

1 EARLY CT FOR THOSE AT RISK
Weill Cornell imaging expert finds that early CT screening can reduce lung cancer mortality

2 INSIGHTS ON DEPRESSION
Using MRI scans to understand how visual stimuli “light up” the brain of depressed patients

4 MORE MAY NOT BE BETTER
Adding a fourth drug to the current HIV “cocktail” offers no real benefit, study says

6 PRESENTING THE POSTDOCS
NYC and Ithaca postdocs meet for annual Postdoc Research Day in Manhattan

8 GOING GLOBAL WITH WCMC
Students spend a summer in developing nations to witness public health issues first-hand

the **Scope**

Weill Cornell

News of Weill Cornell Medical College and Weill Cornell Graduate School of Medical Sciences

January • February 2007



Present at the October 26 launch of the Cornell University/Weill Cornell Medical College capital campaign was The Hon. Michael Bloomberg, mayor of New York City, who spoke about the importance of making NYC a worldwide center for medical research. “Not only is it good for our city, but it’s good for our global community,” he said, “and Weill Cornell is leading the way.”

From the Big Apple to the Big Red

Weill Cornell Medical College partners with Cornell in Ithaca for record-breaking \$4 billion capital campaign to support basic science and research

In the presence of New York City Mayor Michael Bloomberg, Peter C. Meinig, chairman of the Board of Trustees of Cornell University, and Sanford I. Weill, chairman of the Board of Overseers of Weill Cornell Medical College, Cornell University President David J. Skorton announced on October 26 that the university and Weill Cornell Medical College are together launching a \$4 billion capital campaign—the largest for Cornell, New York’s land grant university, and the second largest goal in the history of higher education—to advance education, discovery, and public service, and to make transformative contributions in areas of critical social importance.

The Weill Cornell campaign, titled *Discoveries That Make a Difference*, seeks to raise in excess of \$1.3 billion to support the recruitment of the next generation of faculty, scientists and scholars to the Medical College while also planning for new facilities to support research. “The impact of this campaign on higher education and research will be felt across the

state of New York and across the world,” said Mr. Weill. “It is my belief that one day, the translational research conducted by doctors at Weill Cornell and Cornell scientists in Ithaca will help to eradicate some of the world’s most daunting and debilitating health threats while improving the quality of life for all.”

One of the hallmarks of the campaign is a commitment to supporting research projects between Cornell’s Ithaca and New York City campuses. With shared interests in areas such as biomedical engineering, cancer-related cell biology, nano-medicine, chemical biology and experimental therapeutics, a shared pool of campaign funding will be earmarked specifically for these upstate/downstate, cross-disciplinary collaborations.

“One of the most important aspects of this campaign is the commitment to expand collaborative research across disciplines and across campuses to produce life-saving advances in science and medicine,” said Dr. Antonio M. Gotto Jr., the Stephen and Suzanne Weiss Dean of Weill Cornell >>> page 6

Scanning for the Nation’s #1 Cancer Killer

Breakthrough study finds early CT screening dramatically cuts lung cancer death rate

The nation’s number one cancer killer may have finally met its match.

According to an international team led by Weill Cornell’s Dr. Claudia Henschke, advances in CT scanning now allow for the early detection of lung cancer in 85 percent of at-risk patients. Early detection of tumors, followed by quick surgical removal, boosted patients’ 10-year survival rates to 92 percent, the researchers found.

The landmark study, published in the Oct. 26 *New England Journal of Medicine*, could change the way doctors care for smokers, ex-smokers and others at high risk for lung malignancies.

“We believe these findings provide compelling evidence that CT screening for lung cancer offers new hope for millions of people at risk for this disease and could dramatically reverse lung cancer death rates,” said >>> page 5



Dr. Claudia Henschke (right), chief of the Chest Imaging Division at NewYork-Presbyterian/Weill Cornell Medical Center and CT Supervisor Gus Daphnis analyze the lung scan of a patient. The test, called a spiral or helical CT scan, detects lung abnormalities as small as 5 millimeters, less than a fifth of an inch.

