise and Wilson has provided the necessary technical and computer skills for the production.

Stamberg, who shows llamas regularly on the east coast and is a frequent speaker at llama meetings, says she recognized a need for "Llamapaedia."

"There were no sites

with practical objective information on management for someone who already owned llamas or who was seriously considering purchasing them," she said. "I have worked and continue to work hard to provide the most accurate practical information in one place that I can with the amount of time I have available."

## VMRCVM SCAVMA to Host SCAVMA 2000

The College's Student Chapter of the American Veterinary Medical Association will host the national SAVMA symposium at Virginia Tech in Blacksburg during the year 2000.

Every year about 1200 veterinary students from around the nation attend the annual event, which features a variety of educational and social programming.

The VMRCVM students

presented their bid proposal at the 1998 symposium at the University of Florida in Gainesville, according to SAVMA Symposium Bid Co-chairs Shawna Green and Julie McGhee.

## Shires Named Director of Educational Technologies



Dr. Peter Shires

Dr. Peter Shires, professor, Department of Small Animal Clinical Sciences, has been appointed Director of Educational Technologies for the College.

As such, Shires will provide leadership for a variety of educational

initiatives structured upon modern digital technologies.

The appointment is a part-time commitment. Shires will maintain some of his existing educational, clinical and research responsibilities as a small animal surgeon.

## Digital Laboratory to be Created for Neurobiology Course

A \$21,000 grant from the university's Center for Innovation in Learning (CIL) will enable faculty members in the College to construct a series of highly interactive computer-based instructional modules for teaching neurobiology to veterinary students.

One of the major problems facing veterinary students enrolled in VM8104 Veterinary Neurobiology is the brevity of supervised exposure to sheep brains, the primary teaching specimen for the laboratory portion of the course, explains Dr. Bradley Klein, associate professor,

Department of Biomedical Sciences and Pathobiology.

Because of the delicate nature of the labeled demonstration specimens, students can only study them during prescribed educational laboratories, he said.

But the new grant will enable Klein and colleague Dr. Bonnie Smith, assistant professor, Department of Biomedical Sciences and Pathobiology, to create interactive teaching modules that students can work with at any time.

The modules will employ digital images of the actual labelled sheep brain preparations used in class. Using the new system, students will receive immediate feedback and can even administer themselves a scored quiz.

"This project will benefit the students by allowing them

to more effectively learn and study outside of the laboratory, while reinforcing what they have learned in the lab," said Klein. "Learning will be facilitated by use of a rich, multisensory and motor experience combined with immediate feedback."

Klein says the modules might be expanded for use in other portions of the course and may substitute for laboratory material when students cannot take the lab. In addition to the \$21,000 from CIL, Drs. Klein and Smith will receive \$29,571 in combined matching funds from their department, college and the university's Biological Sciences Initiative.

***"This project will benefit the students by allowing them to more effectively learn and study outside of the laboratory, while reinforcing what they have learned in the lab."***

- Dr. Bradley Klein



The Blacksburg campus of the VMRCVM has a dramatic new look on its southeast side. The pond was constructed as part of a series of improvements to the University's athletic facilities.

## USDA Awards Biotechnology Risk Assessment Grant to CMMID

The USDA's Biotechnology Risk Assessment Laboratory has awarded a \$182,000 grant to fund a study in the College designed to evaluate risks associated with the release of recombinant organisms into the environment.

Working in the College's Center for Molecular Medicine and Infectious Disease, Dr.

Thomas Inzana, professor, Department of Biomedical Sciences and Pathobiology, will conduct the work with a recombinant strain of *Actinobacillus pleuropneumoniae* he developed as a potential porcine vaccine.

"This is the first live, recombinant bacterial pathogen that causes

respiratory disease in any animal or human that is being evaluated to determine the risks associated with the release of recombinant organisms," said Inzana. "We will be evaluating the potential for this strain to be transmitted to contact pigs in small and large herds as well as transfer of its foreign DNA to other

microorganisms."

While recombinant organisms are being developed in laboratories around the world, Inzana explains, some questions exist regarding the safety of releasing these organisms into the environment. This study is designed precisely to answer that question, he said.

## CONVINCE Contracts With VMRCVM Informatics Group

A North American organization of veterinary educators working to increase the use of modern information technologies in veterinary medical education has contracted with the College's Informatics program to create and manage its website.

CONVINCE, or the Consortium of North American Veterinary Interactive New Concept Education, is a non-profit group allied with the American Veterinary Medical Association which encourages the creation and sharing of interactive video, CD, and

hypermedia-based educational materials for professional veterinary education.

The website will contain a searchable database, on-line newsletters, directories, project profiles, links, and other information.

The College's Informatics

Program provides digital information management services for a number of other national veterinary medical organizations.

## Turnwald: continued from page 1

which cares deeply for its students, and it has a solid

"These are important strengths and I am honored to be joining an organization with such attributes."

A native New Zealander, Turnwald obtained his pre-veterinary education from New Zealand's Massey University, and his BVSc from Australia's University of Sydney. He worked in private practice for ten years before conducting internship and residency programs at Texas A&M University, and earning his board certification from the American College of Veterinary Internal Medicine. He

also earned a M.S. degree from Texas A & M.

