

New Vice Provost for Academic Programs

J. Milton Adams is the new vice provost for academic programs and his enthusiasm about his University-wide purview is almost tangible. He has seven years' experience as assistant dean for graduate studies and associate dean for academic programs in the School of Engineering and Applied Science, and now he brings his vision to help realize the goals of the University's 2020 initiatives to this new position. Detailed information on these planning initiatives can be found at <http://www.virginia.edu/virginia2020/index.htm#background>

However, Adams sees his day-to-day role as being primarily involved with academic planning, ongoing reviews of academic programs, and accreditation. Asked how he sees himself changing the University environment, Milton Adams responds with a smile: "I want to expand access for all students, and especially undergraduate students, to research. I want to see this happening not just in the sciences and engineering, areas I am very familiar with,



Andrew Shurtleff

J. Milton Adams is the new Vice Provost For Academic Programs

but also in the arts and in the humanities." He believes that the goals of the University's academic strategic planning program will underlie everything we do as we move forward to fulfill them. He sees the value of long-term strategic planning, and how it will help to give a unified approach to the process.

Notwithstanding this ambitious agenda, Milton Adams intends to continue his research collaborations with Paul Allaire and others in biomedical medicine and engineering on the artificial heart pump, and to start a new collaboration with James Aylor, chair of electrical and computer engineering, and his colleagues on advanced biosensors. Adams also teaches a second year biomedical engineering course in physiology each fall, and a course in electrical engineering in the spring. ■

University's Board of Visitors Approves \$60M to Enhance the Sciences

With an announcement in late September, the University is poised to move ahead on several fronts to enhance its academic standing in the sciences. The resources approved by the BOV will be used to construct MR-6, another medical research building, as well as to hire a number of National Academy of Sciences research teams. Also on the drawing board is an Advanced Research Technology building to be located in the Fontaine Research Park, which will provide swing space for new hires and for departments undergoing expansion.

Other changes expected as a result of this added focus on the sciences: A contracting group will be developed and located near to the Patent Foundation's offices in the Blake Center. All Medical Center contracts will be administered through this new office. ■

New Packard Fellowship Awarded to U.Va. Engineer

Hilary Bart-Smith, assistant professor of mechanical and aerospace engineering, has been selected for a fellowship in Science and Engineering from the David and Lucile Packard Foundation. The Foundation received 99 nominations from 50 invited universities from which the Packard Advisory Panel selected 16 Fellows nationwide. The 5-year fellowship begins in October 2003. Her research interests are in ultralight materials, morphing structures and polymer composites.



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Numerous Grants Awarded Under the Biodefense Initiative

Several major new grants in the infectious diseases and international health have been received this year under the federal government's Biodefense Initiative in the Department of Medicine. Girija Ramakrishnan has received a grant to study iron transport mechanisms of *Francisella tularensis*, while Barbara Mann is funded for research on adhesins and invasins of *Francisella tularensis*. Molly Hughes is the PI for studies on macrophage resistance to anthrax lethal toxin. Dr. Richard Guerrant is the PI for a new award in Global Infectious Diseases Research Training, as well as a separate grant on cryptosporidiosis. Michael Scheld has small business grants in collaboration with Joel Linden on anthrax. R01 grants for field studies of human immunity to amebiasis in Bangladesh and on gene expression in *Entamoeba histolytica* have been awarded to Dr. Bill Petri, as well as a program project grant on rapid diagnostics for Category B enteropathogens (with co-investigators Barbara Mann, Eric Houpt, and David Calfee).

Outside of the Division of Infectious Diseases and International Health, Tom O'Brig (Division of Nephrology) is supported for work on shiga toxin, and Judy White (Department of Cell Biology) on *Ebola*.

