

Research News

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A Success Story — The Excellence in Diversity Fellowships

Nisha Botchwey studied coral reefs for her environmental science degree at Harvard. At Penn she became intrigued by coastal development and how pollution and runoff caused by development impacted marine life immediately offshore. Dying coral reefs are a warning sign, she says, and human habitation must be put on a healthy footing before the environment offshore can be remediated.

Today, Nisha Botchwey teaches in the Department of Urban and Environmental planning in the School of Architecture, while her husband Edward is a member of the faculty in biomedical engineering. He was encouraged to come to U.Va. from Penn where Dr. Cato Laurencin, Lillian T. Pratt Distinguished Professor and chair of the department of orthopaedic surgery, was his mentor. His research interests are in tissue engineering, and particularly in finding new ways to promote angiogenesis and vascular remodeling to enhance bone healing. Both Nisha and Ed are fellows in the Excellence in Diversity program, which is jointly funded by the Provost and the Dean of the College of Arts & Sciences. The program matches fellows with advisors, allocates funds for professional development and helps them integrate into the academic community through social events, seminars and other opportunities tailored to meet their individual needs.

This year there are eight fellows in the program, which was established to nur-

ture the careers of women and under-represented minorities, without being limited to people in these categories. They include Hyekyun Rhee, in the School of Nursing, Robert Tai in the Curry School of Education, Bryant Murphy in anesthesiology, Hsin-Hsin Liang in Asian and Middle-Eastern

languages, Katherine Lebow in history, and Donna Chen in health evaluation sciences, psychiatric medicine and bioethics.

Listening to Ed Botchwey speak about the Excellence in Diversity program is to hear an abundance of praise for the people who designed it and those who administer it, including Marva Barnett, the director, and her staff at the Teaching Resource Center. "They help to break down barriers in what is bound to be an intimidating environment for any new faculty member," says Ed. "They are very effective at identifying the most common and important needs of the fellows, and are even better at



Andrew Shurtleff

Nisha Botchwey, professor of urban and environmental planning, and Edward Botchwey, in orthopedic/biomedical research, are fellows in the new Excellence in Diversity program.

creating opportunities for us to interact with the people most able to offer help and support." His advisor is J. Milton Adams, the Vice Provost for Academic Programs, and they share a passion for biomedical engineering, but Nisha notes that they seem to have lunch together very often too. Nisha's esteemed advisors are Angela Davis, a faculty member in the English depart-

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Office of the Vice President for
Research and Graduate Studies
UNIVERSITY OF VIRGINIA

New Institute on Aging Unites Research Across the University

Timothy Salthouse, Brown-Forman Professor of psychology, has been appointed to direct the University's new Institute on Aging. Based in brand new offices at 2205 Fontaine Avenue, the initiative will help unite many different approaches to aging in the health sciences, nursing, architecture, engineering and in the Graduate School of Arts & Sciences. Salthouse envisions more collaborative research, but also an increased emphasis on teaching courses related to aging.

The advisory board for the Institute includes James Aylor, associate dean in the School of Engineering and Applied Sciences, chair of electrical engineering and computer science, Gene Barrett, director of the Diabetes Center, Courtney Lyder, professor in the School of Nursing, Arthur Weltman from the Curry School of Education, David Goldmacher from the

Department of Neurology in the School of Medicine, and Gordon Walker, director of the Jefferson Area Board for Aging, a community-based regional agency.

Nationwide concern about diseases of aging is increasing, as some epidemiologists predict that the prevalence of dementia may exceed 47 percent of the population by the time people reach 85 years of age. The number of new cases of Alzheimer's Disease approximately doubles every 5 years after age 60. These predictions, together with the expectation that far fewer workers will be supporting a burgeoning elderly population, makes it imperative that we find ways to reduce the costs of health care for the elderly and enable them to live independently for longer.

A distinguished speakers program has been organized to include Ian Deharry from the University of Edinburgh who will address the predictive value

of childhood IQs on functioning late in life, and Marilyn Albert from the Johns Hopkins University who will address a conference at U.Va. on September 16-17 on the neuropsychology of aging and age-related cognitive impairments.

The institute has already awarded funding to six pilot research projects selected by the advisory board. Barry Condrin in the Department of Biology has received support to investigate neuronal aging and other age-related degenerative diseases. Chad Dodson in psychology will work on the effects of age on monitoring and regulating memory accuracy. Bethany Teachman, also in psychology, will investigate the relation between perceptions of cognitive decline and obsessive-compulsive symptoms. John Lach in electrical engineering will study wearable sensor systems for collection of functional data on the elderly without restricting

their independence. Bernhard Maier in neuroscience is studying the interaction of longevity genes with a cellular growth suppressor with the objective of reversing cellular aging. Finally, Carol Manning in neurology will study the role of a new type of neuroimaging, magnetic resonance spectroscopy, in helping to identify people who will develop Alzheimer's Disease.