"We are pleased to have attracted a leader of Dr. Turnwald's caliber for this pivotal position within our College," said Dr. Peter Eyre, dean of the VMRCVM. "We are confident that he can provide the quality of leadership we need to successfully negotiate the educational process for the future."

A proponent of participative decision-making, student-centered learning, and information-technology based educational program develop-

ment, Turnwald has obtained broad experience in academic leadership through numerous organizational development and enrichment programs. He has made hundreds of scientific and educational presentations and published extensively in the veterinary professional literature.

He is a member of the American Veterinary Medical Association, the American Association of Veterinary Clinicians and a number of other professional organizations.

***"Virginia-Maryland has a strong sense of community, it is an institution which cares deeply for its students, and it has a solid working relationship with the profession."***

- Dr. Grant H. Turnwald

working relationship with the profession," said Turnwald.

## Biotech Approach to Feral Cat Problem Devised

A student in the College has used a prestigious veterinary summer fellowship grant from the Geraldine R. Dodge Foundation (Morristown, NJ) to develop a genetically engineered bacterium to serve as an oral contraceptive which may one day help solve a major animal overpopulation problem.

Experts estimate that anywhere from thirty to sixty million stray cats roam the United States, according to second-year student Michelle Meister-Weisbarth. These feral cats are wreaking havoc on the nation's songbird population and raising public health concerns as they spread infectious diseases and alter delicate ecological balances.

Controlling the birth rates of feral cats has proven a vexing task,

since conventional spay and neuter techniques require surgery in a controlled environment. Animal control experts also note that eliminating or removing the feral cats does not work well since others seem to migrate into the recently vacated niches.

Working with faculty mentor Dr. Stephen Boyle in the College's Center for Molecular Medicine and Infectious Disease (CMMID), Weisbarth conducted research which suggests the viability of a provocative new immuno-contraceptive approach for controlling reproduction in these feral cats.

The method involves the use of genetic engineering technology to modify a strain of the bacterium, *Salmonella*, which could then be delivered to feral cats in the wild via a vaccine-laden bait. Work in other laboratories around the world has demonstrated the viability of using genetically altered strains of *Salmonella* as vehicles for delivering vaccines, including oral contraceptives, explains Boyle, a molecular biologist at the CMMID.

Here's how the process works: Scientists used genetic engineering techniques to remove specific genes on the *Salmonella* genome making it unable to cause disease. Then, Meister-Weisbarth introduced a gene encoding a protein derived from the zona pellucida (ZP) surrounding the vertebrate egg into the *Salmonella*. The bacterial vaccine is capable of inducing the production of antibodies which recognize the ZP and block the ability of a sperm to fertilize the egg.

While many people recognize *Salmonella* as a bacterium which causes disease in people and animals, Boyle says, the attenuated strain cannot cause disease. The *Salmonella* bacterium is especially useful as a vehicle for delivering an immuno-contraceptive agent since once ingested, it survives in the stomach

and crosses the intestinal tract to cells in the immune system, according to Boyle. Once in the cells of the immune system, the *Salmonella* are killed and the ZP antigen is released and stimulates production of antibodies against ZP.

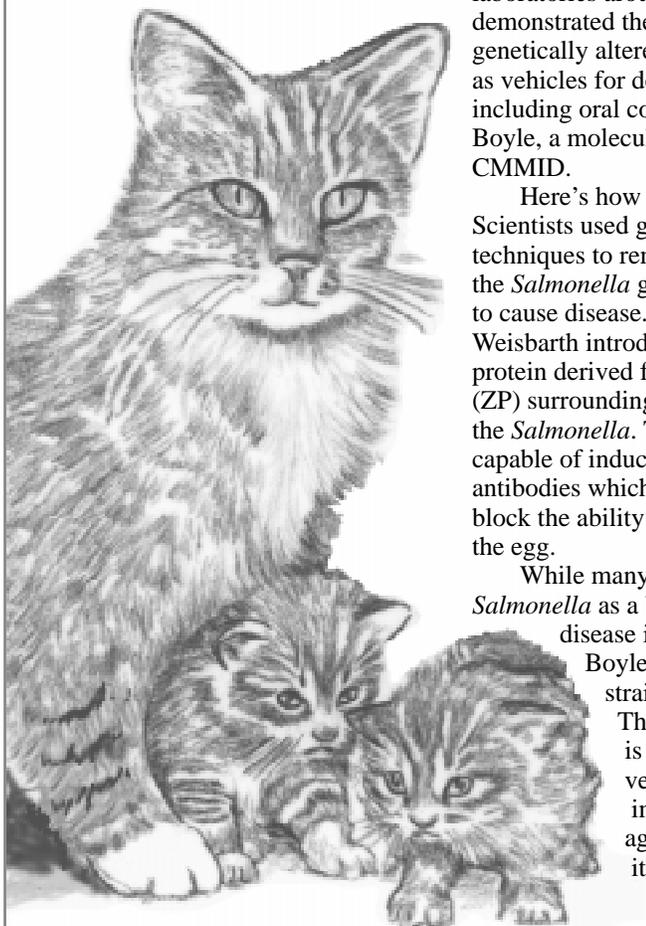
***These feral cats are wreaking havoc on the nation's songbird population and raising public health concerns as they spread infectious diseases and alter delicate ecological balances.***

Because these antibodies bind to the ZP surrounding the egg, they inhibit the binding of sperm and thus block fertilization.