Teaming Up in the Fight Against Cancer

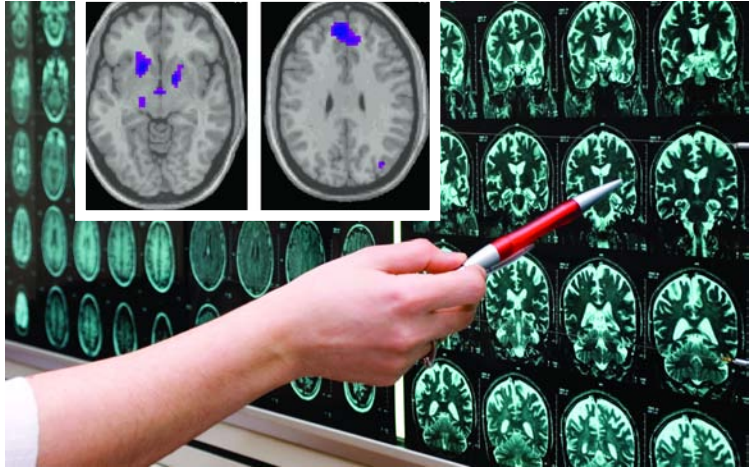
With a grant of \$100 million made by the Starr Foundation announced at a Sept. 21 press conference, Weill Cornell Medical College officially became one of five internationally renowned research institutions to be named part of the new Starr Cancer Consortium. The partnership, which links Weill Cornell with the Broad Institute of MIT and Harvard, Cold Spring Harbor Laboratory, Memorial Sloan-Kettering Cancer Center and The >>> page 4



Philanthropist Maurice Greenberg (center), meets with leadership from four of the institutions making up the Starr Cancer Consortium. From left, Dr. Antonio Gotto, dean of Weill Cornell Medical College; Dr. Eric Lander, director of the Broad Institute of MIT and Harvard; Dr. Harold Varmus, president of Memorial Sloan-Kettering Cancer Center; and Dr. Bruce Stillman, president of Cold Spring Harbor Laboratory.

New Insights Could Loosen Depression's Grip

Morose mice and human brain imaging are pointing to more effective treatments



Axial slices of the brain reveal significant decreases in activation to positive stimuli in depressed patients compared with healthy subjects. Inset, left: Bilateral ventral striatum, with the left contrast maximum falling in the region of the nucleus accumbens (hypothalamic and thalamic decreases are also visible). Inset, right: Left dorsomedial frontal gyrus.

Mice genetically geared to get the blues, along with brain images from depressed humans, are giving Weill Cornell researchers clues as to how depression begins and how it might be stopped.

Millions of Americans suffer from clinical depression. Although its origin still puzzles experts, another piece of the puzzle may have fallen into place.

As reported in the October *American Journal of Psychiatry*, a Weill Cornell team has used functional MRI to observe and compare the brain function of adults with and without major depression.

“The results support a specific model of neurocircuitry dysfunction in depression,” said the study’s co-senior author Dr. David Silbersweig, a director of the Functional Neuro-imaging Laboratory at the Department of Psychiatry at Weill Cornell.

“When depressed subjects were presented with positive

words on a computer screen, a deep-brain area critical to interest and motivation, called the ventral striatum, failed to activate as it does in healthy subjects.”

“This decreased activation correlated with what we call ‘anhedonia,’—the listlessness that afflicts so many depressed people,” added the study’s other senior author, Dr. Emily Stern, who also co-directs the neuroimaging lab with Dr. Silbersweig.

According to Dr. Jane Epstein, first author of the paper, “The findings implicate disordered reward circuit function in this disorder.”

The researchers hope the findings provide a foundation for the development of treatments that target these brain areas to improve depression care, improvements that are desperately needed, since half of patients who take the most common form of antidepressant—selective serotonin reuptake inhibitors (SSRIs)—do not respond to the medications. In fact, studies show that it can take patients weeks or even years to find the right combination of therapies to ease their mental suffering.

“SSRIs work by boosting serotonin levels in the brain and include widely used agents such as Celexa, Paxil, Prozac and Zoloft,” said Weill Cornell psychiatrist Dr. Francis Lee. “The question has always been, why do these drugs work wonders for some but not others? And is there a way to pre-

dict who will benefit?”

Now a genetically tweaked mouse developed by Dr. Lee’s team is providing some answers.