The Institute will also support the formation of working groups to explore the possibility of collaborative research, and can offer funding for speakers and consultants as well as organizational help in scheduling meetings. Sara Agre is the administrator of the Institute and can be reached at 243-5695 to discuss these possibilities in more detail. More information about future funding opportunities is listed on the web site: www.virginia.edu/aginginstitute ■

National Award for Surgical Resident



Heather L. Evans, M.D., surgical resident

Heather Evans, M.D., third-year resident in the Department of Surgery, received a master's degree in clinical investigation from the Department of Health Evaluation Sciences at the University's commencement on May 16, 2004. Under the mentorship of Dr. Robert Sawyer, co-director of the Surgical-Trauma Intensive Care Unit, Dr.

Evans has been investigating the impact of gender on differential human responses to critical illness through a two-institution study of surgical patients requiring intensive care. Based on available animal data, it appears that women may have a survival advantage following shock induced by trauma, possibly related to the degree of inflammation induced. The current observational study thus far confirms previous findings that men have a more dramatic change in their sex hormonal levels, and the men with the greatest change from baseline are the men who die. Dr. Evans recently presented preliminary data from their investigation at the 24th meeting of the Surgical Infection Society in Indianapolis, IN, and was recognized with a resident presentation award. In June, she will be returning to clinical duties to complete her final three years of training in the Department of Surgery. Evans has also won the 2004 Outstanding Student Award from the Department of Health Evaluation Sciences.

Engage...Excite... Educate

Energizing business education with Darden Business Publishing

You might say that Darden Business Publishing is a new business that has been around for quite a while. Since the School's beginnings in 1954, faculty at the Darden Graduate School of Business Administration have been writing business cases to use as a teaching tool in the Darden curriculum. Throughout this time, faculty at other institutions have recognized the value of Darden cases, prompting them to request these cases from Darden for use in their own classes. Recently, outside demand for our cases has accelerated. To meet this demand, Darden has studied how best to manage the publication of its intellectual property.

In 2003, recognizing the unique role Darden cases can play in creating an engaging teaching environment, the Darden School launched a new venture—Darden Business Publishing (DBP). They have added an electronic storefront for scholars, executives and interested others to browse and purchase Darden's teaching materials: cases and accompanying teaching notes, technical notes, multimedia cases, interactive simulations and videotapes. In today's business classroom, students can now sit in on actual interviews of CEOs in a company; they can use simulations to participate and make decisions in real-world business scenarios; or they can role-play in situations to develop needed managerial and people skills. To learn more about Darden Business Publishing, visit the storefront at www.dardenpublishing.com ■

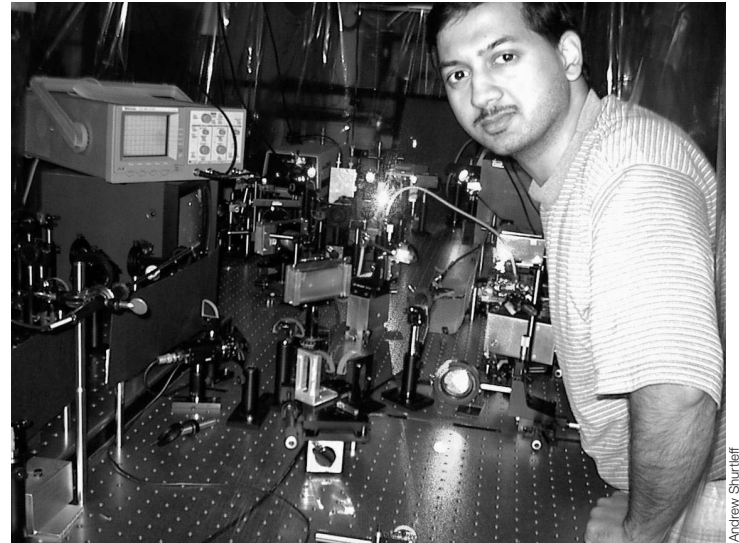
Allan T. Gwathmey Memorial Award for Santosh Pisharody

By Peter C. Brunjes

Remember when you were in junior high school and you had the realization that there was a similarity between the planets orbiting around the sun and electrons moving around a nucleus, and thus had an epiphany that held together all matter from grand to minuscule?