Scientists have looked at various techniques for delivering oral rabies vaccines to wild animals in the form of bait which Boyle and Meister-Weisbarth believe could easily be modified to deliver the genetically engineered *Salmonella* as an oral immuno-contraceptive vaccine.

With the preliminary work accomplished, Meister-Weisbarth and Boyle are seeking funding which will finance the next phase of the work: testing the attenuated *Salmonella* based oral contraceptive in laboratory animals.

The Geraldine R. Dodge Foundation's Frontiers in Veterinary Medicine program is designed to promote veterinary research into advancing the humane treatment of animals as well as support nontraditional scholarship, including human-animal relationships, veterinary ethics, international issues, and conservation biology.



## CREATE Lab:

Continued from page 1

ago, according to Ley. The second, embryo transfer (ET), is about four decades old. The third, which includes embryo sexing, oocyte recovery and *in vitro* fertilization (IVF); gamete intrafallopian transfer (GIFT); zygote intrafallopian transfer (ZIFT); and intracytoplasmic sperm injection (ICSI), is less than 20 years old.

The fourth generation of assisted reproductive technologies is now on the horizon and entails embryo cloning, transgenic embryo production, nuclear (DNA) transplantation or transfer, and parthenogenesis (auto-fertilization).

"We believe that the enhanced faculty collaboration, more effective

***"We believe that the enhanced faculty collaboration, more effective utilization of laboratory space, equipment resources and research support, and intensified graduate student training in this area will propel Virginia Tech into the 21st century as a nationally and internationally recognized leader in assisted reproductive technologies."***

- Dr. Bill Ley

utilization of laboratory space, equipment resources and research support, and intensified graduate student training in this area will propel Virginia Tech into the 21st century as a nationally and internationally recognized leader in assisted reproductive technologies," said Ley.



Dr. Beverly Purswell (left) and colleagues at work in the CREATE Lab.

University, college, and private sector funding has enabled the lab to acquire the advanced equipment required to support the work of the CREATE lab, which includes a cryogenics unit for computer-controlled sperm, oocyte, and embryo freezing, a specialized micromanipulation microscope system, a video-enhanced laparoscope, a large capacity liquid nitrogen storage tank, and other equipment.

VMRCVM faculty on the CREATE team include Drs. Bill Ley, Tom Bailey, Beverly Purswell, and Jim Bowen; Nikola Parker and John Dascanio; all board-certified specialists in reproduction by the American College of Theriogenologists (ACT). College of Agriculture and Life Sciences faculty include reproductive physiologists Drs. Richard Saacke and Frank Gwazdauskas.

CREATE lab services available to clients through the Large Animal Clinic of the Veterinary Teaching Hospital include semen freezing, embryo transfer, oocyte recovery, maturation, and culture,

IVF, GIFT, ZIFT, and ICSI, according to Ley.

Ley believes the assisted reproductive services the CREATE Lab can provide for animal industries in the Old Dominion possess considerable economic impact. The state's equine industry, for example, is valued at about a billion dollars a year. More than \$10 million of that is spent on areas related to equine reproduction.

The Virginia Department of Agriculture reports annual sales of cattle, sheep and hogs to be \$100 million. In the Virginia dairy cattle industry alone, Ley said, the estimated loss due to reproductive inefficiency is \$38 million per annum.

The CREATE lab will not only help improve animal reproductive efficiency in the Commonwealth of Virginia. Ley said the laboratory hopes to provide assisted reproductive support for animals in developing Third World economies.

## AKC Designates CREATE Lab as AKC Canine Sperm Bank

The American Kennel Club has designated the College's CREATE laboratory as an officially certified canine sperm bank.

"We're open for business," said animal reproduction specialist Dr. Beverly Purswell, shortly after

evaluating a sample provided by the bank's charter depositor, an eight-year old Australian Shepherd named "Buzz."

After using sophisticated laboratory equipment to evaluate such things as the sperm's morphology and motility, the sample was contained and preserved in

liquid nitrogen, where it will theoretically remain viable for hundreds of years.

Although using frozen semen for canine breeding was officially approved by the AKC in 1981, artificial insemination techniques

## Sperm Bank Continued:

have only recently begun to gain popularity in canine breeding circles, mainly because of some technological improvements, Purswell said.

Artificial insemination can be a more convenient, safer, and less costly way to breed animals separated by large distances, Purswell said. The practice also enhances the range and prolongs the reproductive viability of

*“It’s a wonderful technology to preserve the genetics of individual breeds.”*

- Dr. Beverly Purswell

superior animals, she said.

“It’s a wonderful technology to preserve the genetics of individual breeds,” said Purswell, an associate professor in the Department of Large Animal Clinical Sciences and diplomate in the American College of Theriogenology.

The bank is not set up to provide service on demand for people wishing to have their female dogs bred. Instead, the bank will exclusively preserve material from privately owned sires whose owners can in turn access the material when they require it.

Canine artificial insemination and sperm freezing processes are almost identical to systems perfected with bulls over the past forty or fifty years, according to Purswell. In fact, pioneering work conducted by veterinarians has provided the foundation for many of the human assisted reproduction techniques now in use, she said.

The CREATE laboratory, established in 1997, provides assisted reproductive services for all species of animals, including horses and cattle.