In a study published in the Oct. 6 issue of *Science*, Dr. Lee and researchers focused on a gene variant that encodes for a protein called “brain-derived neurotrophic factor” (BDNF). The activity of this well-studied stress-busting brain protein rises with increasing serotonin levels.

“But if you have a particular variant of the gene, BDNF gets stuck inside neurons—even in the presence of serotonin-boosting SSRIs,” Dr. Lee explained.

The mouse model bore this theory out. These mice, a research breakthrough in themselves, were designed to carry the dysfunctional BDNF gene. “We administered fluoxetine (Prozac) to these transgenic mice and to normal mice, then placed them in stressful situations,” Dr. Lee said.

The result: Just as in depressed humans, the Prozac helped some mice—those with normal BDNF genes—cope with the stress around them. But rodents with the “bad” BDNF gene displayed classic signs of anxiety despite their SSRI treatment.

“Based on this work, we now believe that the BDNF variant is a genetic ‘marker’ pointing to those who might respond to SSRI therapy and those who might not,” Dr. Lee said.

More research is needed before any BDNF-specific gene test could be used by doctors to guide depression treatment, he cautioned. Still, the goal is a test that would predict which therapies will work based on a patient’s BDNF profile. “It’s that kind of individualized care that will provide people with the treatment they need, right when they need it,” Dr. Lee said. ■

the Scope Weill Cornell

THE STEPHEN AND SUZANNE WEISS DEAN, WEILL CORNELL MEDICAL COLLEGE
Dr. Antonio M. Gotto Jr.

DEAN, WEILL CORNELL GRADUATE SCHOOL OF MEDICAL SCIENCES
Dr. David P. Hajjar

VICE PROVOST FOR PUBLIC AFFAIRS
Myrna Manners

DIRECTOR OF COMMUNICATIONS
Jonathan Weil

DIRECTOR OF PUBLICATIONS/EDITOR
Michael Sellers

SCIENCE WRITER
Ernie Mundell

FEATURE WRITER
Gabriel Miller

CONTRIBUTING WRITER
Anne Ju, *Cornell Chronicle*

EDITORIAL ASSISTANT/COPY EDITOR
Andria Lam

DESIGN
Shostak Studios, NYC

PRINCIPAL PHOTOGRAPHY
Amelia Panico

Weill Cornell Medical College and Weill Cornell Graduate School of Medical Sciences

The Scope is published by the Office of Public Affairs, (212) 821-0560
publicaffairs@med.cornell.edu



For PDF copies of *The Scope* and other Weill Cornell publications, please visit our Web site at www.med.cornell.edu/publications.

IVIg Therapy Trial Showing Promise in Alzheimer's

Well-tested treatment now found to be effective in clearing brain plaques

With experts predicting 41 million cases of Alzheimer’s disease in the U.S. alone by mid-century, the race for effective treatments has never been more urgent.

A Weill Cornell team now says a mixture of human antibodies called intravenous immunoglobulin (IVIg) stabilizes and even improves cognition in Alzheimer’s patients when given over the course of a year.

“This well-known, well-tested treatment has been used to fight other conditions for decades. It now appears to have real effectiveness in clearing away the beta-amyloid protein brain plaques that we believe contribute to Alzheimer’s disease,” said principal investigator Dr. Norman Relkin, director of the Memory Disorders Program at NewYork-Presbyterian/Weill Cornell.

The study, reported at this year’s International Conference on Alzheimer’s Disease and Related Disorders in Madrid, follows up on a six-month pilot study involving eight patients with mild to moderate Alzheimer’s.

The pilot study found that cognitive test scores held steady or rose when patients received the therapy, but then began to decline

