



## Pathobiologist to share expertise with policymakers

BY DAVID BAUMAN

Steven Geary, a professor of pathobiology who specializes in infectious diseases of animals, is one of eight tenured professors nationwide selected to be 2008-09 Jefferson Science Fellows at the U.S. Department of State in Washington, D.C.

He will be the first microbiologist/vaccinologist to serve as a Jefferson Fellow.

The fellowship program brings specialized scientific knowledge to the formulation and implementation of U.S. foreign policy. Beginning in August, Geary will spend a year working full-time in either the State Department or the U.S. Agency for International Development, providing up-to-date expertise on issues that impact U.S. foreign policy decisions.

"I see this as an excellent opportunity to learn first hand how science and technology are used in our relationship with other nations," says Geary, director of UConn's Center of Excellence for Vaccine Research, "and the process whereby policy at the State Department is developed."

Geary hopes to bring his expertise in microbial diseases that can devastate the

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A view of a Kousa dogwood tree in bloom outside the Torrey Life Sciences Building.

PHOTO BY PETER MORENUS

## Three nursing faculty receive profession's highest honor

BY COLIN POITRAS

Three University of Connecticut nursing professors have been elected to the American Academy of Nursing, the highest honor for nurses in the country.

School of Nursing Associate Dean Regina Cusson was recognized for her outstanding accomplishments in the field of neonatal care. Professors Geraldine Pearson and Deborah Shelton were honored for their exceptional work in the fields of adolescent psychiatric nursing and correctional health care respectively.

The American Academy of Nursing is the most prestigious professional organization for nurses in the United States. It recognizes top nursing leaders in the fields of education, management, research, and clinical practice. Of the approximately 3 million registered nurses in the country, only about

1,500 have been elected to the Academy.

"It is recognition of extraordinary nursing careers and contributions at the highest level of the profession," says Anne Bavier, Dean of UConn's School of Nursing.

"These UConn nurse scientists set the gold standards for patient care in their respective areas."

The three new fellows will be inducted into the Academy during a special ceremony in Scottsdale, Ariz. this fall.

Cusson is a professor and associate dean for academic affairs and advanced practice in the School of Nursing. She is a certified neonatal nurse practitioner and coordinator of the school's Neonatal Nurse Practitioner Program. Her federally-funded research studies have helped define practice stan-

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## Spike Lee to base new movie on physics professor's book

BY CINDY WEISS

Physics professor Ronald Mallett's boyhood dream of building a working time machine may enter warp speed, now that he's signed a film deal with director Spike Lee.

Lee's production company, Forty Acres & A Mule Filmworks, has acquired the film rights to Mallett's latest book, *Time Traveler - a Scientist's Personal Mission to Make Time Travel a Reality*.

The deal resulted from a two-hour conversation between Mallett and Lee at the Student Union before Lee's March 29 keynote talk at the Harlem Renaissance conference organized by the Institute of African American Studies.

Lee, who teaches a film course at New York University, learned about the book from a student in his class. He asked to meet

with Mallett when he came to UConn to speak.

Lee left for Italy the day after his UConn speech to finish filming his latest project, *Miracle at St. Anna*, based on James McBride's novel about members of the U.S. Army's all-black Buffalo Soldiers in the 92nd Division during World War II. He took a copy of Mallett's book with him.

"When he came back," says Mallett, "he decided he wanted to make a movie - it was literally that fast."

Lee called Mallett on April 9 and - Hollywood-style - told him "my people are going to contact your people" about a contract.

The time schedule for the film and its filming location have not been announced. Mallett's book, which he calls a scien-

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PHOTO BY PETER MORENUS

Amy Gronus, left, a production chef at Northwest Dining Hall, and Stephen Anthony, area assistant manager of Dining Services, release bees at the new Dining Services apiary.

## Beekeeping experiment aims to supply honey to dining halls

BY RICHARD VEILLEUX

Just weeks after a pair of employees in the Department of Dining Services began an experiment to raise bees that will produce honey for UConn's dining halls, the brightly colored boxes that house the hives and 100,000 bees are buzzing with activity.

The experiment is believed to be the first such effort at a college or university in the country.

"They're really moving fast," says Steven Anthony, an assistant manager at North Campus dining hall. "They've almost completed building their combs on a couple of the frames [drawers that slide into each hive]. The activity in all 10 hives has been non-stop."

Standing near the hives in a freshly cut area of brush behind UConn's old apple orchards, Anthony and Amy Gronus, who works in Northwest Dining Hall, answered questions from a television reporter, as thousands of bees buzzed behind them, moving in and out of the hives delivering their loads of nectar and going back out for more. News stories about the apiary have been carried in dozens of newspapers and on TV and radio since the bees arrived.

"There really is a reason people refer to being 'busy as a bee,'" Gronus tells the reporter. "They all have jobs to do and they never

stop, morning to night."

The idea of adding bees to UConn's collection of productive farm animals came from Anthony, after he attended a Cooperative Education class on bees. Following the course, he talked to Gronus, who keeps several hives at her home in Ashford. Their discussions led to a successful proposal to UConn administrators.

That should be good news to UConn students, who spoon nearly 1,000 pounds of honey into their tea and onto their toast every year. Chefs in the University's nine dining halls use another 2,800 pounds of honey each year in marinades and sauces, and the UConn bakery also runs through honey rapidly. Currently, the department buys some of its honey for Whitney Dining Hall from a local beekeeper, in keeping with a pledge to buy as much food as possible locally. The bulk of the honey is purchased from Sysco, one of the department's primary vendors. The locally purchased honey costs roughly \$5 to \$6 per pound.

That cost – about \$10,000 to \$15,000 annually – will decrease significantly, once the new hives are buzzing to capacity, says Anthony. The entire setup, including the hives, bees, queen bees, and equipment for handling the bees, cost only about \$4,000, he says. And the labor involved, after the

hives are built and the operation is set up, is minimal.

It's money well spent.

"The flavor is so different (from store-bought honey). It's stronger, more pure, when you harvest from your own hives," says Gronus, who has kept several hives in her backyard for the past two years. "The flavor depends on what they eat, but it's much better."

Once the bees start dining on ragweed in the fall, the honey will also take on a medicinal role, helping immunize the community against allergies.

Gronus and Anthony say that because they got a late start this season – the bees were placed in the hives May 31, about two months later than ideal – they don't expect to harvest more than about 500 pounds of honey in the fall. Beginning next year, however, they expect the hives to produce some 2,000 pounds of honey each year. That total could be greater if they add more hives.



## Charitable campaign 'stellar'

BY SHERRY FISHER

The final numbers for the 2007 State Employees' Charitable Campaign at UConn show the campaign was a resounding success.

The Storrs campus, School of Law, and Health Center all received awards from campaign headquarters "for stellar results, dazzling participating, and overwhelming support."

Final results for Storrs showed that 604 contributors pledged \$160,063, a 33 percent increase in donors over the 2006 campaign and 18.5 percent more funds raised over the \$135,000 goal.

Health Center employees contributed \$172,424, surpassing their goal of \$170,000.

The Law School exceeded its goal of \$9,366 by raising \$12,508, a

40 percent increase over the 2006 campaign.

The Storrs campus and those at Avery Point, Stamford, Torrington, Waterbury, and West Hartford collectively raised \$180,795.

President Michael J. Hogan, who supplied a campaign pledge card link on his website, says, "When UConn employees give back in such a significant way, they show themselves to be good citizens of those communities where they live and work. Contributing to local agencies that hold the network of these communities together is an important part of our employees' participation in our statewide partnership, and I'm very grateful to everyone who made this a personal priority."

## Jefferson Science Fellow *continued from page 1*

food animal industry to help the Department of State formulate and implement foreign policy to prevent agro-terrorism. He also will discuss science and technology with the general public, and may travel to U.S. embassies.

He says that with the ever-increasing risk that damaging infections could be introduced to the U.S. food animal economy, there is "an immediate need to improve our ability to detect, monitor, and prevent microbial diseases."

After their year of service, the fellows agree to resume their academic careers and remain available to the Department of State as consultants for five years.

"Steve is an outstanding research leader with a very well known and deserved national reputation," says Gregory Anderson, vice provost for research and graduate education. "This is an opportunity for him to make a contribution to research policy at the national level, and achieve special recognition for UConn faculty that is both impressive and hard to get."

Started by the U.S. Department of State in 2003, the Jefferson Science Fellows program gives the U.S. government a chance to benefit from the expertise of academic scientists in shaping America's

foreign policy.