## Veterinary College Professor Leads Global Ulcer Conference

Dr. Carl Pfeiffer

When human medical researchers from around the world recently gathered in Hong Kong to present the latest research on ulcers, it was a professor from the VMRCVM who called them to order.

Dr. Carl Pfeiffer, a professor in the Department of Biomedical Science and Pathobiology who founded the International Conference on Ulcer Research 27 years ago in Copenhagen, Denmark, served as Secretary-General for the recent 9th ICUR in Hong Kong.

But this year, that meeting was part of something greater: a major international congress of gastrointestinal researchers called “Alimentary Disease Week Hong Kong.”

Hundreds of physicians and medical researchers gathered for the week-long symposium sponsored by the American Gastroenterological Association, the Japanese Society of Gastroenterology, the Gastrointestinal Society of Australia and other prominent medical societies from around the world.

Pfeiffer says science has made substantial progress in understanding ulcer disease and developing more effective treatments over the past 30 years. Much of that has been presented at the ICUR, which has convened every two or three years in Denmark, Germany, Japan, Hungary, Israel and the United States.

“Ulcers are considered a multi-

factorial disease,” said Pfeiffer, who also served as one of the International Vice Presidents of the Organizing Committee for Alimentary Disease Week Hong Kong.

“Stress is one of the factors,” he continued. “But there are a lot of humans under very intense stress that never have ulcer disease.”

Drugs like steroids and non-steroidal anti-inflammatory agents like ibuprofen and aspirin are believed to play a role in the development of ulcer disease, he said, as are factors like blood type and heredity. But one of the most illuminating breakthroughs occurred in the 1980’s with the discovery of a bacterium called *Helicobacter pylori*.

This spiral-shaped bacteria found in the gut is believed to play a central role in the development of ulcer disease and may be linked to stomach cancer, according to Pfeiffer. Much remains unknown about *Helicobacter pylori*, he said, including how the organism has evolved over millions of years to survive in the highly acidic environment of the stomach.

“One of the key things for the future will be the development of a vaccine to kill these bugs,” said Pfeiffer.

Internationally regarded for his work in gastrointestinal disease, Pfeiffer joined the faculty of Virginia Tech in 1982.



Dr. Peter Doherty



Nancy and Jerry Jaax



Dr. Frank Loew



Dr. Earl Strimple



Dr. Richard Linnehan



Dr. William Hueston

# Veterinary College Attracts World-Class Scientists for “New Horizons” Speaker Series

While many people still think of veterinary medicine as a profession primarily concerned with tending to sick pets and agricultural animals, modern veterinary medicine actually touches our lives in diverse and sometimes unseen ways.

Many people don't realize, for example, that the profession also helps produce and safeguard our food supply, protects people from infectious diseases, helps identify cures for human health disorders, and defends the environment from toxic threats. Some of the growth areas for the profession in the future are public health, food safety, biomedical research, government and regulatory affairs, and many other endeavors which directly affect human health and well-being.

In fact, the VMRCVM is nationally regarded for training programs which prepare veterinarians for these emerging, non-traditional areas of contemporary veterinary practice.

In recognition of this stature, and in honor of Virginia Tech's 125th Anniversary, the VMRCVM presented the most comprehensive speaker series in the institution's 17-year history. For six weeks last fall, national leaders representing different dimensions of modern veterinary medicine, lectured on the College's Virginia Tech campus as part of the "New Horizons in Veterinary Medicine" speaker series.

Leading off the series on October 2nd was the world's reigning Nobel Laureate in Medicine, Dr. Peter Doherty, the Michael F. Tamer Chair of Biomedical Research and chairman of the Department of Immunology at St. Jude Children's Research Hospital in Memphis, Tennessee. Doherty, also a professor of pediatrics and pathology at the University of Tennessee, discussed his pioneering work which is exploring the role T-cell's play in the body's immune system. Doherty's work has extraordinary implications for autoimmune diseases, organ transplantation, graft rejection and vaccine design.

Over 400 people were on hand to hear the next "New Horizon's" speakers, Colonels Nancy and Jerry Jaax, of the United States Army Medical Research Institute of Infectious Diseases at Fort Detrick, Maryland. The Jaax's captivated their audience by recounting the role they played in resolving the 1989 Ebola Reston crisis, which was chronicled in Richard Preston's best-selling book "The Hot Zone." At the time of the deadly crisis, scientists and public health officials were unaware that the variant strain subsequently named *Ebola reston* was not transmissible to humans.

On the 16th of October, one of veterinary medicine's most articulate spokesmen, Dr. Frank Loew, former dean of two American veterinary colleges and now President of Cambridge, Massachusetts-based Medical Foods, Inc., predicted that the profession will grow in stature and scope as a result of new threats to public health and the growing "para-psychological" bond between people and animals.

That relationship, referred to by some as the "human/animal bond," was probed more deeply during a presentation made by Dr. Earl Strimple. Strimple, founder of Washington D.C.'s MacCarthur Animal Hospital, has pioneered a range of innovative programs which use companion animals to achieve medically therapeutic and socially desirable results with populations ranging from pediatric patients to prison inmates.