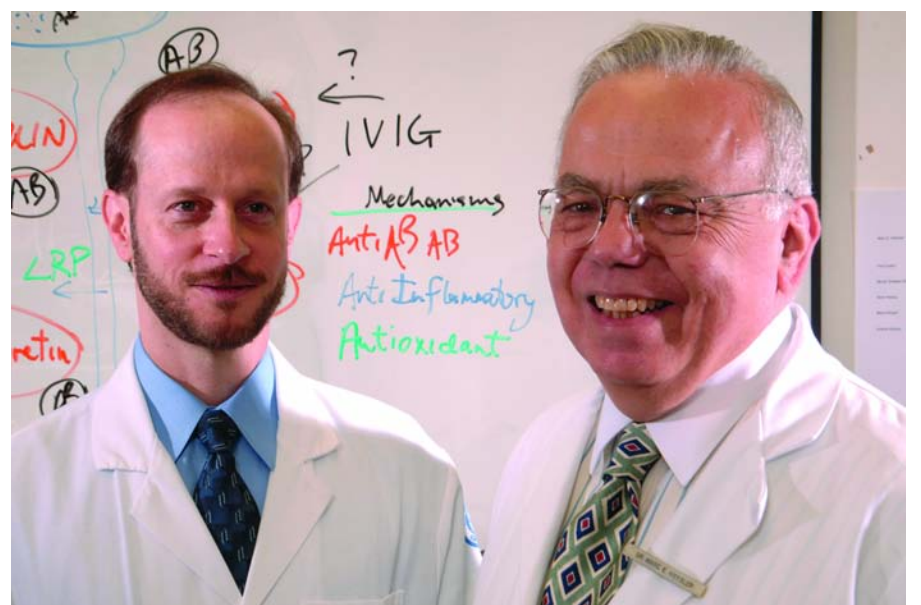
when the treatment was discontinued for three months.

“Those exciting findings led us to resume the trial, using low-dose IVIg in a nine-month, open-label extension study,” said Dr. Relkin, who is also associate professor of clinical neurology and neuroscience at Weill Cornell Medical College.

“Patients received treatment every other week and six of the eight individuals in the trial showed a resumption of clinical benefit from IVIg, which was very well-tolerated,” he said.

Alzheimer’s disease involves a relentless deterioration of memory and other cognitive function. No effective treatments have yet been found for the illness, which appears linked to a steady buildup in the brain of beta-amyloid plaques that interfere with cognitive processes.

“Among its other properties, IVIg appears to bind tightly to beta amyloid,” explained the study’s co-principal investigator, Dr. Marc Weksler, the Irving Sherwood Wright Professor of Geriatrics and a professor of medicine at Weill Cornell. “It



Dr. Norman Relkin (left) and Dr. Marc Weksler

appears to promote the clearance of beta amyloid away from the brain and into the bloodstream, where it is eventually eliminated.”

The trial appeared to bear that theory out. Patients given IVIg displayed a one-third decline in levels of beta amyloid in spinal fluid—suggesting that treatment was flushing the plaques out of the brain.

Cognition improved as beta-amyloid levels declined, and this benefit appeared to last over the long term. “In fact, the majority of patients in our study remained at or above their baseline level of cognitive performance 18 months after they first received IVIg,” said Basia Adamiak, who coordinated

the study at NewYork-Presbyterian/Weill Cornell.

IVIg therapy may turn out to be even more potent in the future, the research team said.

“We’re currently developing techniques to boost the amount and affinity of anti-beta-amyloid antibodies in IVIg,” said Dr. Paul Szabo, associate research professor of molecular biology in medicine at Weill Cornell. “More antibodies, with an improved ability to latch on to the neurotoxic amyloid beta peptide that kills brain cells, could bring even better results.” ■

Neurotransmitter Pioneer Receives IOM Sarnat Award

Dr. Jack Barchas' work celebrated for changing the theory and practice of psychiatry

For insights that have advanced our understanding of psychiatry and psychiatric treatment, the Institute of Medicine (IOM) has bestowed one of its highest honors, the Sarnat Award, on Weill Cornell researcher Dr. Jack David Barchas.

"Our society owes a great debt to Dr. Barchas for his contributions to the study of neurobiology and emotional behavior," said IOM president Harvey V. Fineberg. "His discoveries have transformed the way we identify and treat mental illness, and increased our understanding of the complexities of adaptive behavior."

Dr. Barchas—already the recipient of the Research Award for Lifetime Achievement from the American Psychiatric Association—is psychiatrist-in-chief at NewYork-Presbyterian Hospital/Weill Cornell and the Barklie McKee Henry Professor and chairman of the Department of Psychiatry at Weill Cornell Medical College.



Dr. Harvey V. Fineberg, president of the Institute of Medicine (left), with Dr. Jack Barchas

The Rhoda and Bernard Sarnat International Award in Mental Health was established in 1992 and carries a \$20,000 prize. The IOM bestows the award each year to groups or individuals who have demonstrated outstanding achievement in improving mental health. Recipients are nominated annually by IOM members, medical school deans and mental health professionals.