Through participation in policy discussions, the fellows help increase understanding of science and engineering among policy officials, and advise policymakers on the wider international implications of emerging scientific issues. In turn, they observe and participate in the daily workings of American diplomacy and statecraft, then take their experiences back to labs and classrooms.

The program is administered by the National Academies of Science and Engineering with support from the Carnegie and MacArthur Foundations.



PHOTO BY PETER MORENUS

Steven Geary, professor of pathobiology, outside the Atwater Laboratory.

# UNIVERSITY OF CONNECTICUT Advance

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# Polymer expert's lifetime work garners international acclaim

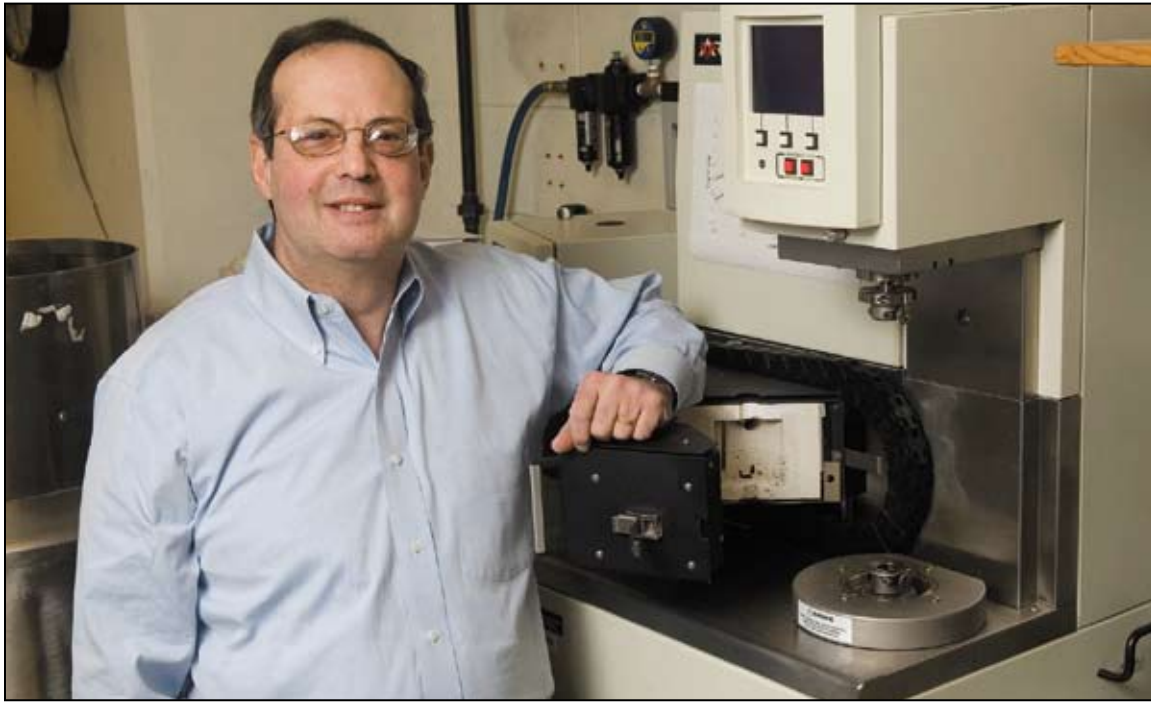


PHOTO BY PETER MORENUS

Robert Weiss, professor of chemical, materials, and biomolecular engineering, at his lab.

BY NAN COOPER

Polymers are found everywhere in the natural world, and engineering professor Robert Weiss has devoted his career to manipulating polymers to produce an array of useful products, from better golf balls to improved proton exchange membranes for fuel cells.

In May, he was honored by the Society of Plastics Engineers with the society's International Award in recognition of his lifetime achievements in polymer research.

Weiss is the UTC Professor of Advanced Materials & Processing and a Board of Trustees Distinguished Professor in the Department of Chemical, Materials & Biomolecular Engineering. During his 33-year career, he has contributed substantively to the field of polymer science and engineering. His research focuses primarily on ionomers, a type of polymer containing bonded salt or acid groups. His interests also span proton exchange membranes – used in fuel cells – along with polymer blends, thin polymer films, electrically conductive polymers, and hydrogels.

Prior recipients of the award include Alan MacDiarmid, a 2000 Nobel Laureate in chemistry, Weiss's UConn colleague, Montgomery Shaw, and his doctoral thesis advisor and frequent collaborator, William MacKnight, now professor emeritus at the University of Massachusetts.

Commenting on Weiss's award, MacKnight says "Bob has made very significant contributions to ionomers. ... [He] has had an exemplary career, and this is a fitting reflection of his accomplishments. SPE strongly emphasizes applications, and this honor distinguishes Bob's work as having merit not only on a fundamental basis but also for its improvements to the plastics industry."

Shaw, who nominated Weiss

for the award, says, "Bob is able to inspire people to do great things. He's a real leader. His impact is even greater than what he has accomplished himself. With all of his obligations as a faculty member, journal editor, and the like, he also finds time to mentor undergraduate students and involve them in interesting research.

"He has had a very big impact on the Institute of Materials Science and the profession," Shaw adds.

The word "polymer" is a Greek word meaning "many parts or units," an apt description for substances akin to the beaded chain Weiss keeps on his shelf. Silk and wool, rubber, corn starch – even DNA strands – are naturally-occurring polymers. When processed to achieve desired properties, polymers find countless applications in modern products, from use in consumer products, such as floor coverings, sunglasses, playground equipment, shoe soles, and swimming pools – to military and medical products, such as bullet-proof vests, artificial heart valves, and bone prosthetics. They are also widely used in other products, such as shampoos and super-absorbent diapers.

Weiss works on the physics of ionomers, specifically their structures and property relationships.

"My work involves trying to understand how to manipulate the structure to achieve specific properties," he says. "The structure of ionomers is on the nanometer scale, and diffuse, so ionomers are particularly difficult to characterize. Unlike metals and ceramics, which have well organized crystalline structures, ionomer structures are more disordered – essentially liquid-like – and thus definitive delineation of the structure is challenging. It's difficult, or nearly impossible, to get them into a state of equilibrium, because of their very high viscos-

ity and extremely slow relaxation times."

These same characteristics can also prove advantageous, however, allowing researchers to "freeze-in" relatively stable, but non-equilibrium structures that may have useful applications.

In addition to his fundamental research, Weiss has worked with many private companies to develop materials suitable for a variety of commercial applications. He has 18 U.S. patents in an array of applications, including golf ball covers.

Increasingly, he and his colleagues are turning to biomass as source materials for ionomers. Unlike most plastics, these renewable materials degrade readily in the environment.

He is now making ionomers from polylactic acid, which is derived from corn starch, and from other monomers derived from agricultural products. Polylactic acid can biodegrade over the course of months, and ionomers derived from the substance are being used in plates, cups, and utensils at the 2008 Beijing Olympics.

Weiss says polymer research has evolved significantly in the last 40 years.

"Nowadays, we are looking at developing super-hydrophobic surfaces," he says. "Water spilled on a lotus leaf, for example, beads up because the surface possesses nano and micro-roughness that traps air and prevents water from wetting the underlying surface. If we could build a window with such a coating, it would be self cleaning. Water would bead up on the surface and wash away dirt, providing a dirt-free surface.

"Or consider a military application," he adds. "The military is interested in super-slippery surfaces. No one could stand on such a surface – they would fall down. This technology could be used, for example, to paralyze an enemy in a non-fatal way."

# Game plan needed to combine service learning, PTR, says speaker

BY GREGORY HLADKY

Faculty members eager to combine classroom study with student experience in community service programs can translate their passion into promotions and tenure, according to experts in the field.

But Marybeth Lima, a professor of biological and agricultural engineering at Louisiana State University, warns that tenure-track faculty need to have a detailed game plan for doing so.

Lima offered her advice during a conference on service learning at the Greater Hartford Campus June 12-13. A recognized expert in service learning, Lima has gained national attention for having her students learn by doing through the design and construction of public school playgrounds in Baton Rouge.

She said her students learn very quickly that planning and building a playground to meet the different needs of preschoolers, elementary age kids, and children with disabilities is a remarkable engineering challenge.

Despite increasing acceptance of the service-learning concept around the nation, Lima said it isn't easy for faculty at research-oriented universities such as LSU and UConn to fit their experience with student-community programs into tenure-track formulas.