U.Va. is also a participant in the Middle Atlantic Regional Center of Excellence (RCE) for Biodefense and Emerging Infectious Diseases Research. Investigators with major research projects in the RCE include Drs. Richard Guerrant, Barbara Mann, Erik Hewlett, and Thomas Braciale. Finally an NIH Biodefense Research Training and Career Development program has been initiated at Virginia that supports three predoctoral and two postdoctoral fellows. Overall, the direct costs from these awards exceed \$3M in the current year. ■

New Vice Provost For International Affairs

Leigh Grossman M.D. lived as an expatriate in India from the age of eight to 18. Her parents moved to New Delhi, where her father, an international economist, took a sabbatical from his academic post. When his sabbatical ended, he accepted a position with the Ford Foundation which kept the family in India until she returned to the U.S. to attend college at Brandeis University in Boston in 1966, and then on to graduate and medical school in Pennsylvania. She never forgot her early years in India and the impact of being a foreigner overseas, nor of her readjustment to life in this country. Her career choices resonate from these early experiences. Her first interests led to a master's degree in public health, and she then went on to pursue a medical degree with further training in pediatrics and infectious disease at the University of Virginia.

As a member of the pediatric faculty, Dr. Grossman has organized and supervised an international elective for residents who have worked in India, Thailand, Kenya, Costa Rica, Ecuador and Guatemala in International Medicine, humanitarian efforts and tropical medicine. She has directed a 22-year faculty resident and fellowship exchange program with the Hospital Nacional de Ninos in San Jose, Costa Rica, and the Department of Pediatrics at the University of Virginia. Dr. Grossman has worked as a volunteer providing medical care in Haiti since 1998.

In January 2004, Grossman will take up a new position, while continuing her role as chief of the division of pediatric infectious disease. She will take on the role of vice provost for international affairs, recently vacated by William Quandt. Grossman will continue her longstanding efforts to make the University of Virginia a highly sought-after place for people from all over the world to train while encouraging more of our students to include overseas education and training as part of their university experience. Because of the daunting international issues that face us today, Grossman feels that it is even more important that we welcome students from all over the world and that our students are educated to think globally. She says, "These young people will be the solution-makers of tomorrow, and it is our challenge to be on the forefront of their global education."

Ford Foundation Funds Local History Research

The Carter G. Woodson Institute for Afro-American and African Studies has received another major grant from the Ford Foundation to continue its work in uncovering local history. The Local Knowledge grant, co-directed by Corey Walker, Scot French and Reginald Butler, is examining structures of power and knowledge evidenced in post-emancipation real estate ownership records, cemetery records, and other activities, and will include the creation of a new film about Fifeville, the historically Black area of downtown Charlottesville, by Kevin Everson.

Several initiatives will take place with the help of the \$250,000 award. Aaron Wunsch will trace the ownership of a single house in the city, while anthropologist Lynn

Rainville, now on the faculty at Sweet Briar College, will document her research on local burials and cemeteries in Albemarle County. Another group will work on the genealogy of the local Black community developed from funeral home records and Melisa Shore will undertake research on the history of the Black community in Ivy, Va. The funding will bring together lay scholars, local activists, and University faculty to make more knowledge available about the lives of the local Black community from the Civil War era through modern times.

The sponsored projects will eventually be accessible on a web site via the Carter Woodson Institute at <http://www.virginia.edu/woodson/> under the Center for Local Knowledge. ■

Potential Cure For Malaria

While many folks would stand up and shout “Save the Whales” or “Save the Trees,” few respond quickly to the cry of “Save the Antibiotic-Resistant Bacteria.” According to scientist Joel Hockensmith, such bacteria may soon provide a rich source of a potent anti-protozoal drug that could save millions of lives a year.

Historically, plants have yielded a number of useful therapeutic compounds. Foxglove, for example, gave us digitalis, a cardiac glycoside, and similarly, soil actinomycetes have yielded antibiotics such as streptomycin and neomycin. It has long been known that antibiotic-resistant bacteria inactivate the antibiotics derived from actinomycetes. Hockensmith and his colleagues have discovered that the inactivation process yields a product that is non-toxic to the bacteria but that targets proteins found in parasites such as *Plasmodium*

falciparum, the organism that causes malaria. Thus an organism found in the soil makes an antibiotic that can be inactivated by bacteria to create a product that may have utility in treating human diseases.