Any patient who has ever gained relief from an antidepressant—or any other drug acting on the

brain's neurotransmitters—has benefited from Dr. Barchas' investigations into nervous system chemical substances called neuroregulators.

He was the first to demonstrate that various neurotransmitters are affected by stress in different ways. Dr. Barchas has also conducted some of the first genetic studies into neuroregulation, discovered novel neuropeptide transmitters, mapped important transmitters and investigated their pivotal role in human behavior.

"It's difficult to overstate the importance of Dr. Barchas' work to the theory and practice of modern psychiatry," said Dr. Antonio Gotto Jr., dean of Weill Cornell Medical College. "I, along with all his colleagues, congratulate him on this well-deserved award."

Before coming to Weill Cornell, Dr. Barchas served as dean of research development and neuroscience at UCLA School of Medicine. For 12 years, he chaired the IOM's Board on Neuroscience and Behavioral Health, and he currently serves as board chair of the Association for Research in Nervous and Mental Disease. Among his other honors, Dr. Barchas has received a Lifetime Achievement Award from the Society of Biological Psychiatry.

"I am deeply honored to have my work—and that of colleagues who worked with me throughout the years—recognized by the IOM with this award," Dr. Barchas said. "I know I speak for all psychiatric researchers when I say that our real reward comes in a deeper understanding of neurobiological processes. It's those insights that keep psychiatry moving forward." ■

Pakistani Leader Speaks at Weill Cornell

President Pervez Musharraf explores educational initiatives



On September 26, Pakistani President Gen. Pervez Musharraf (right) came to Weill Cornell at the invitation of students from the Cornell Ithaca campus. Before speaking to a standing-room-only audience in Uris Auditorium, President Musharraf spoke with Khurshid Kasuri, Pakistan's ambassador to the U.S., Dr. Antonio Gotto, dean of Weill Cornell Medical College and his wife, Anita (center), and Dr. Herbert Pardes, CEO and president of NewYork-Presbyterian Hospital (background).

9/11 PTSD: Virtually Treatable

Safely reliving the events of 9/11 in a virtual environment gives patients a new sense of control



An example of an image used in virtual-reality treatment of 9/11-related PTSD.

Hundreds of witnesses to the horrors of Sept. 11, 2001, continue to suffer chronic symptoms of post-traumatic stress disorder (PTSD) linked to the event. One would think the last thing these individuals would want to do would be to enter a computer-generated world that recreates that day in all its terrifying detail.

Yet a treatment involving this type of "virtual 9/11" is proving highly effective at easing the symptoms of PTSD linked to the disaster, a Weill Cornell team reports.

"It may sound counterintuitive, but we know that the most effective way of overcoming the emotional fragility that marks PTSD is to safely re-expose oneself to the event itself," explained lead researcher Dr. JoAnn Difede, director of the Program for Anxiety and Traumatic Stress Studies at NewYork-Presbyterian/Weill Cornell, and associate professor of psychology in psychiatry at Weill Cornell Medical College.

"That's why this new virtual-reality technology is so exciting," Dr. Difede said. "Whereas before we could only ask patients to mentally recount their traumatic experiences, we can now immerse all of their senses in the triggering event

enhanced exposure therapy could help those struggling with 9/11-linked trauma. Those early studies employed faithful re-creations of the outside of the Twin Towers and surrounding area.

Two new studies go a step further. One trial uses sophisticated new video simulations of the escape from the inside of the World Trade Center, complete with the sights and sounds of jetliners crashing into the structures; the slow, fearful descent to the buildings' lobbies; and the ensuing chaos outside.

"The patient wears a headset that allows them a 3-D immersion in this world, which they can see at different angles depending on how they tilt their head. We have even equipped the platform they sit on to 'rum-

"It may sound counterintuitive, but we know that the most effective way of overcoming the emotional fragility that marks PTSD is to safely re-expose oneself to the event itself."

— Dr. JoAnn Difede



Dr. JoAnn Difede

ble' in the way the towers' floors shook upon impact," Dr. Difede said. The study is open to individuals with PTSD who experienced the World Trade Center attacks from within the buildings.