She said the harsh reality is that, for faculty on the tenure track, time and effort spent on service-learning programs must be split into traditionally recognized categories such as research, publications, and getting grants.

Advocates of service learning must also try to win over those in the academic community who regard it as "touchy-feely stuff," she added.

Raising money can be another challenge, Lima noted.

"I need \$30,000 to \$50,000 [in grant money or donations] for every playground I build," she said.

Lima said what keeps her going is her belief that equal access to safe, fun playgrounds is critical to the physical and emotional development of young children.

"Make sure you do things you're passionate about," she said.

She suggested that faculty interested in developing service-learning courses should seek advice from other educators around the nation working toward similar goals.

Lima and other speakers said an effort to combine traditional classroom studies with student community service can provide major benefits for everyone involved, including students, teachers, the communities, and the universities.

According to the keynote speaker, Nevin C. Brown, dismissive, old-line academic attitudes toward service learning programs are beginning to change.

"There's been a real battle for a number of years on many campus-

es," said Brown, who is president of the International Partnership for Service-Learning and Leadership.

The IPSL is a worldwide association of universities, colleges, and nongovernmental organizations created to advocate service-learning programs.

Brown said there has been "a whole movement in recent years to redefine what scholarship really is" and to examine the "overall role of the university in the larger community."

Ruth Glasser, a lecturer in urban and community studies at UConn's Waterbury campus, said spending 12 hours a semester helping at local agencies has given her students a far better understanding of urban poverty.

"It does push you beyond your comfort zone in ways that are very, very good," Glasser said.

Service learning existed at UConn in various forms long before the term itself was adopted by the educational establishment. These included community-based internships, class projects, and research efforts that involved local partners. One such program was Urban Semester, directed by Louise Simmons, an associate professor of social work.

In 2004, a group of UConn faculty, administrators, staff, and students created a plan for a center for community and civic engagement. After a committee was formally convened at the University to provide additional support for service-learning programs, an Office of Service Learning was launched at the Greater Hartford Campus in October 2007.

Wendy Pfrenger, an adjunct professor of English at UConn's Greater Hartford Campus, told the conference that the "messiness of service learning" can inspire both students and their teachers.

This year, Pfrenger and her writing class became involved in an oral history project in Hartford and West Hartford. The students created multimedia presentations that brought them into close contact with members of the community.

She said the "clumsy nature of the project" contributed to its success by forcing those involved to examine their own attitudes and the difficulty of writing for a nonacademic audience.

Gregg Gorneault, a former student of Glasser's who is now a program specialist with UConn's urban and community studies program, said his experience at a community agency helping redevelop old industrial sites in Waterbury's inner-city neighborhoods was a revelation.

"It was like discovering a whole new world," he said. "Students gain so much out of service learning that they can't get out of textbooks in class."



# Mastering the skills of orthopaedic surgery in the laboratory



PHOTO BY JUDY GRIESEDECK

Physicians training to be orthopaedic surgeons practice their skill with the arthroscope in the Bioskills Laboratory at the Health Center's New England Musculoskeletal Institute, under the supervision of Dr. Augustus Mazzocca, far left.

BY CAROLYN PENNINGTON

"Okay, it's time to let someone else drive now," says Dr. Joseph DeAngelis, a fifth-year resident in orthopaedics, as he watches a first-year resident grapple with an arthroscope deeply embedded in the foot of a cadaver.

The first-year resident is learning to "drive" in the Bioskills Laboratory, on the upper floor of the Health Center's New England Musculoskeletal Institute. This is where physicians specializing in orthopaedics can learn the rules of the road in their field without doing harm to a living patient.

The "steering wheel" in this case is an arthroscope – a flexible fiberoptic scope, the size of a

long drinking straw, fitted with a miniature camera, a light source, and precision tools. It has become a primary tool of the trade for an orthopaedist – used both for diagnostic procedures and for a wide range of surgical repairs.

#### Gaining skill, alleviating anxiety

"The first day, we were unfamiliar with the equipment and weren't really sure what to do," says Dr. Andrew Ritting, a first year orthopaedic resident. "You don't want to start your second year of residency and be on a scope service and never have seen or held a scope before. The more time we spend here in the bioskills lab, the more it helps alleviate some of the anxiety."

And Ritting will spend plenty of time here – approximately 250 hours during his five-year post-graduate residency program.

Learning to master the arthroscope is critical to the success of an orthopaedic surgeon and, unless you're a whiz at video games, it's much harder than you would think.

The lab is equipped with six operating stations and full-size plasma screen monitors capable of projecting both the procedures underway in the lab and actual surgical procedures in the operating room suites two floors below.

"The lab is divided into stations, and we run it almost like an athletic practice," says Dr. Au-

gustus Mazzocca, an orthopaedic surgeon, an active team physician for the UConn athletic teams, and director of the bioskills lab.

At one station, for example, second-year residents are practicing with the scope on the shoulders of a cadaver. At another station, third-year residents are working on subacromial decompressions, the surgical treatment for shoulder bursitis. And at a third, the fifth-year residents are doing rotator cuff repair.

"Every year they continue building on their skills, so when they get into the Operating Room, they have a better understanding of the procedure and will be able to assist the surgeon more effectively," says Mazzocca.

Dr. Kate Doughty, a fourth-year orthopaedic resident, says, "It's daunting to be faced with a living patient and be expected to use the scope. Practice in the lab gives us a level of comfort and confidence that we would not have otherwise."

The Health Center's bioskills lab is one of only a few nationwide. Orthopaedic surgeon Dr. Robert Arciero compares it to the Orthopaedic Learning Center in Chicago, the premier cadaveric bioskills educational facility in the country. "Ours may be smaller, but it is exactly as well-equipped," he says.

#### More than a training facility

Dr. Jay Lieberman, chairman of the Department of Orthopaedic Surgery and head of the New England Musculoskeletal Institute, says the lab "provides an opportunity to develop new surgical procedures or refine older methods to make them better," he says.

These new techniques are tested

in the state-of-the-art biomechanics laboratory, adjacent to the bioskills lab. It's equipped with a variety of machines capable of testing the forces exerted by muscles and gravity on various joints, soft tissues, and the spine.

The Health Center's sports medicine surgeons have developed new techniques that are tested in the biomechanics lab, then performed on cadavers, and subsequently used with patients.

Arciero and Mazzocca are internationally recognized for their innovative techniques to improve traditional shoulder surgery. The new methods developed here, now being used by surgeons around the world, offer patients greater comfort and range of motion and less chance of a second injury.

"We have a biomechanics lab that tests the procedure; we have a bioskills lab where we work out the imperfections and make sure we're proficient at doing it; and then we have an outcomes department that looks at what we do and makes sure we're as successful as we think we are," says Mazzocca.

Lieberman says many patients benefit from the fact that the Health Center has these labs. "You can't get the same experience using a computer or other type of simulation, even plastic models," he says. "It's important to practice the touch and feel of a real body."

Adds Dr. James Boyle, a fifth-year resident, "These are technical, hands-on skills. You can't read about it in a book and just go into the operating room and do it. The opportunity to practice in the bioskills lab takes a bit of the learning curve out of the OR and puts the learning curve here in the lab."

# Neonatal specialist named State Direct Care Nurse of the Year

BY CHRIS DEFRANCESCO

She's the nurse you'd want taking care of your baby.

That's how co-workers describe Donna Buchanan, who has the dual role of neonatal transport coordinator and neonatal nursing outreach coordinator at the UConn Health Center.

She also is the 2008 State Direct Care Nurse of the Year, as awarded by the Connecticut Department of Administrative Services.

The narrative of her nomination describes Buchanan as "the best in nursing and nurses."

Nursing director Ellen Leone, who nominated her for the award, says, "Over the years that I've been at the Health Center, everyone to a person has said to me, 'If it was my baby, I would want Donna Buchanan taking care of him or her.'"

As neonatal transport coordinator, Buchanan is responsible for the oversight of safety and performance of the neonatal transport system. In this role she also is a transport team leader, responding to calls from other hospitals in the region to stabilize and transport infants who require transfer to a

newborn intensive care nursery. As neonatal nursing outreach coordinator, she provides multidisciplinary training and education to health care providers throughout the state through training, regional conference development, and seminars focused on particular topics.

"She lives and breathes the operational success of the transport program," says nursing manager Maureen Guzzi, Buchanan's supervisor. "She works closely with community hospitals, the nurses, the physicians, and all other disciplines to assure best practice in stabilization of sick infants in the community until our team can get there. She really goes above and beyond when it comes to every detail around this program."