Hockensmith and his colleagues are now working towards clinical trials.

Hockensmith and his colleagues are now working to improve the purity of these compounds in preparation for a move towards clinical trials. The inhibitors are derived from inactivation of aminoglycosides and so have no known activity in the prokaryotic realm. Because these inhibitors are not antibiotics, bacterial resistance will not become an issue.

Best of all, the inhibitors are potentially available in unlimited supply since they are derived from bacterial sources. Currently, more than one million children die each year from malaria according to the World Health Organization, says Hockensmith. Many millions more suffer the dire effects of diarrheal diseases that could also be treated in this way with such compounds. These compounds also have potential to control protozoal diseases in animals, with beneficial effects on our livestock. ■



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Dr. Joel Hockensmith, professor of biochemistry & molecular genetics

Links with Oak Ridge National Labs

Phillip Parrish, Director of the Intelligent Processing of Materials Lab in the Department of Materials Science and Engineering, and Special Advisor for National Labs and Homeland Security in the Office of the Vice President, Research and Graduate Studies, is working to develop a stronger relationship with ORNL in Oak Ridge, TN. Historically U.Va. has had long-standing ties with the National Labs and is now one of the core universities partnering with ORNL. Several of ORNL's strategic plans substantially overlap with those of U.Va.'s science initiatives, including those in nano- and quantum science, information technology, and the biosciences.

Major new research facilities at Oak Ridge include a very large mouse vivarium and the nation's largest supercomputer capability available for research teaming with universities for unclassified research; in the near future, a spallation neutron source will come on line, and a new nanotechnology users' facility will open in early 2006 with state-of-the-art nanofabrication and characterization capabilities.

Through an agreement between U.Va. and ORNL, joint faculty positions are possible. Assistant professor Sean Agnew of Materials Science and Engineering presently holds one of these positions, performing research in new lightweight magnesium alloys for application to transportation systems. Additionally, Parrish is actively negotiating other joint faculty positions with ORNL, including one in nanotechnology and one in environmental sciences.

For more information about how you could access ORNL's research facilities or the joint faculty program, contact Phil Parrish at parrish@virginia.edu.

A Doctoral Student Reflects On His U.Va. Experience

Michael D. Davis came to the University after a thorough evaluation of a number of other top research institutions. Why did he choose to join the graduate program in pharmacology here? "The people made the difference for me," he responds. Davis is now

of cells to see how they alter cell behavior when exposed to S1P, a biologically active lipid present in humans and animals, and novel S1P analogs. The work has relevance to immunology, cancer research and organ transplantation.



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Michael D. Davis, doctoral student in pharmacology

in the fifth year of his doctoral program, and conducts research in Dr. Kevin Lynch's lab, examining Sphingosine-1-Phosphate (S1P) receptors, lipid receptors integral membrane proteins located on the surface

the MARC program (Minority Access to Research Careers), an NIH initiative.

The attraction of working with some of the top researchers at the University of Virginia, while enjoying the benefits of

Davis came from San Diego State University where his undergraduate major was in chemistry. He first became interested in science at ten years of age, and although he would become the first scientist in his family, his parents were always, and are still his biggest boosters. His undergraduate work was partially funded by

studying in such a visually appealing location was an enormous attraction, he recalls. Additionally, the high esteem in which a degree from the University of Virginia is held made it a clear decision. "Being welcomed by Dr. Joel Hockensmith, then the director of Interdisciplinary Graduate Programs and a researcher in biochemistry and molecular genetics himself, convinced me that I could be comfortable here," says Davis. Looking back over the years since he arrived in 1998, he says that he would have liked to see more minority students within the School of Medicine with whom he could have enjoyed a support network and social life. Forming a network takes time and energy, not always easy for a newcomer to take on. He hopes that more minority students and faculty will find this as congenial an environment as he has done.