Classical physics allowed such a view of atomic organization, but the advent of quantum mechanics made the issue cloudier. Santosh Pisharody, a graduate student in the physics department, along with his Ph.D. advisor Robert Jones, have published a paper in the journal *Science* (Vol 303 813-815, 2004) examining this issue. The paper won this year's Allan T. Gwathmey Memorial Award, a \$5000 prize for the best paper published in physical sciences during the previous year.

Unlike planets, which occupy stable orbits, electrons exhibit very complex



Santosh Pisharody, graduate student in physics.

orbits, occasionally even colliding with each other. Pisharody, who has just assumed a prestigious postdoctoral position at the University of Michigan, used precisely timed pulses of coherent lasers to induce this process known as auto-ionization and measured the results. What Pisharody observed as a result lends credence to the notion that processes similar to those described by classical physics may underlie the quantum effects observed in electron motion and also provide an exciting new tool for understanding the fine-scale structure of matter. ■

New Hewlett Foundation Grant for Environmental Negotiation

The Institute for Environmental Negotiation under the direction of Frank Dukes has received a \$300,000 grant from the William and Flora Hewlett Foundation to support their Community-Based Collaboratives Research Consortium. These collaborative processes are increasingly used to solve complex environmental problems such as grazing land disputes, forest management plans and conflicts over fisheries.

"A community may reach agreement on a plan to manage a river and may have used good data to set goals for reaching intended objectives, but factors outside the group's control may change the plan's outcomes," says Karen Firehock, consortium coordinator. Unanticipated natural events such as a drought, a fire or a political decision to build in the path of a river may change the environmental outcomes of the plan. Collaborative problem-solving is often needed to resolve conflicts between competing uses for land.

The Institute was founded in 1980 and is part of the Department of Urban and Environmental Planning within the School of Architecture.

Advocates for Faculty Advancement

Gertrude Fraser, professor of anthropology, is well qualified to take on the challenge of her new position as the University's Vice Provost for Faculty Advancement. Fraser came here in 1992 from the Johns Hopkins University. Since then she has conducted extensive research on health issues facing poor rural communities in the South. In her new administrative role, she has a special interest in retaining faculty. She believes that heightening a sense of community within the University and encouraging a lively intellectual discourse will improve faculty retention.

"Seeding new research through grants to support developmental work and money for research-related travel and attendance at professional conferences will go a long way toward improving the intellectual climate," says Fraser. She cites the Excellence in Diversity fellowship program of the Teaching Resource Center (see page 1 for more information about this program), which promotes intellectual community and professional growth for faculty from underrepresented groups. The TRC offers a place to share new ideas about teaching and to defuse some of the



Andrew Shurtleff

Gertrude Fraser, professor of anthropology, is Vice Provost for Faculty Advancement.

tensions that teaching faculty experience as they try out techniques that work best for them in the classroom.

Most of all, Gertrude Fraser would like to encourage collaborative work across disci-

plines, and to find more ways to foster mentorships for young faculty. Fraser hopes to be able to find creative ways to pair junior and senior faculty to help in career advising through a mentor resource network. She also sees the opportunity to implement virtual mentor networks, especially for teaching at the undergraduate level, where support through e-mail communication may bolster and enhance the teaching experience for junior faculty. Certainly within the University the internet can provide a central platform to share available resources.

Sharon Hostler, M.D., directs a mentorship and faculty development program in

the School of Medicine, and this should be more widely promoted in other schools, says Fraser. Other initiatives in the School of Medicine include the Academy of Distinguished Educators—co-chairs of the steering committee are Karen Johnston, M.D., and Robert Kadner, Ph.D.—whose mission is to recognize and celebrate outstanding teachers; the Faculty Development Program for junior faculty; and a new program known as Leadership in Academic Medicine, a two-month seminar series for 16 mid-career faculty nominated by chairs as potential division chiefs or department chairs.

Department chairs too may need support in developing good practices in their administrative roles. Identifying the qualities that make for good leadership may make this a better environment for all faculty.

Additionally, Gertrude Fraser would like to develop a set of case study materials along the lines of those used by the Darden School as an aid to teaching at all levels, and she hopes to engage interns to write the cases. Fraser says that she sees herself as the glue that will bring existing resources together to improve the teaching environment, and to encourage more of our star faculty to stay. ■

IATH Selects New Fellows for 2004

The University's Institute for Advanced Technology in the Humanities (IATH) has awarded its 2004-2006 Fellowship to Francesca Fiorani, assistant professor of art history, based on the strength of her proposed project, "Leonardo Da Vinci and His Treatise on Painting." With the resources provided through the IATH Fellowship, including IATH staff, space and computers, Fiorani will create a thematic collection of digital materials derived from the various editions of Leonardo's Treatise. From the mid-sixteenth to the late-eighteenth centuries these editions were the primary source for Leonardo's artistic theories. The resulting thematic collection will provide a foundation for comparative studies among these editions. One of the technical challenges of the project will be to design the information structures to allow access to the complex interrelationships between text, image and artistic process that are required by

Leonardo's exposition of his theories.