Jeanne Lattanzio, the Health Center's retired nursing director who now serves as coordinator of its March of Dimes Neonatal Family Support Program, says, "Donna's responsible and capable attitude provides the parents with a feeling of trust and confidence in the transport team that will be caring for their baby. Her expert care



PHOTO BY JANINE GELINEAU

From left, Donna Buchanan and team members Wendell Cote, Mardi Hayden, and Michelle Tardif ready a Health Center neonatal transport van for a call.

and devotion to the young patients in her care have been demonstrated over the years through her willingness to go out on transport in any kind of weather conditions."

A recent example occurred last December, when a winter storm

prevented the neonatal transport team from responding to a call from Bristol Hospital. Buchanan enlisted the help of Health Center Fire Lt. Wendell Cote, who took her there in a four-wheel drive vehicle so she could stabilize a

distressed infant until the rest of the team could arrive.

"It was just daily business, as far as I was concerned," Buchanan says. "It was pretty bad, and nothing was plowed, but it's New England, and we got through it."

After about a week in the Health Center's Newborn Intensive Care Nurseries, the baby went home with his family.

Says Buchanan, "The success of the transport system lies not with me but with the dedication of the entire team: attending neonatologists, neonatal fellows, midlevel practitioners, nurses, respiratory therapists, firefighters, and referring physicians. They are all vital to the team and I have never known them to waver in their commitment. I feel like I am accepting this award on their behalf."

Buchanan has been with the Health Center since 1982, when she started as a neonatal nurse practitioner and clinical nurse specialist. A graduate of the University of Virginia School of Nursing, she started her career in neonatology in the U.S. Army.



# Chemistry professor achieves nanotechnology breakthrough

BY CINDY WEISS

A chemistry professor in the College of Liberal Arts and Sciences and his graduate students have published new results in *Nature Nanotechnology* showing how they isolated a particular type of carbon nanotube from a sample and manipulated it in a way that could have broad applicability in drug and gene delivery, electronic devices, and nanotechnology research.

Fotios Papadimitrakopoulos and his graduate students found a way for a biological molecule, a form of vitamin B<sub>2</sub>, to wrap around a single-walled carbon nanotube – a tube so small that it has the highest curvature on earth.

Wrapping a carbon nanotube was a difficult achievement and instrumental to their research, since it was a step that eventually enabled them to isolate a particular type of nanotube from a sample that contained 50 different kinds.

Papadimitrakopoulos has spent seven years investigating how to efficiently separate the various nanotubes in a sample into like types.

Nanotubes that are alike can be interlocked to create a material that is extremely strong, even if each nanotube is as small as one micron. Homogenous nanotubes also have the same electrical and optical properties, and they form a material that is extremely pure.

The research opens the possibility of wrapping nanotubes with proteins or other molecules, which would be useful in a variety of applications.

“We have learned how to manipulate this molecule,” says

Papadimitrakopoulos.

The lead author of the *Nature Nanotechnology* paper is Sang-Young Ju, a polymer science Ph.D. candidate in his fifth year of study. Other authors are Jonathan Doll, a fourth-year polymer science Ph.D. student, and Ity Sharma, a second-year chemistry Ph.D. candidate.

Two undergraduates, William Kopcha, CLAS '08, a chemistry major, and Christopher Badalucco, a junior majoring in physiology and neurobiology, also were involved in the research.

The researchers worked with single-walled carbon nanotubes formed from graphene. If you drag a pencil across paper, Papadimitrakopoulos says, you leave thousands of graphene “seeds” behind, a deposit from the friction of the graphite pencil tip against the paper. At the molecular level, graphene seeds look like a honeycomb. If you form these graphene sheets into a tube, they can become the basis of single-walled carbon nanotubes.

Getting another material to wrap around them was the next challenge.

The researchers discovered that the vitamin B<sub>2</sub> molecule stitches itself into a ribbon, using soft hydrogen bonds, and seamlessly wraps itself around the carbon nanotube. The ribbon, in a sense, acted as a detergent, dispersing the oil-loving nanotube in water.

“Nobody has shown this before,” says Papadimitrakopoulos.

By introducing a second detergent, they managed to destabilize the ribbon, breaking its hydrogen bonds and leaving the second

detergent in its place.

Varying the concentration of the second detergent allowed them to separate nanotubes that had a given chirality, or pitch.

Identifying carbon nanotubes of like chirality, or pitch, has important implications.

If the chirality is the same, the nanotubes have the potential to interlock themselves in a hexagonal pattern and create an extremely strong material, even if the nanotubes are not very long.

Papadimitrakopoulos says that this is an important step toward minimizing the potential negative health impact of carbon nanotubes, which recently were associated with asbestos-like contamination in the lung linings of laboratory animals. In that recent study, it was shown that carbon nanotubes larger than 20 microns behaved like asbestos, while those smaller than 20 microns could be cleared out of the lungs, much like pollen.

The carbon nanotubes that his research group works on are far smaller, at approximately one-micron in length.

Carbon nanotubes began to receive widespread attention in 1991, but it is only in the past 10 years or so that research on their applications has heated up. Nanotubes are small, strong, and special because of their potential for use in drug delivery and electronics applications.

Some have described carbon nanotubes as the reigning celebrities of the advanced materials world. Papadimitrakopoulos describes them as the “Cinderella”



PHOTO BY DANIEL BUTTREY

Fotios Papadimitrakopoulos, professor of chemistry.

molecules of nanotechnology. Hydrocarbons can be burned and still be used to make strong materials, he notes. Carbon is inexpensive, and carbon nanotubes can transform products, making stronger tennis rackets or bullet-proof vests, for example.

The Air Force, which funds his research, is interested in advanced materials that are light, strong, and can withstand high temperatures, he says. In the future, he predicts, planes will be made from carbon nano-fibers.

Papadimitrakopoulos is a chemistry professor in CLAS, but his work is interdisciplinary, involving physics as well. He also serves as the associate director of the Insti-

tute of Materials Science and is a member of the Polymer Program.

Papadimitrakopoulos says his research could not have proceeded without the use of a high resolution transmission electron microscope, which allowed his research group to confirm and verify visually that the B<sub>2</sub> molecule was wrapping around the carbon nanotube.

To hear Papadimitrakopoulos describe the research, go to [www.clas.uconn.edu/facultysnapshots/view.php?id=papadimitrakopoulos](http://www.clas.uconn.edu/facultysnapshots/view.php?id=papadimitrakopoulos)

To read the *Nature Nanotechnology* paper online, go to: [www.nature.com/nano/journal/v3/n6/full/nnano.2008.148.html](http://www.nature.com/nano/journal/v3/n6/full/nnano.2008.148.html)

## Oil-absorbing material based on UConn research

BY CINDY WEISS

*Nature Nanotechnology* published two reports on May 30 by scientists in the College of Liberal Arts and Sciences.

In addition to the paper by the research group of chemistry professor Fotios Papadimitrakopoulos, the journal included a report that scientists have created a membrane that can absorb up to 20 times its weight in oil.

The research, led by an MIT scientist, included the work of collaborator and co-author Steven L. Suib, Board of Trustees Distinguished Professor of Chemistry and department head, and his former graduate student, Jikang Yuan, Ph.D. '07, who is now a postdoctoral fellow at MIT.

The material used in the study was initially developed at UConn by Yuan, Suib says. It is a membrane or paper that can be recycled many times and has applications in oil recovery and the filtering and purification of water.

It is made from an interwoven mesh of nanowires.

The membrane was the subject of an earlier report in *Nature*, whose editors dubbed the material “protean” because it can be used in so many ways, Suib says. It can be folded, cut, or written on. It has potential applications to stop

bleeding and to clean metals out of fuels, and is a conductor.

UConn's Center for Science and Technology Commercialization filed an application for a patent on this material, titled “Manganese Oxide Nanowires, Films and Membranes and Methods of Making” in 2005. The technology is now patent pending and available for licensing.

In the latest report, the material was modified to create a super-hydrophobic – water-repelling – characteristic to greatly enhance

its ability to absorb oil from water. Its properties would enable it to absorb industrial discharges from sea water, the report notes.

“Given the global scale of severe water pollution arising from oil spills and industrial organic pollutants,” the authors wrote, “this study may prove particularly useful in the design of recyclable absorbents with significant environmental impact.”