NASA astronaut Dr. Richard Linnehan, a veterinarian who is a mission specialist at the Lyndon B. Johnson Space Center in Houston, Texas, was scheduled to speak on October 30, but NASA postponed his appearance in order to accommodate his participation as a crew-member on STS-90 Neurolab, a 16-day Spacelab mission scheduled for March, 1998 which will examine the effects of microgravity on the nervous system. His appearance is being rescheduled.

On November 6, Dr. William Hueston, one of the nation's foremost experts on "Mad Cow Disease," or Bovine Spongiform Encephalopathy (BSE), and associate dean-Maryland Campus, provided a fascinating overview of BSE and the important role epidemiology and risk analysis are playing in modern food safety and quality assurance programs. Hueston is the only non-Briton appointed to the British Spongiform Encephalopathy Advisory Committee (SEAC), and served as the official USDA spokesperson on BSE during the period of intense media attention in early 1996.

**Editor's note: The VMRCVM was awarded a special merit award from the Council for the Advancement and Support of Education for presenting the New Horizons Series.**

# Virginia - Maryland names in the news

**Dr. G. Frederick Fregin**, Jean Ellen Shehan professor and director of the Equine Medical Center, has been named a member of Loudoun County's Rural Economic Development Task Force. That 24-member board seeks to foster economic growth which preserves natural resources, strives for a high value of agricultural production, supports the equine and tourism industry, maintains high-quality farmland, and recognizes the need for planned residential growth that preserves rural economy.

**Fregin** has also been elected a Distinguished Practitioner of the National Academies of Practice in Veterinary Medicine. Founded in 1981, the NAP is an interdisciplinary group of health care practitioners which seeks to provide the U.S. Congress and the executive branch of the federal government with policy advice on healthcare issues.

**Dr. Nathaniel White**, professor and Theodora Ayer Randolph Professor of Equine Surgery at the Equine Medical Center, recently presented lectures on medical treatment of colic, pathology of intestinal distention, and the diagnosis and treatment of thrombophlebitis at the Fifth Congress of Equine Medicine and Surgery in Geneva, Switzerland. White also presented lectures on the epidemiology of colic and intestinal impactions at the ACVS Symposium in Orlando.

**Dr. Michael Murray**, associate professor and Adelaide C. Riggs Chair in Equine Medicine, presented 13 lectures on various aspects of equine internal medicine at the annual Finland Veterinary Congress in Helsinki. Murray also presented lecture and laboratory instruction on equine endoscopy at a meeting of the Arizona Veterinary Medical Association. At a meeting of the American Association of Equine Practitioners in Phoenix, he presented "Overview of equine gastric ulcer disease" and a poster entitled "Assessment of Pulmonary Gas Exchange Indices in Thoroughbred Race Horses After Treatment with Intravenously Administered Furosemide and Inhaled Albuterol."

**Dr. Craig D. Thatcher**, professor and head of the Department of Large Animal Clinical Studies, made a presentation entitled "Nutritional Management of the Growing Horse" at Newbury Racecourse in Newbury, England. Thatcher also presented papers entitled "Feeding and Care of the Equine Athlete" and "Nutritional Management of the Broodmare and Stallion" at the 134th Annual Convention of the American Veterinary Medical Association.

**Dr. John Dascanio**, assistant professor, Department of Large Animal Clinical Studies, made presentations entitled "How to perform and interpret uterine cytology," "AAEP World Wide Web home page review and new equine web sites," and "CD ROM and other continuing education materials available on the computer" at the annual meeting of the

American Association of Equine Practitioners in Phoenix. Dascanio also presented "How the Internet can benefit the equine practitioner" at the AAEP Practice Management Seminar in Saratoga.

**Dr. William B. Ley**, professor, Department of Large Animal Clinical Sciences, made a presentation entitled "Privatization of Veterinary Medicine and Veterinary Practice Acts in the United States" at a Joint Meeting of the Mongolian National Veterinary Medical Association and the Private Herders Association of Mongolia in Ulaan Bataar, Mongolia.

**Dr. David Moll**, associate professor, Department of Large Animal Clinical Sciences, presented a paper entitled "Management of Masses of the External Genitalia" at the 1997 American College of Veterinary Surgeons Symposium in Orlando. He also chaired the Urogenital Surgery Section and moderated the Urogenital Surgery panel discussion program. Moll also moderated the section on Equine Protozoal Myeloencephalitis at the annual meeting of the American Association of Equine Practitioners in Phoenix.

**Dr. David Kronfeld**, The Paul Mellon Distinguished Professor of Agriculture and Professor of Veterinary Medicine, was awarded the Tom Cooley Prize of the International Sled Dog Veterinary Medical Association at its annual meeting Nashua, NH. He was cited for developing optimal proportions of protein, fat and carbohydrates to promote stamina, for demonstrating the value of vitamin C supplementation, and for introducing interval training to the sport. He gave a talk on nutritional supplementation of diets for racing sled dogs. Kronfeld also made presentations on the evaluation of acid/base status at the Second Equine Exercise Research Symposium in East Lansing, Michigan and on fat adaptation and exercise at the annual meeting of the American Association of Equine Practitioners in Phoenix.

**Dr. Kent Scarratt**, associate professor, Department of Large Animal Clinical Sciences, presented a paper entitled "Alterations in blood ammonia and fecal pH in normal horses treated with lactulose" at a meeting of the Equine Nutrition and Physiology Society in Fort Worth, Texas.