"This year's selection committee had a very difficult task in choosing from the five very strong proposals submitted by faculty from across the University," according to Worthy Martin, interim co-director at IATH. "Each of the proposed projects has the potential to continue the tradition of an IATH Fellowship being the basis for a University faculty to build a resource of international stature. A small sample of projects in that tradition includes The Valley of the Shadow (Ed Ayers, History), The Rossetti Archive (Jerome McGann, English) and The Tibetan Himalayan Digital Library (David Germano, Religious Studies)." [See

<http://www.iath.virginia.edu/researchactive.html>]

In addition, IATH has awarded an associate fellowship to Amy Ogden, assistant professor of French, for her proposed "Lives of the Saints: The Medieval French Hagiography Project." Ogden's project will build an electronic collection of textual and material information about saints' narratives in Old French and the manuscripts that preserve them.

New Director Selected for IATH

The Vice President and Provost has appointed Bernard Frischer as the new director of U.Va.'s Institute for Advanced Technology in the Humanities, beginning in the fall term 2004. He will also join the faculty as professor of classics and art history.

"It is an honor and challenge to be chosen to succeed John Unsworth, the first director of IATH," says Frischer. "Under John's leadership, IATH established itself as the premier research center in the United States for digital humanities. It is my hope to build on the achievements of the past by helping to make digital humanities a sustainable and integral approach to humanistic research both at Virginia and at other major universities around the world."

"It is my hope to build on the achievements of the past."

Professor Frischer is a leading scholar in the application of digital technologies to humanities research and education. He is the founder and director of the Cultural Virtual Reality Lab at UCLA, which uses three-dimensional computer modeling to reconstruct cultural heritage sites. Frischer has overseen many significant projects, including virtual recreations of the Roman Colosseum and the Roman Forum. The work of Frischer and the Lab has received international acclaim and has been featured on the Discovery Channel and in *Newsweek* and the *New York Times*.

"I am drawn to virtual reality technology because it strikes me as a highly effective way to help students and scholars visualize and understand complex lost worlds such as ancient Rome," says Frischer. "In the twenty-first century, real-time 3D-computer models of cultural heritage sites will become as common in history, art history, archeology and classics classrooms as two-dimensional 35mm slides were in the twentieth."



Bernard Frischer, the new director of the Institute for Advanced Technology in the Humanities (IATH).

Frischer's research career reflects his interest in interdisciplinary approaches, and has included studies in the literature, philosophy, art history and archeology of Greece and Rome. He is the author of four books, including *Shifting Paradigms: New Approaches to Horace's Ars Poetica*, and *The Sculpted Word: Epicureanism and Philosophical Recruitment*. Since 1997, Frischer has directed the excavations of Horace's Villa, a project sponsored by the American Academy in Rome and the Archeological Superintendency for Lazio of the Italian Ministry of Culture, which will be the subject of his next book.

Professor Frischer has been a faculty member in classics at UCLA since 1976, and served as chair of that department from 1984 to 1988. He received his BA in classics from Wesleyan University in 1971, and his Ph.D. in classical philology from the University of Heidelberg in 1975. His numerous awards and honors include appointments as the Loeb Classical Research Fellow, the Paul Mellon Senior Fellow at the Center for Advanced Study in the Visual Arts of the National Gallery, and a Fellow of the American Academy in Rome.

Frischer's spouse, Jane Crawford, has also been appointed as a professor to the University's classics department. She comes from Loyola Marymount University, where she currently serves as chair of the Department of Classics and Archaeology. ■

News from the Patent Foundation

Deborah Lannigan, assistant professor in the Center for Cell Signaling, and Luna Innovations, a Blacksburg company with research offices in Charlottesville, are working together to develop several inventions that have come out of U.Va. research. In the drug discovery arena, the company is developing therapeutic treatments for cancer from targets and inhibitors discovered by Dr. Lannigan and her colleagues Lorin Henrich, Jeffrey Smith, Sidney Hecht, Celeste Poteet-Smith, David Brautigam and Xu Yaming. Luna Innovations' program in biosensors for environmental monitoring and homeland defense is a good match for a technology invented by Dr. Lannigan and Ian Macara that creates novel biosensors through the in vitro evolution of biological receptors.

A Success Story

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ment and dean of Residence Life, and Pamela Kulbok, associate professor of nursing, and they too share a warm relationship. Both of the Botchweys, who moved to Charlottesville with their two-year-old daughter in fall 2003, feel that the Excellence in Diversity program has very quickly made them feel part of the University community, and has helped them overcome the usual obstacles that would have put them many months behind in their research following the move.