The report is at: [nature.com/nano/journal/v3/n6/abs/nnano.2008.136.html](http://www.nature.com/nano/journal/v3/n6/abs/nnano.2008.136.html)

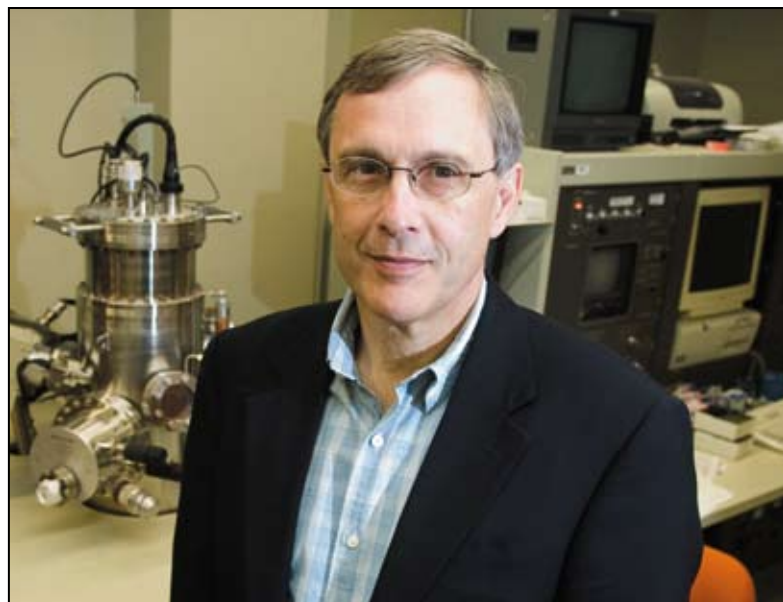


PHOTO BY DANIEL BUTTREY

Steven Suib, Board of Trustees Distinguished Professor of Chemistry.

## Spike Lee movie *continued from page 1*

tific memoir, was co-written with Bruce Henderson, the author of more than 20 nonfiction books. It tells how a childhood trauma – the death of his father when Mallett was 10 years old – inspired his quest to build a time machine so he could return to an earlier time and save his father's life.

Lee, who will co-write the script for the film and direct it, says he is “elated to have acquired the rights to a fantastic story on many levels, but also a father-and-son saga of loss and love.”

After his father's death, Mallett's family moved from the Bronx to Pennsylvania. As an undergraduate and graduate student at Pennsylvania State University, Mallett studied physics, receiving a Ph.D. in 1973. He joined the physics faculty in the College of Liberal Arts and Sciences at UConn in 1975, after working for United Technologies as a research scientist.

A theoretical physicist, he has published several papers on black holes and cosmology. Mallett's breakthrough in his time travel research was published in the professional journal *Physics Letters A* in 2000.

He has collaborated with Chandra Roychoudhuri, research

professor of physics and laser specialist, to build a representational model of a time machine, based on Einstein's general theory of relativity and Mallett's theory.

They are seeking \$250,000 in funding to build an experimental device to test Mallett's theory, and have received support from private donors through a University of Connecticut Foundation account, “Space Time Twisting by Light Project.”

Mallett's memoir has been translated into several languages, including Chinese and Korean, since it was published in 2006. He has done 35 book signings around the country and gets mail daily from readers around the world. His book has been featured on television shows in Britain and the U.S., and on the History Channel, Science Channel, Learning Channel, and National Public Radio's *This American Life*.

To see a UCTV interview with Mallett, go to [www.youtube.com/watch?v=cjxo-pvSmdA](http://www.youtube.com/watch?v=cjxo-pvSmdA)

To hear Mallett talk about his work, go to [www.clas.uconn.edu/facultysnapshots/view.php?id=mallett](http://www.clas.uconn.edu/facultysnapshots/view.php?id=mallett)





PHOTO BY NANCY BALCOM

Teachers from Connecticut schools examine the contents of a trawl net to learn about plants and animals found in the Connecticut River Estuary, which has been designated a wetland of international importance. The trip, led by Juliana Barrett, an extension educator with UConn's Sea Grant program, is part of a project supported by a grant from Environmental Concern Inc.

## GRANTS

The following grants were received through the Office for Sponsored Programs (OSP) in April 2008. The list represents only new proposals awarded, and excludes continuations. The list is supplied to the *Advance* each month by OSP. Additional grants received in April will be published in a future issue.

Prin. Investigator	Department	Sponsor	Amount	Award Period
Alphabetical, by Principal Investigator				
Accorsi, M.	Connecticut Transportation Institute	Conn. Dept. of Transportation	\$312,207	5/08-5/09
<i>Connecticut Cooperative Highway Research Program (CCHRP) Agreement (Joint Highway Research Advisory Council Work Program for 2008-2009)</i>				
Accorsi, M.	Civil & Environmental Engineering	Dept. of Defense/Army Natick Soldier Center	\$58,301	4/08-12/08
<i>Development and Application of Airdrop Simulation Capabilities</i>				
Babb, I.	Nat'l Undersea Research Center	Dreyfus (Max and Victoria) Foundation	\$7,500	6/08-5/09
<i>Building a Video Archive for Ocean Science Education – Year 2</i>				
Boggs, S.	Institute of Materials Science	UtilX Corp.	\$50,000	4/08-12/08
<i>Issues Related to Silicone-Injected Cable</i>				
Brueckner, C.	Chemistry	Nat'l Science Foundation	\$239,406	3/08-2/11
<i>Research Experience for Undergraduates (REU) Site in Chemistry at the University of Connecticut</i>				
Bucklin, A.	Marine Sciences	SPT Offshore LLC	\$69,600	3/08-5/08
<i>Charter of the Research Vessel Connecticut by SPT Offshore LLC</i>				
Bzymek, Z.	Mechanical Engineering	Dept. of Defense/Air Force Office of Scientific Research/Conn. Center for Advanced Tech. Inc.	\$44,200	4/08-5/09
<i>Creation of a Laboratory for Research and Teaching of Industrial Modeling</i>				
Civco, D.	Natural Resources Management & Engineering	Conn. Dept. of Environmental Protection	\$85,992	4/08-4/09
<i>Mapping of Key Habitats for Species of Greatest Conservation Need</i>				
Crespi, J.	Center for Integrative Geoscience	Nat'l Science Foundation	\$205,013	3/08-2/11
<i>Collaborative Research: Reactivation of Continental Margin Fracture Zones: Insights from Seismology, Strain Patterns and Numerical Modeling of Modern and Ancient Orogens</i>				
Daniels, M.	Geography	Nature Conservancy	\$3,750	8/07-11/07
<i>Post-Ice Control Structure Geomorphological Assessment of the Salmon River</i>				
De Guise, S.	Sea Grant College Program	Dept. of Commerce/Nat'l Oceanic & Atmospheric Admin.	\$1,936,000	2/08-1/10
<i>Connecticut Sea Grant College Program Omnibus 2008-2010, comprising 10 subprojects:</i>				
Balcom, N.	Sea Grant College Program	CT Sea Grant College Omnibus 2008-2010	\$628,764	2/08-1/10
<i>Extension</i>				
De Guise, S.	Sea Grant College Program	CT Sea Grant College Omnibus 2008-2010	\$312,002	2/08-1/10
<i>Administration</i>				
De Guise, S.	Sea Grant College Program	CT Sea Grant College Omnibus 2008-2010	\$61,399	2/08-1/10
<i>Development Funds</i>				
De Guise, S.	Sea Grant College Program	CT Sea Grant College Omnibus 2008-2010	\$5,224	2/08-1/10
<i>Regional Development Funds</i>				
De Guise, S.	Sea Grant College Program	CT Sea Grant College Omnibus 2008-2010	\$137,154	2/08-1/10
<i>External Research</i>				
De Guise, S.	Sea Grant College Program	CT Sea Grant College Omnibus 2008-2010	\$88,495	2/08-1/10
<i>External Research</i>				