**Dr. Nathaniel White**, professor and Theodora Ayer Randolph Professor of Equine Surgery at the Equine Medical Center, and Dr. Scott Pleasant, associate professor, Department of Large Animal Clinical Sciences, presented 18 lectures on different aspects of equine lameness during a four-day symposium presented through the Universidad Austral de Chile in Valdivia, Chile.

A paper presented by **Dr. Annette Sysel**, a surgical resident in the Department of Large Animal Clinical Sciences entitled "Efficacy of epidural combination of morphine and detomidine in alleviating experimentally induced hindlimb lameness in horses" won the Outstanding Resident Research Publication Award during the American College of Veterinary Surgeons' 1997 ACVS Symposium in Orlando. Two other VMRCVM

surgical residents presented papers at the meeting. **Dr. Kim May** presented "Permanent urinary bladder fistulization for the treatment of obstructive urolithiasis in small ruminants" and **Dr. Hoyt Cheramie** presented "Evaluation of detachable, self-sealing, latex balloons for occlusion of the distal internal carotid artery in horses."

**Dr. Thomas J. Inzana**, a professor in the Department of Biomedical Sciences and Pathobiology, has been elected a Fellow in the American Academy of Microbiology. Inzana operates a laboratory in the VMRCVM's Center for Molecular Medicine and Infectious Disease.

**Dr. Michael Leib**, a professor in the Department of Small Animal Clinical Sciences, recently presented 17 hours of continuing education lectures at the Atlantic Coast Veterinary Conference in Atlantic City, New Jersey. Leib, a veterinary gastroenterologist, presented a series of independent lectures before veterinarians and veterinary technicians. Leib also presented lectures on chronic diarrhea, acute pancreatitis, inflammatory bowel disease, and Helicobacter gastritis at a meeting of the Montana Veterinary Medical Association in Bozeman.

**Dr. David Moore**, university veterinarian, Director of the Office of Animal Resources, and associate professor in the Department of Biomedical Sciences and Pathobiology, recently presented a lecture entitled "An Overview of Alternative Technologies for Disposal of Pathogenic and Infectious Wastes" at the Fourth Pharmaceutical Research and Development Conference in Deerfield, Illinois. Conference participants represented 26 major domestic and international pharmaceutical firms.

**Dr. Thomas Bailey**, an assistant professor in the Department of Large Animal Clinical Sciences, has been elected president of the Society of Theriogenology, a national organization of veterinarians who specialize in animal reproduction.

**Dr. Bernie Feldman**, professor, Department of Biomedical Science and Pathobiology, chaired the recent annual meeting of the American Society for Veterinary Clinical Pathology in Albuquerque, New Mexico. Feldman was President of that society in 1997; in 1998 he will serve as chairman of the board. Feldman also presented lectures on Clinical Hematology before the Chicago Veterinary Medical Association in Chicago, and on Clinical Hematology and Cytology for the Swedish Academy of Small Animal Practice in Stromsholm, Sweden. Feldman also presented a lecture on clinical pathology for the Irish Companion Animal Veterinary Academy in Dublin, Ireland.

**Dr. Neels van der Schyf**, a research associate professor in the College and the Peters Center for the Study of Parkinson's Disease and Disorders of the Central Nervous System, recently contributed a chapter in a new textbook entitled "Highly Selected Neurotoxins-Basic and Clinical Applications." He was also appointed an adjunct professor in the School of Pharmacy at Potchefstroom University in South Africa, and re-appointed to a

Please see **Names:** page 16



## Equine Medical Center to Complete Injury Survey at Colonial Downs

Catastrophic racehorse injuries are a major cause of equine mortality and financial loss in the racing industry, not to mention a serious public relations challenge.

But a newly funded study at the Marion duPont Scott Equine Medical Center may help researchers better understand the origins of musculoskeletal injuries, the primary cause of breakdowns on the track.

The Virginia Horse Industry Board has approved the first year of a three-year proposal from Drs. Nathaniel White, the Theodora Ayer

Randolph Professor of Equine Surgery, and Jean Ellen Shehan Professor EMC Center Director G. Frederick Fregin, to investigate racing and training injuries at Colonial Downs in New Kent County.

Musculoskeletal injuries- including injuries to bones, joints, tendons and ligaments, muscles and the hoof, are a major cause of decreased horse use in the racing industry, according to White.

While the annual economic loss from these injuries remains unquantified, White said, it is estimated to reach one billion dollars annually when considering loss of training fees, lost purses, the cost

of replacement horses, cost of veterinary care, and the loss of sales for agricultural products.

The researchers propose to use risk factor analysis in an effort to better understand and perhaps identify some previously unknown causes of musculoskeletal injuries in racehorses.

Previous studies conducted in this area have been primarily concerned with catastrophic injury, White said. The EMC study will more broadly examine factors which increase the risk of injury during both racing and training.

During the first year of the project a survey system will be set up to collect information from veterinarians and trainers about racing and training injuries which occur at Colonial Downs, White said.

During the following two years, information about horses with and without injuries will be used to see if any injuries are associated with factors such as toe grabs, training techniques or horse conformation.

The information obtained will help identify factors which increase the risk of injury and help start programs which can decrease the injury rate and improve safety for both horses and riders.