"This program should be expanded so that all incoming junior faculty can access it," responds Edward when asked what could be done to improve on it. "But it needs to retain its personal relationships between small groups of people," adds Nisha, who insists that this is the secret to its success. ■

Registration for the 6th Annual NIH SBIR/STTR Conference...

is now open at

<http://grants.nih.gov/grants/funding/sbirconf2004/index.htm>

This two-day meeting, organized by the National Institutes of Health (NIH), will focus on Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) funding opportunities available explicitly to small businesses that have innovative biomedical or behavioral research ideas with commercial potential. A particularly unique and valuable aspect of this conference is the opportunity for you to interact one-on-one with NIH program directors, grants management specialists, and scientific review administrators. This conference will benefit those who are new to SBIR/STTR as well as those who are more experienced.

For Phase II awardees: This year we're offering an opportunity to showcase through a poster session some of your successful results derived from NIH-supported projects.

6th Annual NIH SBIR/STTR Conference

June 23-24, 2004

The Natcher Conference Center
NIH Campus, Bethesda, Maryland

Registration is FREE but
MANDATORY
Space is limited, so early
registration is essential

Encouraging Research on Balance and Hearing

Jeffrey T. Corwin and his research associates Jason Meyers, Mark Witte and Mireille Montcouquiel have been pursuing a promising line of research on the area of epithelium in the ear that governs balance. While it is well known that sharks and other cold-water vertebrates can regenerate their auditory detectors throughout their lives, this is not the case with mammals. Previously even under the best circumstances, the power to regenerate epithelial cells in the mammalian ear appeared to be forfeited by about 15 days after birth. Now, using growth factors that help to promote the repair of previously damaged cells and by testing them against highly sophisticated gene chips that provide a road map of DNA, the researchers are seeing hopeful signs of cell regeneration in the area that controls balance in the mature mammalian ear. These studies are being conducted in mice.

This line of research intersects with work that Kevin Lee, chair of the neuroscience department, is doing on lysophosphatidic acid (LPA) receptors, and on a developmental series of agonists and antagonists. Lee, whose primary focus is on the damage done to brain cells due to stroke, is also collaborating with Tim Macdonald, chair of the Department of Chemistry. Macdonald's expertise is in using LPA receptors to induce sensory cell growth. Using these chemical growth fac-



Jeffrey T. Corwin

tors to facilitate cell repair, the aim is to turn as many of the new cells as possible into sensory cells. Usually wounds heal by growing supportive tissue which does not have sensory capability.

Jeffrey Corwin notes that this fortuitous convergence of research interests has facilitated his research. "And being able to attract top doctoral students and postdocs has allowed us to make important strides that have greatly contributed to our knowledge base," he states. While this collaborative work between researchers in chemistry and neuroscience is currently being pursued at the cellular level, the hope is that eventually it may have applications not only for the restoration of damaged hearing and correcting problems of balance, but may also offer the possibility of repair of damaged optic nerves, and repairing some of the ravages that strokes can inflict. ■

Virginia Medical Device Symposium - June 24

Register now for the 2004 Virginia Medical Device Symposium, scheduled for Thursday, June 24, at the Omni Hotel in Charlottesville, Virginia. The event, sponsored by the Virginia Biotechnology Association and the Virginia Piedmont Technology Council, will focus on the major issues facing this rapidly expanding industry, such as federal regulation, reimbursement, venture capital and start-up financing.

Blair Childs, the executive vice president of the Advanced Medical

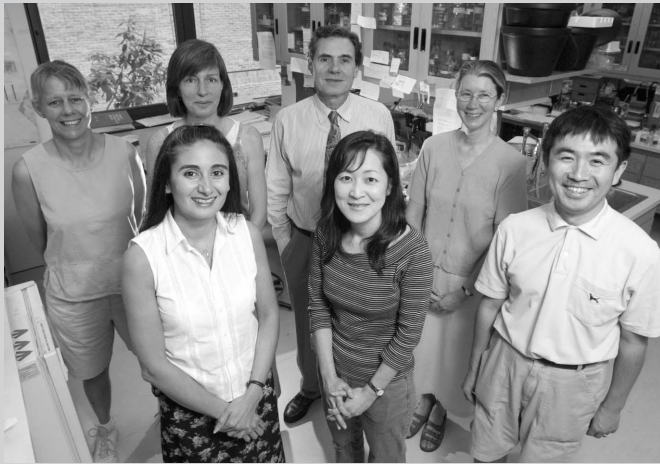
Technologies Association (AdvaMed), will be the keynote luncheon speaker. Member companies of AdvaMed (formerly the Health Industry Manufacturers Association) represent more than 90 percent of the \$71 billion health care technology products consumed in the United States, and nearly 50 percent of the world's consumption.