Payne, D.	Sea Grant College Program	CT Sea Grant College Omnibus 2008-2010	\$125,900	2/08-1/10
<i>Education</i>				
Van Patten, M.	Sea Grant College Program	CT Sea Grant College Omnibus 2008-2010	\$340,610	2/08-1/10
<i>Communications</i>				
Vokoun, J.	Natural Resources Management & Engineering	CT Sea Grant College Omnibus 2008-2010	\$97,222	2/08-1/10
<i>Research</i>				
Whitlatch, R.	Marine Sciences	CT Sea Grant College Omnibus 2008-2010	\$139,230	2/08-1/10
<i>Research</i>				
Demurjian, S.	Computer Science & Engineering	Nat'l Institutes of Health/Health Resources & Services Admin./University of Conn. Health Center	\$10,000	3/08-6/08
<i>PDA Applications for Medical Education</i>				
DeWolf, J.	Civil & Environmental Engineering	Dept. of Transportation /Federal Highway Admin./Conn. Dept. of Transportation	\$895,766	7/07-6/11
<i>Expansion and Refinement of a Bridge Monitoring Network in Connecticut</i>				
Doyle, M.	Curriculum & Instruction	Conn. Dept. of Higher Education	\$100,000	4/08-5/09
<i>Language and Literacy Proficiency of Early Childhood Educators</i>				
Ellis, D.	Plant Science	Conn. Agricultural Experiment Station	\$14,847	1/08-12/08
<i>Cooperative Agricultural Pest Survey (CAPS) Work Plan for Calendar Year 2008</i>				
Ferris, A.	Nutritional Sciences	U.S. Dept. of Agriculture /Food & Nutrition Service/Conn. Dept. of Social Services	\$1,664,206	10/07-9/08
<i>Food Stamp Nutrition Education</i>				
Frisman, L.	School of Social Work Instruction & Research	Nat'l Insts. of Health/ Nat'l Institute on Drug Abuse/Conn. Dept. of Mental Health & Addiction Services	\$20,000	1/08-6/08
<i>Dissemination of EBP's in Addiction Treatment</i>				
Guillard, K.	Plant Science	EPA/Environmental Protection Agency/Conn. Dept. of Environmental Protection	\$50,000	2/08-12/09
<i>Nitrogen Fertilizer Reductions on Coastal Lawns Through Training and Education</i>				
Henderson, J.	Plant Science	New England Regional Turfgrass Foundation	\$22,330	5/08-12/09
<i>The Effects of Organic Management Practices on the Quality and Playability of Athletic Fields</i>				
Ilies, H.	Mechanical Engineering	Dept. of Defense/Air Force Office of Scientific Research/Conn. Center for Advanced Technology Inc.	\$102,973	4/08-5/09
<i>Assessment of UGS Digital Manufacturing Technology Solutions: A One Year Pilot Program at UConn</i>				
Ivan, J.	Connecticut Transportation Institute	Dept. of Transportation /Federal Highway Admin./New England Transportation Consortium	\$5,582	11/07-7/08
<i>Warrants for Exclusive Left Turn Lanes at Unsignalized Intersections-Phase 2</i>				
Joo, K.	Physics	Dept. of Energy/Thomas Jefferson Nat'l Accelerator Facility	\$22,049	1/08-1/09
<i>Deeply Virtual Compton Scattering (DVCS) with Polarized Target</i>				
Kehle, T.	Educational Psychology	Futures Inc.	\$6,534	8/07-1/08
<i>School Psychology Internship – M. Carter</i>				
Kraus, C.	Center for Survey Research & Analysis	Montessori School of Greater Hartford	\$21,500	3/08-7/08
<i>Parent and Community Survey</i>				
Kraus, C.	Center for Survey Research & Analysis	Connecticut Bar Association Inc.	\$27,000	4/08-10/08
<i>Low Income Civil Legal Needs Survey</i>				
Kraus, C.	Center for Survey Research & Analysis	Lebanon Public Schools, Lebanon, N.H.	\$5,000	4/08-7/08
<i>Lebanon Bond Issue Survey</i>				
Legrand, A.	Plant Science	U.S. Dept. of Agriculture /Natural Resources Conservation Service	\$124,198	4/08-9/08
<i>Contribution Agreement: IPM Technical Assistance for the Environmental Quality Incentives Program</i>				
Madaus, J.	Center on Post Secondary Education & Disability	U.S. Dept. of Education /Office of Special Education & Rehabilitative Services/Conn. Dept. of Education	\$79,315	3/08-12/08
<i>Post-School Outcomes Survey of Connecticut Special Education Students – Year 2007</i>				
Mahoney, J.	Connecticut Transportation Institute	Dept. of Transportation /Conn. Dept. of Transportation	\$30,754	7/07-6/08
<i>Longitudinal Joint Study – Phase 2</i>				
Marcus, H.	Institute of Materials Science	Dept. of Defense/Air Force Office of Scientific Research/Conn. Center for Advanced Technology Inc.	\$136,777	6/07-5/08
<i>Support for the Application of Lasers to Materials Processing</i>				
O'Neill, M.	Molecular & Cell Biology	U.S. Agency for International Development/University of California at Davis	\$20,000	3/08-9/08
<i>Population Genetic Structure and Biodiversity of Nigerian Goats</i>				
Payne, D.	Sea Grant College Program	Dept. of Commerce/BridgeWater Education Consulting LLC/Nat'l Oceanic & Atmospheric Admin.	\$25,875	11/07-8/08
<i>Ocean Exploration Professional Development Institute Evaluation</i>				
Polifroni, E.	Nursing Instruction & Research	Conn. Dept. of Higher Education	\$42,881	2/08-12/08
<i>Health and Education Initiatives – MbEIN Stamford</i>				
Prisloe, M.	Extension	Conn. Dept. of Environmental Protection	\$358,442	3/08-4/09
<i>Development of Conn. Environmental Conditions Online (CT-ECO)</i>				



## CALENDAR

Monday, June 23, to Monday, July 21

Items for the weekly *Advance* Calendar are downloaded from the University's online Events Calendar. Please enter your Calendar items at: <http://events.uconn.edu/> Items must be in the database by 4 p.m. on Monday for inclusion in the issue published the following Monday. **Note:** The next Calendar will include events taking place from Monday, July 21, through Monday, Aug. 25. Those items must be in the database by 4 p.m. on Monday, July 14.

If you need special accommodations to participate in events, call 860-486-2943 (Storrs), or 860-679-3563 (Farmington), or 860-570-5130 (Law School).

## Libraries

**Homer Babbidge Library.** Hours: Monday-Thursday, 8 a.m.-9 p.m.; Friday, 8 a.m.-5 p.m.; Saturday & Sunday, noon-5 p.m.; closed 7/4-7/6 & 7/12-7/13.

**Dodd Center.** Reading Room hours: Monday-Friday, 10 a.m.-4 p.m.; closed weekends.

Research Center hours: Monday-Friday, 8:30 a.m.-4:30 p.m.; closed weekends; closed 7/4.

**Pharmacy Library.** Monday-Friday, 9 a.m.-noon & 12:30-4:30 p.m.; closed weekends; closed 7/4.

**Health Center Library.** Hours: 6/23-6/28, Monday-Thursday, 7 a.m.-11 p.m.; Friday, 7 a.m.-7 p.m.; Saturday 9 a.m.-5 p.m.; Sunday noon-10 p.m. Starting 6/29, Monday-Thursday, 7 a.m.-10 p.m.; Friday, 7 a.m.-5 p.m.; Saturday, 9 a.m.-5 p.m.; Sunday, 2-6 p.m.; closed 7/4.

**Law Library.** June hours: Monday, 8 a.m.-11 p.m.; Tuesday-Friday, 8 a.m.-5 p.m.; closed weekends. July hours: Monday-Thursday, 8 a.m.-11 p.m.; Friday, 8 a.m.-5 p.m.; Saturday, 10 a.m.-6 p.m.; Sunday, 1-8 p.m. Except 7/3, 8 a.m.-5 p.m.; closed 7/4.

**Avery Point Campus Library.** Hours: Monday-Thursday, 8:30 a.m.-7 p.m.; Friday, 8:30 a.m.-5 p.m.; closed weekends; closed 7/4.

**Greater Hartford Campus Library.** Hours: Monday-Thursday, 10 a.m.-7 p.m.; Friday & Saturday, 10 a.m.-5 p.m.; Sunday, closed; closed 7/4-7/5.

**Stamford Campus Library.** Hours: Monday-Thursday, 8 a.m.-9 p.m.; Friday, 8:30 a.m.-4 p.m.; Saturday, 11 a.m.-4 p.m.; Sunday, closed; closed 7/4-5.

**Torrington Campus Library.** Hours: Monday-Thursday, noon-6 p.m.; Friday-Sunday, closed; closed 7/4.

**Waterbury Campus Library.** Hours: Monday-Thursday, 10 a.m.-6 p.m.; Friday, 10 a.m.-4 p.m.; closed weekends; closed 7/4.