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## Tuesday Talks Lecture Series Presented at EMC

The Marion duPont Scott Equine Medical Center again presented its popular "Tuesday Talks" lecture series this winter.

Created three years ago in response to the equine community's request for more equine health related information, the informal lectures feature EMC faculty and guest speakers who discuss timely issues in equine veterinary medicine.

On Tuesday, November 11, Marianna Haun, author of "The X Factor, What It Is and How to Find It" discussed her provocative genetics research involving heart size and athletic performance.

Equine Medical Center Surgeon Dr. Ken Sullins presented "Treatment



Dr. Ken Sullins discusses laser surgery in front of a full house during one of the "Tuesday Talks" sessions.

of Common Equine Tumors Laser and Chemotherapy Options" on Tuesday, December 16. Sullins discussed contemporary approaches to the treatment of disfiguring and disabling tumors like squamous cell carcinoma, equine sarcoid and equine melanomas.

"Flexural Deformities and Angular Limb Deformities in Foals" was presented by Dr. Nathaniel A. White, II, the, Theodora Ayer Randolph Professor of Surgery, on Tuesday, January 13. White discussed several strategies for

dealing with the "crooked legged" foal.

Dr. Michael J. Murray, who holds the Adelaide C. Riggs Chair in Equine Medicine at the Center, presented "Your Horse Has Ulcers: Why They Get Them and What to do About Them" on Tuesday, February 3 during the final installment of the series.

## Clinical Residency in Veterinary Epidemiology Created

A clinical residency program in veterinary epidemiology has been created in the College, according to Dr. Will Hueston, Associate Dean, Maryland Campus.

Based on the college's College Park, Maryland campus, the three-year program provides residents with practical skills and experience in disease outbreak investigation, risk analysis, disease surveillance and epidemiologic field studies.

"Veterinary epidemiologists are disease detectives," said Hueston, "They are uniquely trained to provide a coherent and analytic approach to the understanding, classification and ultimate resolution of previously unknown and emerging disease problems."

Hueston believes that veterinary

field trial or conduct a field epidemiological study of risk factors as part of the program.

Coursework will be scheduled during the first two years with research leading to a thesis or dissertation to be completed during the third. The program is designed to prepare the resident for board certification by the American College of Veterinary Preventive Medicine (ACVPM).

Academic work will be primarily conducted at the University of Maryland and Virginia Tech, but residents will also participate in the summer epidemiology programs at Johns Hopkins, Tufts, or the University of Michigan, Hueston said.

Prerequisites for the residency include a DVM degree or equivalent, as well as admission to graduate programs at Virginia Tech and the University of Maryland.

## TSE Conference Scheduled

A workshop on transmissible spongiform encephalopathies featuring experts from academia, government and the private sector will be held at the University of Maryland's University Conference Center in College park, Maryland June 8-9, 1998.

Presented by the Joint Institute for Food Safety and Applied Nutrition (JIFSAN), a joint endeavor of the Food & Drug Administration and the University of Maryland, the workshop will evaluate what is known and what needs to be learned about the health risks posed by TSE's to humans and animals.

For more information, contact  
Dr. Lucinda Jack at  
301-405-0316.

*Hueston believes that veterinary epidemiologists will play a pivotal role in 21st century healthcare as food safety issues, emerging infectious diseases, environmental contaminants and growing inter-relationships between animal and human health continue to define themselves.*

epidemiologists will play a pivotal role in 21st century healthcare as food safety issues, emerging infectious diseases, environmental contaminants and growing inter-relationships between animal and human health continue to define themselves.

The residency program is structured upon a strong service component, according to Hueston, and residents will provide clinical epidemiologic support for state and federal government agencies, public health and diagnostic laboratories, industry and commodity groups, universities, and private veterinary practices as part of the program.

Residents will be expected to participate in a disease outbreak investigation, conduct a risk analysis supporting animal or public health policy, evaluate a disease surveillance or animal health monitoring system, conduct a clinical

## Four New Faculty Members Hired

Four new faculty members have been hired on the College Park campus, adding significant strength to the college's programs and capabilities in veterinary epidemiology. They are Dr. Robert A. Heckert, Dr. Roberta A. Morales, Dr. Nathaniel L. Tablante, Jr., and Dr. Yvette Johnson-Ifearulundu.

"One of the core contributions the College Park campus can make in the regional college's programs is in the area of veterinary epidemiology and government and corporate veterinary medicine," said Associate Dean Dr. Will Hueston. "With that in mind, we are extremely pleased at the quality of the faculty members we have been able to attract to our campus."

Heckert earned the B.S. in agriculture from the University of British Columbia, the DVM from the University of Saskatchewan, and a Ph.D. in Preventive Medicine from The Ohio State University.

Prior to joining the VMRCVM, he served as Chief, Foreign Animal Disease Diagnosis, Canadian Food Inspection Agency, Animal Diseases Research Institute, Centre of Expertise Foreign Animal Diseases, Nepean, Ontario, Canada.

Dr. Morales earned the DVM from the

University of the Phillipines, the MPVM from the University of California at Davis, and the Ph.D. in Economics from the North Carolina State University.

Prior to joining the college, she served as a Visiting Scientist responsible for assisting USDA-FSIS in developing policy options for improving the safety and quality of meat, poultry and eggs.