Registration is \$59 for VaBIO and VPTC members and \$99 for non-members. Visit www.vabio.org to register. ■

A case of cellular flip-flop

A new research study has shown that many cell types have the ability to temporarily change their identity and function, turning themselves into renin-secreting cells when it is necessary to stabilize blood pressure. The research, published in the May issue of *Developmental Cell*, demonstrates that these are the direct descendants of cells that have expressed renin at some time during their development.

Renin plays a major role in regulating blood pressure in the body. Renin is a hormone released into the blood by specialized cells located in the walls of kidney blood vessels in response to dehydration, sodium depletion or low blood pressure. Adult



Front Row (Left to Right) Maria L. Sequeira Lopez, MD, Takayo Nomaso, MD and Seiji Watanabe, MD. Back Row (Left to Right) Beth Marcinko, Technician, Maria Cristina Monteagudo, MS, Ariel Gomez, MD and Ellen S. Pentz, PH,D

mammals can increase circulating renin when necessary by increasing the number of renin-synthesizing cells. Dr. R. Ariel Gomez, U.Va.'s Vice President for Research and Graduate Studies, together with his colleagues Dr. Maria Luisa S. Sequeira Lopez, Dr. Ellen S. Pentz, Dr. Takayo Nomasa and collaborator Dr. Oliver Smithies examined whether the ability of adult cells to synthesize renin was dependent on the cell's original lineage. The investigators generated a mouse with a genetic marker that allowed visualization of renin-expressing cells even after the cell had differentiated into a non renin-secreting cell type. Experimental manipulations demonstrated that adult cells that were descendants of renin cells retained the capability to make renin when more of the hormone was required to stabilize blood pressure.

According to Dr. Gomez, "The experiments confirm that recruitment of renin-expressing cells is determined by the developmental history of the cells, which retain the memory to re-express the renin gene under physiological stress. The mice we have generated should be extremely valuable to delete genes specifically in the renin-expressing cell and therefore determine the precise cellular function of those genes independently of systemic influences."

Animal Care and Use Accreditation Update

Consultants from AAALAC visited the University in March to review the animal care and use program. The Office of the Vice President for Research and Graduate Studies thanks everyone for their efforts in preparing for this review. We will receive feedback from AAALAC during the summer.

Expanded Animal Research Compliance Program

The University, by way of the Institutional Animal Care and Use Committee (IACUC), is charged with the mission of reviewing and approving all University activities related to the care and use of animals in teaching and research.

Deborah Moody, whom many of you have already met, joined the Office of Animal Care Education and Oversight as the animal research compliance monitor last July. Her responsibilities include serving as a resource for investigators and laboratory personnel regarding regulations and policies in the conduct of animal research. She has been actively visiting research laboratories throughout the University that use animals in their research program to review current practices, monitor procedures using animals and ensure compliance with the approved animal research protocol. During her visits she asks many questions, takes careful notes and provides important feedback and guidance on appropriate animal use. She has already contributed to significant refinements in animal use in many laboratories.

Ms. Moody worked as a laboratory specialist in the lab of Dr. George Rodeheaver in the Department of Surgery for the past eight years and is experienced in the field. She has a bachelor of science degree from Virginia Tech, is a certified AALAS laboratory animal technologist, and is also certified as a Surgical Research Specialist in the program administered by the Academy of Surgical Research. While working for Dr. Rodeheaver, she gained experience in a variety of surgical procedures, with responsibility for anesthesia, surgery and post-operative care. She also designed experiments, performed data analysis, recordkeeping and animal protocol preparation. She was therefore well versed in many aspects of animal research prior to taking on her new responsibilities. Ms. Moody also assists Dr. Patricia Foley, DVM, in providing training to researchers, offering recommendations and demonstrating techniques, particularly in the area of rodent survival surgery. Moody spearheaded the effort to produce copies of a CD titled "Training in Survival Rodent Surgery" and has made these widely available for use by research personnel.

Please welcome Debby Moody when she next comes to visit your laboratory. You will find her to be a wonderful resource for information on animal research. ■

Guggenheim Fellowship for Joseph C. Miller

Historian Joseph C. Miller recounts that more than 30 years ago he promised his teacher Philip D. Curtin that he would write a monograph on “comparative history” of slavery from the earliest recorded times to the present day. Now that he has received a Guggenheim fellowship, he will be able to devote himself to fulfilling his promise.