## University ITS

**Help Desk Hours:** Call 860-486-4357, Monday-Friday, 8 a.m.-5 p.m.

## Meetings

**Tuesday, 6/24 – Board of Trustees.** Annual budget workshop. 9 a.m.-5 p.m. Rome Commons Ballroom, South Campus.

## Ph.D. Defenses

**Thursday, 6/26 – Mathematics.** *Existence of Solutions to Semilinear Elliptic Differential Equations: Approximation and Verification*, by Lisa Termine (adv.: McKenna). 11 a.m., Room M117-118, Gant Science Complex

**Thursday, 7/3 – Anthropology.** *Changing Contexts of Deference to Elders, Children's Rights and Sexual Exploitation of Children in Tanzania*, by Theodora Bali (adv.: Handwerker). 10:30 a.m., Room 404, Beach Hall.

## Performing Arts

**Thursday, 6/26 – Summer Courtyard Concert.** Guitarist Victor Pachas. 12:15-1:15 p.m., Benton Museum.

**Thursday, 7/17 – Summer Courtyard Concert.** With Tom Wise on keyboards & Steve Marotto on cello. 12:15-1:15 p.m., Benton Museum.

## Exhibits

**Thursday, 7/10 through Wednesday, 9/17 – Health Center.** *Four Seasons of the Valley*, photography by Carol Lowbeer. Daily, 8 a.m.-9 p.m., main and mezzanine lobbies, Health Center.

**Through Sunday, 7/27 – Alexey Von Schlippe Gallery.** Paintings by Felix Bronner & Mary Louise Long, pastels by Rita Dawley, and black & white paintings and color photography by Kim Gatesman & Deann Santoro. Wednesday-Sunday, noon-4 p.m. Free to members and students, all others \$3 donation. Branford House Mansion, Avery Point Campus.

**Through Friday, 8/15 – Babbidge Library.** *In Plain Sight*, paintings by Janice Trecker, Stevens Gallery; also, *She Sells Sea Shells*, re-creations of

sailor's Valentines by Lynda Susan Hennigan, Gallery on the Plaza. For hours, see Libraries section.

**Through Friday, 8/15 – Dodd Center.** *The Ethnic American Press*, Gallery. For hours, see Libraries section.

**Through Sunday, 11/30 – The Ballard Institute & Museum of Puppetry.** *Puppets through the Lens*. Friday-Sunday, noon-5 p.m. Free admission, donations welcome.

**Ongoing – State Museum of Natural History & Connecticut Archaeology Center.** *Human's Nature: Looking Closer at the Relationships between People and the Environment*. Hours:

Tuesday-Saturday, 10 a.m.-4 p.m.; Sunday & Monday, closed. Free admission, donations welcome.

## Potpourri

**Tuesdays, through 8/12 – Tons of Fun Tuesday.** Ice cream and novelties at the Student Union, North Apron, 11:30 a.m.-1:30 p.m. \$2 with student ID/\$3 without.

**Wednesdays, through 8/13 – Lively Wednesdays.** Live music and bbq lunch at the Student Union, noon-1 p.m.

**Thursdays, through 8/14 – Thrilling Thursdays.** Programs in Busby recreation room, formerly Charter Oak Suites. 5:30-7:30 p.m.

**Monday, 6/23 through Monday, 7/21 – Al-Anon.** Twelve-step

meeting. Noon-12:50 p.m. Contact Tom Szigethy for more information, 860-486-9431.

**Tuesday, 6/24 and Thursday, 7/10 – Spirituality Study Group.** Includes discussion, reflection, dream interpretation, and guided meditation. \$10 per class. 7-8:30 p.m., Onyiuke Dining Room, Main Building, Health Center.

**Friday, 7/11 – Fridays at the Museum.** Cultural and natural history activities at the museum. Free admission. 1-3 p.m. Connecticut State Museum of Natural History.

**Saturday, 7/12 – Natural History Museum Talk.** "Everything You Want to Know About Atlatis," by Gary Nolf. Adults and children ages 8 and up. Children must be accompanied by an adult. Admission fee \$15 non-members/\$10 members. Call 860-486-4460 for more information. 10 a.m.-noon.

**Monday, 7/14 – Friday, 7/18 – Biodiversity Field School for Kids.** For students entering grades 5 through 10. Camp offered through UConn's Kids Are Scientists Too program. Call K.A.S.T. at 860-486-9219 or visit [www.kast.uconn.edu](http://www.kast.uconn.edu) for registration information. Advance registration required: \$200 per student. 9 a.m.-noon daily.

**Saturday, 7/19 – Museum of Natural History Field Trip.** An inside look at Meigs Point, Hammonasset State Park. Adults and children ages 5 and up. Children must be accompanied by an adult. Admission fee: \$20 non-member/\$15 member. Call 860-486-4460 for more information. 10 a.m.-noon., Hammonasset State Park.

**Saturday, 7/19 – Museum of Natural History Field Workshop.** "Things That Go Splash in the Night." Adults and children ages 6 and up. Children must be accompanied by an adult. Admission fee: \$15 non-member/\$10 member. Call 860-486-4460 for more information. 7-9 p.m., Mansfield location.

**Monday, 7/21 through Friday, 7/25 – Archaeology Field School for Kids.** For students entering grades 5 through 10. Camp offered through UConn's Kids Are Scientists Too program. Call K.A.S.T. at 860-486-9219 or visit [www.kast.uconn.edu](http://www.kast.uconn.edu) for registration information. Advance registration required: \$200 per student. 9 a.m.-noon daily.



PHOTO SUPPLIED BY ALEXEY VON SCHLIPPE GALLERY

"House in Valley," a pastel by Rita Dawley, is now on display at the Alexey von Schlippe Gallery at the Avery Point Campus.

## Courant Foundation to fund community college transfers

BY JENNIFER HUBER

The Hartford Courant Foundation is revising an existing scholarship fund to help community college graduates complete bachelor's degrees at UConn, the University of Connecticut Foundation has announced.

In its new form, the fund will provide scholarships to students who have completed an associate's degree at one of the four community colleges in central Connecticut – Capital, Manchester, Tunxis or Middlesex – and have been accepted at UConn through the Guaranteed Admissions Program.

The fund, which will support such scholarships for the next 10 years, is designed to enhance diversity at UConn. Scholarship recipients are eligible to receive funding for up to three years. The new scholarship program is modeled after the Hartford Courant Foundation Scholars Program, which has awarded more than \$73,000 in scholarships since it was

established 22 years ago, and has helped more than 70 young adults from the Hartford area complete a bachelor's degree at UConn.

The new scholarships will boost UConn's Guaranteed Admissions Program, which was announced in late 2007. This program offers a pathway for students who maintain a B average at Connecticut's community colleges to earn guaranteed admission to UConn.

The University is dedicated to maintaining an academically competitive and diverse student body while enhancing access to higher education. Private support plays a vital role in achieving these goals by helping recruit and retain top students, approximately 75 percent of whom receive some form of financial assistance. Scholarships not only fill a critical need for students from low-income households, but also help attract high-achieving students from diverse backgrounds.

## Public policy graduate wins award from government finance officers' group

BY CINDY WEISS

A recent graduate of the Department of Public Policy's master of public administration program has won a prestigious national award, the \$10,000 Daniel B. Goldberg scholarship from the Government Finance Officers Association.

Barbara Rua, MPA '08, was recognized for outstanding performance by a graduate student preparing for a career in state and local finance.

She completed three internships as a grad student. She was a junior financial analyst with the Transportation Security Administration in the Department of Homeland Security in Washington, D.C.; a legislative research assistant with the Connecticut Business and Industry Association; and an intern in the financial services offices of the town of West Hartford, where she also worked part time as a cash specialist in the Revenue Office.

She earned graduate certificates

in finance and in public and non-profit management, and she plans to work in state or local government in Connecticut. Her goal is to become a finance director for a city or town.

Her capstone research project in public finance was on the financial health of Connecticut cities and towns. Using data for all 169 towns in the state over five years, she analyzed their revenues, expenses, and debt to assess their relative financial health.

The program from which she graduated was recently ranked seventh in the nation in the public finance and budgeting field by *U.S. News & World Report*.

Rua's graduate advisers were associate professor Mark Robbins and professor Bill Simonsen.

Initially, she had thought about going to law school after graduating in 2006 from UConn's College of Liberal Arts and Sciences with a major in political science. But

as a senior, she was able to test the waters in public policy, taking two graduate courses in DPP. That convinced her that the MPA program would provide her the background she needed to work in government.

As an undergraduate, she interned with the Connecticut state legislature.

"That was where my interest was sparked," she says.

As treasurer and then president of the public policy graduate student association, she has traveled twice to New Orleans, where graduate students from the Department of Public Policy have worked on re-building housing in areas devastated by Hurricane Katrina.