What does the future hold for Michael Davis? "I would like to move to a faculty position at NIH or at a research university," he responds, though he does not stop at that. "One day I hope to become a president of a university. I don't know if I will realize my goal, but I have always aimed high, and so far it has served me well," he says. ■

News Update from the Office of Sponsored Programs

Effective October 31, 2003 the University's DUNS (Dun and Bradstreet Data Universal Numbering System) number is required to be listed on all federal proposals. For U.Va. sponsored programs, the DUNS number is 065391526. Some federal sponsors have already been requiring this number, but it will soon become a familiar data element on all federal proposal forms submitted electronically or by paper.

The government will use the identifier for tracking purposes, and to validate address and point of contact information. A key driver for this new requirement is the E-Grants.gov initiative where federal agencies are developing a common electronic grant application system. The DUNS number will be a key element of this system for institutional information.

There are a number of notices coming in from sponsors that provide instructions for getting a DUNS number. Please disregard these notices and use the number already assigned to the University. You may also see references to registering with the Central Contractor Registry (CCR). You do not need to register either, as the institution is already registered with the CCR.

Biomedical Engineering News

- In October, the State Council on Higher Education approved the Bachelor of Science degree in Biomedical Engineering.
- Dr. George T. Gillies, Research Professor of Mechanical & Biomedical Engineering, had two new U.S. patents issued recently. The first one was entitled "Cell delivery catheter and method." The patent describes a catheter that is designed to optimize the process of delivering cell therapies into the brain for the treatment of neurodegenerative diseases. The second patent is entitled "Multi-Probe System." This patent covers a special class of multi-purpose catheters, the therapeutic function of which can be monitored and controlled by computer either by an on-site physician or caregiver, or by telemedicine techniques. ■

Major NEH Award To Enhance Spanish Language Teaching

Film is probably the medium most likely to appeal to high school language students—and it can teach not just language skills but can also impart the culture and history of Spain in an engaging format. Now the National Endowment for the Humanities has awarded \$250,000 to the Center for the Liberal Arts to develop an archive called Telling Moments: A Spanish Film Archive for Secondary School Teachers. Over the course of the next three years, P.I. David T. Gies will work with colleagues in Spanish, Italian and Portuguese including Gustavo Pellon, Randolph Pope and Cristina Della Coletta, Ruth Ferree from the Curry School of Education who is an expert in the use of film as a teaching tool, and Michael Tuite and Judith Thomas from the Robertson Digital Media Center. Together they will work with secondary school teachers from Virginia schools to identify segments from contemporary Spanish films, to break them down into short vignettes rich in teaching possibilities, and to develop web-based hypertext containing vocabulary used in the film, with associated vernacular expressions, grammar, culture, and other tools that will enrich the learning experience.

Initially the archive will be limited to access by students and teachers in Virginia's schools, but eventually as its success is evaluated, the program may be packaged as a CD-Rom and made available nationally. The archive will be layered by the level of the student's knowledge base, so that beginners can learn incrementally rather than being overwhelmed by advanced grammatical detail.

David T. Gies says that films offer a slice of life in a foreign language that can be assimilated in short excerpts, building the student's familiarity and confidence, while they absorb the context of the culture of Spain and its history.

New U.Va. Patent Foundation Seminar Series

The U.Va. Patent Foundation has begun a new lunchtime seminar series, open to faculty, staff and students and held in Newcomb Hall. The series began in September, and will be held monthly through the academic year. The September presentation addressed the question "Can Patents Block My Research?" Bob MacWright, Executive Director of the Patent Foundation, with John Breen, a Patent Foundation patent attorney, and Rick Kast, of the U.Va. General Counsel's office, discussed the implications of a recent court ruling in the lawsuit *Duke v. Madey*. The case shattered the belief of many that academic research is exempt from claims of patent infringement.

The presentation on October 22 covered the topic "Famous and Infamous University Patent Lawsuits." The talk focused on high-stakes battles between companies and universities over patent rights.