Miller came to the University of Virginia from the University of Wisconsin where he received his doctoral degree under Curtin’s supervision in 1972. Since then he has specialized in world history as it relates to Africa and the slave trade, and he has compiled and edited the *Annual Bibliographical Supplement on Slavery*, which is a compendium bibliography of secondary publications – some 25,000 in all – on slavery and slave trading throughout the world since 1900. For more than a quarter of a century, Miller and his graduate students have worked to keep the bibliography current, which has provided valuable experience and an entrée into the world of academic publishing beyond their own research fields for many of his doctoral students.

“Were it not that I was asked to teach about slavery when I first came to the University of Virginia,” says Miller, “I am not sure I would have specialized in this field.” As Dean of the College from 1990 to 1995, Miller was proud to emphasize the importance of the teaching mission for research and, of course, vice versa. The Board of Visitors at that time was keen to emphasize the importance of the teaching mission – and this remains true today – and the then dean, Merrill D. Peterson, conveyed to Miller that this would be his most important role.

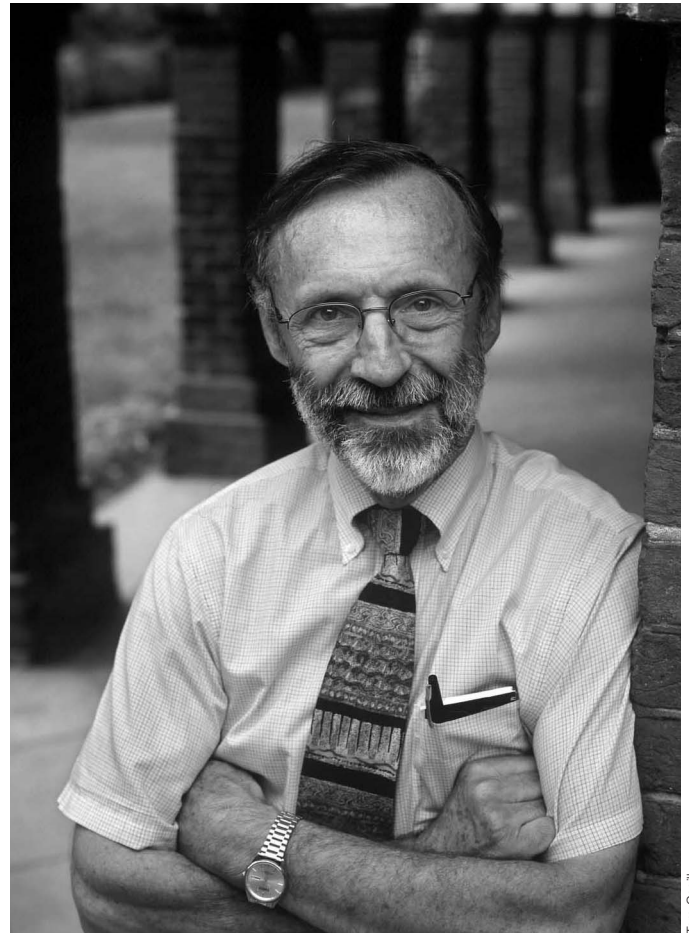
Out of this engagement with the two aspects of most U.Va. faculty members’

commitments—to teaching and research—Miller has found his approach to the subject evolving as the years have passed. He still maintains his first love is teaching and that his research has been on the back burner as a consequence.

Miller explains that he is interested in slavery not as an “institution,” as it is usually characterized, but instead as a dynamic process on large scales that allow him to examine the epistemological bases of his discipline of history. He points out that slavery throughout the world has been – and in an alarming number of instances remains – very different from the plantations of the Old South that most people regard as typical. It often involved women in their owner’s large families rather than men working in fields. Enslaved women and children, nearly always torn from their homelands and resettled in isolated vul-

Miller maintains his most important role is as a teacher.

nerability, often desired to “belong” rather than to escape. In a distinctively wrenching extension of this general pattern in the United States, families were often broken up and dispersed by their



Joseph Miller, professor of history, received a prestigious Guggenheim Fellowship.

Tom Cogill

owners to pay debts or secure other investments.

The dynamics of bringing in large numbers of outsiders as slaves to fill the unmet needs for labor in fast-expanding labor markets created the circumstances in which the most notorious instances of slavery occurred. Miller will trace these patterns long before ancient Egypt and as recently as the Nazi era in Europe and contemporary sex slavery of children and women. The legacy of poverty and dependency, fear and guilt on the part of the owners, and vulnerability on the part of the enslaved, and the human tragedies of dominating other people have made slavery a subject of enduring fascination for Joseph Miller and his students. These long-standing effects on owners and traders as well as those bound by slavery continue to be felt until today. ■

BUILDING IT RIGHT — The Project Team Examines the Memorial Units

Excerpted from the United States' Pentagon web site

The early work of the Pentagon Memorial design-build team has focused on researching the fabrication and performance criteria for the 184 Memorial Units that comprise the heart of the memorial. Each Memorial Unit is a complex, yet elegantly simple, element that performs several tasks and is several things at the same time. It is an individual reflecting pool of water that glows with light at night, the place for the permanent inscription of each individual victim's name and a place to sit and place mementos. Its slender cantilevered form and the Memorial Unit's multidimensional integrity are rooted in the fabrication of its cast metal form.