On her most recent trip this spring, where the students worked in the Lower Ninth Ward, one of the hardest hit and least reconstructed areas, Rua was impressed by the determination of local



# Environmental impact of horse manure can be lessened, says professor



PHOTO BY PETER MORENUS

Jenifer Nadeau, associate professor of animal science, at UConn's Arthur L. Lorentzon Stables.

BY ELIZABETH OMARA-OTUNNU

Jenifer Nadeau, a UConn animal science professor and extension specialist, is working to encourage Connecticut horse owners to adopt best management practices to help protect the environment.

A single horse produces seven to nine tons of manure a year, says Nadeau, and Connecticut is home to approximately 50,000 horses, according to a survey she conducted in 2005 with Farhed Shah, an associate professor of agricultural and resource economics.

Those numbers add up to a lot

of manure, which contains nitrates and other organic matter. Runoff from the waste has the potential to have a significant impact on the state's waterways.

"When someone buys a horse and takes it home, they're not thinking about seven to nine tons of manure and what to do with it," says Nadeau. "But if they don't have a plan for managing it, it can build up before they know it."

The Horse Environmental Awareness Program, or HEAP, aims to help Connecticut horse owners minimize the runoff that can pollute rivers and streams and will eventually end up in Long Is-

land Sound. The program is run by a coalition of federal, state, and local agencies, as well as horse owners and businesses.

Nadeau, an affiliated faculty member of the University's Center for Environmental Sciences and Engineering, says pollution of water from horse manure has long been a problem, but it has been exacerbated by suburban sprawl in the state.

"Previously many horse owners used to arrange with local farmers to take away their manure," she says. "But as the suburbs have spread, the farms are becoming few and far between, making it less

convenient and more expensive to truck the manure off site."

For several weeks a year, mostly in May, Nadeau and her colleagues visit farms in the state at the invitation of horse owners whom they have previously contacted. The group examines the entire process, from stall or paddock to disposal, using a scoring system to evaluate the various practices. Those who earn high marks receive a sign declaring the farm a Horse Farm of Environmental Distinction.

Nadeau suggests that horse owners identify a level site for the manure pile, at least 100 feet away from any water well, but close to the barn or paddock for convenience. She recommends building walls of compacted soil or concrete to contain the manure, and a roof to keep rain out.

Composting the manure is ideal, she says, but requires equipment to turn it and keep it aerated. While composted manure takes four to six months to decompose, manure may otherwise take up to two years to fully break down.

The danger of pollution is greatest when the manure is fresh, says Nadeau.

Composting also helps reduce flies, parasites, and weed seeds because of the heat generated during decomposition. Nadeau also recommends that horse owners purchase fly predators – insects that prey on fly larvae – and add them to the manure pile.

Additional strategies she advo-

cates include rotational grazing, to minimize overgrazing which can contribute to erosion and runoff, and establishing a 35-foot buffer zone between areas where horses are kept and streams or ponds.

"Grasses and shrubs help slow down pollution and absorb some of it," she says. "They also help prevent erosion."

For horse owners, the benefits of effective management include healthier horses; better working conditions for humans; cleaner facilities; and fewer reasons for neighbors to object to horse facilities.

For the environment, the benefits include reducing erosion and the sediment that erosion contributes to waterways; protecting the quality of surface and ground water from excess nutrients and disease-causing organisms; and reducing nuisances such as flies, mosquitoes, and dust.

"It's important that horse owners know help is available if they want to take the next step," says Nadeau. "Anything people do that reduces pollution can have far-reaching effects."

The program also maintains a demonstration farm at Harkness State Park, and has produced a video about best management practices for horse owners.

*This article includes material from a fact sheet produced by the Center for Environmental Sciences and Engineering.*

## Emeritus professor's new novel set in Hollywood

BY SHERRY FISHER

Shelly Frome has always been intrigued by Los Angeles.

"It's an unreal place," he says. "You see aspirants who can't find Hollywood. There's Melrose and people walking up and down looking for Jay Leno. It's a twilight zone."

And it's where Frome, an emeritus professor of dramatic arts, set his new novel, *Tinseltown Riff*, published by James A. Rock & Co.

"In L.A., there's an invisible line between illusion and reality," says Frome, "but the people there don't seem to know it. Ben, the book's main character, is a dreamer. He fabricates his own history. He says he's a screen writer, but he's really an animator. He loves old movies. He's 30 years old and lives with his aunt – who really isn't his aunt because he's an orphan. He's going to be kicked out of the house, and hasn't worked for a long time. When he becomes embroiled in a shadowy world, he doesn't know it's a shadowy world. It's typical and atypical at the same time."

All the characters in the book are on the fringe, says Frome. "Ben is on his last leg, and he has an opportunity to do a screenplay for a female rock star who needs a jumpstart in her career. There's a girl who is following a Hollywood dream who becomes involved in illicit activities, and a tracker from Las Vegas, among others. Everyone

is desperate."

Frome says he knew an abandoned studio would have a place in his book.

"I knew the story had to play out in an old studio," he says. "The characters converge there. A few years ago I took a tour of a studio a few blocks south of Paramount, off the beaten track. All the sets were abandoned – old western sets, sets for science fiction movies. Fake villas. They now rent it out for TV cop shows. The studio seemed to cry out to me to bring it back to life, so I did that in the book."

Frome says his views about L.A. are validated whenever he visits.

"Last summer I was there doing interviews for a book on screenwriting and film," he says. "I stayed at the Avalon Hotel. Marilyn Monroe used to hang out there. The first person behind the hotel desk said to me, 'Hey man, I'm really a screenwriter.' The second person I spoke to said, 'My girlfriend is a screenwriter, and I'm here temporarily.' More illusion. When we went to dinner, the girl who waited on us said, 'I look like a waitress, but I'm really an actress.'"

Frome says he was compelled to write the book. He recalls the advice of a teacher: "'The best way to write is to try not to write,' he said. 'Then, if you wake up in the middle of the night and can't stand it any more, maybe there's something there worth expressing.'"

"I thought it would be interesting to go on this journey with Ben," Frome adds. "I was trying to see if there was truly a line between illusion and reality in Tinseltown. Moreover, if I really put him in danger, would there be a point when Ben would be pushed to the limit and discover what really matters in this life?"

*Tinseltown Riff*, which has just been published, received advance praise from such notables as Academy Award nominee and Edgar winner Donald Westlake.

A nonfiction book by Frome on screenwriting and film will be published in the fall.

His other works include novels *Lilac Moon* and *Sundance for Andy Horn*, and a non-fiction book, *The Actors Studio: A History*.



## Nursing faculty honored continued from page 1

dards in neonatal care. Cusson's current research explores workforce issues for advanced-practice neonatal nurse practitioners in the U.S. and Britain.

Cusson also coordinates the Faculty Special-Interest Group for the National Association of Neonatal Nurses. She has served as a consultant to neonatal nurse practitioner programs throughout the U.S. and currently serves on the editorial boards of two major neonatal journals: *Advances in Neonatal Care* and *Neonatal Network*. Through mentoring and leadership, Cusson tries to ensure that neonatal nurses translate research into practice.

Pearson is director of the UConn Health Center's Home-Care Program, a national model program for adolescents who need ongoing psychiatric care after being released from detention or residential care centers. Pearson helped create the program five years ago, with a \$400,000 grant from the Connecticut Department of Children and Families and the Court Support Services Division of the Connecticut Judicial Branch.

Since its inception, the Home-Care program has helped more than 3,000 youngsters ages 10 to 16 through juvenile justice referrals and primary care clinics in five Connecticut communities.

Pearson is also president of the 800-member International Society of Psychiatric-Mental Health Nurses and a past president and vice-president of the School of Nursing's Alumni & Friends Society Board of Directors.

Shelton is an associate professor in the School of Nursing and at the UConn Health Center's Department of Medicine, where she works in the Division of Public Health and Population Sciences. As the new director for research and evaluation in the Health Center's Correctional Managed Health Care program, Shelton is working with the program's executive director, Dr. Robert Trestman, on research designed to improve health care services in correctional institutions in Connecticut and nationwide. Their research has received more than \$11 million in funding from the National Institute of Mental Health and the National Institute of Justice.

A long-time advocate for children's mental health, Shelton has focused much of her research on examining access to care for minority youth and young offenders. She received a lifetime achievement award from the International Association of Forensic Nursing in 2004 and was named "Nurse of the Year" in Washington, D.C. in 2003.