The next seminar, entitled "University Inventions that Changed the World," will be held Thursday, November 20, from

12:00-2:00 pm in Newcomb Hall's South Meeting Room. All are invited to come hear about notable inventions coming out of university research. Cookies and beverages will be provided; please feel free to bring your own lunch. The seminar series will cover the following topics:

- December 16, "The Digital Millennium Copyright Act and Its Effects on University Teaching and Research"
- Presentations in 2004 on dates to be announced include:
- January: "Assuring that International Collaborations Don't Run Afoul of the Export Control Act and the Patriot Act"
 - February: "Faculty Start-Up Success Stories from American Universities"
 - March: "Mistakes that Can Destroy Patent Rights"
 - April: "Determining Inventorship – the Murkiest Metaphysics of Patent Law"
 - May: "Can Collaborating with Other Universities Destroy Our Patent Rights?"
- For more information, please call 924-2175. ■

Copyright for the first film in the archive has been donated by his friend and colleague, Spanish film-maker Fernando Colomo, whose films are popular in Spain. As the work progresses, more film clips will be added, and of course the method can be used for teaching other languages. The fact that the University of Virginia has an excellent film collection, as well as experts in the use of technology in teaching makes this an ideal place for this kind of teaching material to be developed. "This is an exciting way to learn a new language," says Gies, as he surveys the collection on the shelves of his office. "The range of films is enormous, though the task of selecting clips suitable for high school students can be challenging." ■

Biotage Inc. Wins Research Park Company of the Year Award

The Association of University Research Parks has awarded its eighth annual award, this time to a U.Va. tenant of the North Fork Research Park, Biotage Inc. The award is given to the company that demonstrates significant potential for successful commercialization. Biotage has developed new purification technology for the pharmaceutical industry that will aid in new drug development. Close to 10 percent of Biotage employees are U.Va. graduates, and one of the co-founders is a U.Va. alumnus. Biotage is a wholly-owned subsidiary of Dyax Corp. of Cambridge, MA, and its headquarters are in Charlottesville. Dave Patteson, President and CEO of Biotage, commented, "All of our employees are really pleased and excited about this award. We sincerely appreciate the University nominating Biotage and being such a strong advocate for us over the years."

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Animal Use—Some Do's and Don'ts of Animal Research

by Dr. Patricia L. Foley, D.V.M.

DO add any new personnel to your protocol and have them enroll in the Medical Surveillance program prior to their handling of animals.

DON'T move animals from one animal room to another without notifying and receiving approval from the facility supervisor first.

DO check out the ACUC website

<http://www.healthsystem.virginia.edu/internet/iacuc/>

for new information, ACUC policies pertaining to animal research, and schedules of training seminars and workshops.

DON'T transport animals from one building to another without first placing the cage in a secure and non-transparent container. If animal transfer is required during daytime working hours, fax an animal delivery request form to Comparative Medicine and they will deliver the animals for you.

DO give post-operative analgesics to all animals recovering from a surgical procedure.

DON'T use expired anesthetics for any procedure, whether or not the animal is intended to survive after the procedure.

DO record use of all controlled substances in an inventory log, which includes a running balance of remaining drug left in the container.

DON'T plan experiments using large numbers of animals without consulting with Dr. Feldman on space availability to house your animals.

DO call any of the veterinarians or veterinary technicians if you need help with learning or performing a procedure.

DON'T forget to keep close track of your rodent breeding colonies, including weaning mice and rat pups at 21 days of age, and separating visibly pregnant females into their own cages if they are group housed.

DO re-read your animal use protocols more than once yearly to ensure that your experiments remain consistent with the written approved document.

DON'T start new experiments without first modifying your protocol and receiving ACUC approval for those changes.

DO consider alternatives to animal use when planning all experiments. These include using non-animal alternatives, reducing the number of animals used, and refining procedures to minimize pain and distress.

DON'T plan experiments requiring use of one of the animal facility operating rooms without first checking with the responsible veterinary technician on room and staffing support availability.

DO keep records on all animal use, including surgeries performed, anesthetics and analgesics administered, daily observations, treatments, and any experimental interventions that impact animal well-being.

DO consult a veterinarian on appropriate anesthetics and analgesics for all of your animal experiments.

And lastly, **DO** show your appreciation to the animal care staff for the excellent work that they do every day of the year.

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