The design-build team developed performance criteria for the Memorial Unit to aid in determination of the appropriate alloy to cast the benches. The criteria established the need for a metal that would last a hundred years or more, maintain structural integrity, and be compatible with other park materials and the water circulation system. Requirements for machinability, castability, and durability were also determined.

Corrosion became one of the team's most critical concerns. Based upon the original concept design, researchers began a search for an aluminum alloy that led them to contact Dr. Edgar A. Starke, Jr., Oglesby Professor of Materials

Science and Engineering and Director of the Light Metals Center at University of Virginia's School of Engineering and Applied Science. Dr. Starke and colleague Robert G. Kelly,

Each Memorial Unit is a complex, yet elegantly simple element that performs several tasks and is several things at the same time.

Associate Professor of Materials Science and Engineering and Co-Director of U.Va.'s Center for Electrochemical Science and Engineering met with the team to discuss metal selection and corrosion considerations. This workshop established that aluminum could not meet the performance criteria, as corrosion was inevitable. The team began intensive research into stainless steel, titanium, and other metal options that included literature searches, extensive

interviews with metals and corrosion experts and engineers, exhaustive discussions with fabricators, and visits to three representative foundries.

The research resulted in a decision by the design-build team and representative family members of the victims to produce the Memorial Units using a Super Duplex stainless steel alloy with a high pit resistance equivalent (PRE). The specific alloy is used extensively in offshore oil and gas facilities and increasingly in naval applications as it offers high strength and excellent corrosion resistance. Notably, the metal was recently used in the restoration of the Statue of Liberty, where constant exposure to salty air had corroded the monument.

While more expensive than aluminum, it is significantly less expensive than titanium and offers the life cycle cost benefit of a less intensive maintenance regime. Critical to design performance, the engineered alloy meets or exceeds the metal performance criteria established for the specific application of the Pentagon Memorial - a place designed for a lifetime.

To learn more about the memorial or to donate to the project, visit <http://memorial.pentagon.mil/> ■



Commercialization Workshop

VCU's second annual Commercialization Workshop will be held on the Virginia Commonwealth University (VCU) campus, University Student Commons, 907 Floyd Avenue, Richmond, Virginia, on Thursday, August 12, 2004. This commercialization workshop is designed to equip small high tech firms with the business concepts and methods essential for sound planning to commercialize new high tech products and achieve company growth.

Virginia Commonwealth University's Office of Research will host this workshop, and members of VCU's Business School faculty will provide instruction in key dimensions of the business planning process. Founding CEOs of leading Virginia companies will share their SBIR experiences with high tech growth companies. To register, send a check for \$70 to KC Consulting LLC, 11771 Rexmoor Drive, Richmond, VA 23236, or e-mail kcdas@msn.com for further information.

Research Support in the Arts, Humanities and Social Sciences

A new program to support faculty in the arts, humanities and social sciences was initiated this academic year. Created by the Vice President for Research and Graduate Studies in collaboration with the Dean of the College of Arts & Sciences, the program has offered grants of up to \$3000 to faculty for any activity or expense associated with a scholarly or research project.

Examples of those who have received funding include Mark Thomas in the

Department of History, who has compiled a history of the British stock market over 75 years of the nineteenth century, which may offer some predictors for our own era; Maurie McInnis in the Department of Art, who has completed a study of the architecture of Charleston, South Carolina. Marianne Kubik in the drama department will be able to film a dance she has created thanks to this program, while Nicolas Sihlé in anthropology will observe a week-long religious ceremony in

Tibet, which is part of the revitalization of the Buddhist tradition in that region.

This year, 30 awards were made in two rounds of reviews in March and December 2003. Jeffrey Plank administers the program on behalf of the Vice President for Research, and Karen Ryan administers it for the Dean of the College. In the next issue of this publication, interviews and links to web sites where work in progress can be viewed will be included. ■

Research News

June 2004 Vol. 6 No. 3

Research News is published by the Office of the Vice President for Research and Graduate Studies.

Editor

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Photography

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Design

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www.virginia.edu/researchandpublicservice/researchnews.html



Office of the Vice President for
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