Tablante earned the DVM from the University of the Phillipines, a MPVM from the University of California at Davis, and a MS from the University of Guelph. He is board certified by the American College of Poultry Veterinarians.

Prior to joining the college as extension poultry veterinarian, he served as Quality Assurance Coordinator with Maple Leaf Poultry in New Hamburg, Ontario, Canada.

Johnson-Ifearulundu earned B.S. degrees in animal science and veterinary science, a M.S. in veterinary clinical sciences, and a DVM from the University of Illinois. She earned a Ph.D. in analytical epidemiology from Michigan State University.

Prior to joining the college, she served as a research/teaching assistant at Michigan State.

three-year term on the Complementary Medicines Expert Committee of the Medicine's Control Council of South Africa (the South African equivalent of the FDA).

**Dr. Mitzi Nagarkatti**, associate professor, Department of Biomedical Sciences and Pathobiology, presented "Fas-deficient mice are more resistant to TCDD-mediated apoptosis and immunotoxicity" at the 7th International Congress of the European Association for Veterinary Pharmacology and Toxicology in Madrid, Spain. Dr. Nagarkatti also received the American Cancer Society Service Award for meritorious service towards cancer prevention and treatment and she has been invited to serve a four-year term on the National Institute's of Health Pathology Study Section, a body which reviews grant proposals. In association with graduate student Asimah Rafi and Dr. Prakash Nagarkatti of the Department of Biology, she was awarded the J. Shelton Horsley Research Award from the Virginia Academy of Sciences for the paper "Hyalurante-CD44 interactions can induce murine B cell activation."

**Dr. Ansar S. Ahmed**, associate professor, Department of Biomedical Sciences and Pathobiology, co-chaired a session entitled "Sex hormones and Sjogren's Syndrome at the 6th International Symposium on Sjogren's Syndrome in Avon, Connecticut. He also presented "Estrogen modulates the functions of both T and B cells in normal mice" at the First International Conference on Experimental and Clinical Reproductive Immunobiology in Charlottesville.

**Dr. Beverly Purswell**, associate professor, Department of Large Animal Clinical Sciences, presented a lecture on canine theriogenology at the Washington, D.C. Academy of Veterinary Medicine, a continuing education association for

approximately 600 veterinarians in the greater Washington D.C. metropolitan area.

**Dr. Jeryl C. Jones**, assistant professor, Department of Small Animal Clinical Sciences, presented "A work station providing access to computed tomographic images in a cross-platformed, internet-transferrable format" at a meeting of the American College of Veterinary Radiology in Chicago. She also made a presentation on veterinary radiology at the Northeastern Forestry University and Northeastern Agricultural University in Harbin, People's Republic of China.

**Dr. Thomas Inzana**, professor, Department of Biomedical Sciences and Pathobiology, has published two chapters in academic textbooks. A chapter entitled "Diphtheria and other corynebacterial and coryneform infections" has been published in "Topley & Wilson's Microbiology and Microbial Infections" and a chapter entitled "The Haemophilus somnus Complex" has been published in "Current Veterinary Therapy: Food Animal 4."

**Dr. Robert Duncan**, assistant professor, Department of Biomedical Sciences and Pathobiology, presented "Optimization of polymerase chain reaction technique to detect hemorrhagic enteritis virus genome in vaccinated turkey poults: Comparison to agar gel precipitin test" at the annual meeting of the American College of Veterinary Pathologists in Albuquerque, New Mexico.

**Dr. David S. Lindsey**, associate professor, Department of Biomedical Sciences and Pathobiology, has published "Examination of extraintestinal tissue cysts of *Isopora belli*" in the Journal of Parasitology.

**Dr. Carl Pfeiffer**, professor, Department of Biomedical Sciences and Pathobiology, presented "Diving Adaptations of Marine Mammals" at the Kewalo Basin Marine Mammal Laboratory in Honolulu, Hawaii, one of the world's leading centers for the study of the cognitive abilities and training of dolphins. An article written by Pfeiffer entitled "Renal cellular and tissue specialization in the bottlenose dolphin (*Tursiops truncatus*) and beluga whale (*Delphinapterus leucas*)" has been published in the journal Aquatic Mammals.

**Dr. Michael Leib**, professor, Department of Small Animal Clinical Sciences, presented lectures entitled "Common errors in the diagnosis and management of chronic vomiting," "Diagnostic approach to acute diarrhea in dogs," "Inflammatory bowel disease in cats," "Large bowel diarrhea: irritable bowel syndrome," "C. perfringens enterotoxigenesis," "Fiber-responsive large bowel diarrhea," "Dietary management of GI disease," and "Rectal cytology" at the 1998 Western Veterinary Conference in Las Vegas.

**Leib** also presented a series of lectures at a continuing education meeting presented by the Greater Baltimore Veterinary Medical Association in Baltimore. Those lectures included "Diagnostic approach to chronic diarrhea: a case oriented approach," "Acute pancreatitis in dogs: a diagnostic dilemma," "Helicobacteria gastritis, icterus: a diagnostic approach."

**Dr. Vanessa L. Cook**, a clinical instructor in equine surgery at the Marion duPont Scott Equine Medical Center in Leesburg, has earned board certification as a diplomate in the American College of Veterinary Surgeons.



## Virginia - Maryland

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