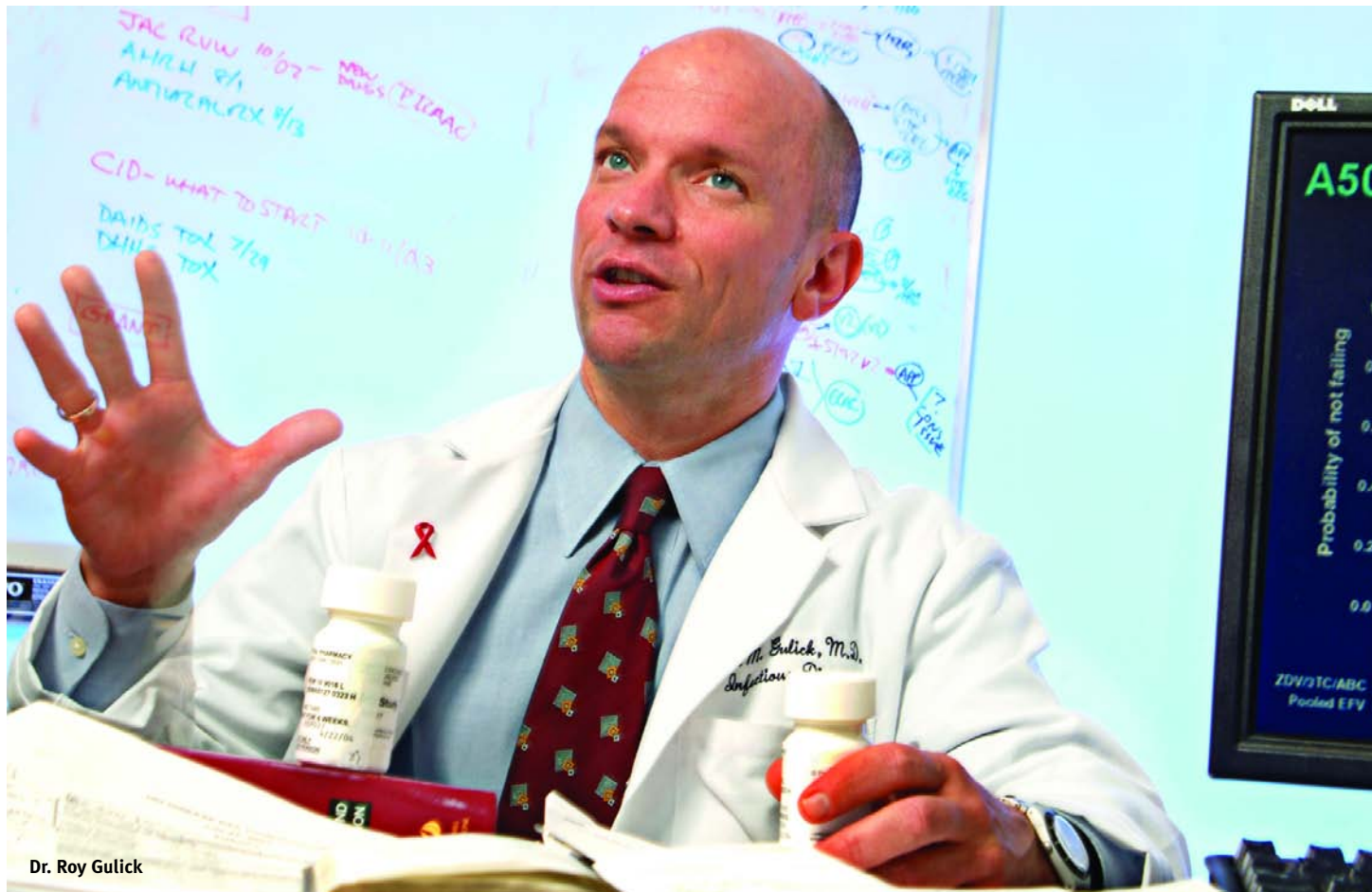
Patients undergo the therapy in the company of a trained expert and begin with less-troubling images, moving gradually to more graphic scenes.

A second study adds another treatment to the mix—an antibiotic called D-cycloserine, long used to treat tuberculosis.

"Prior research suggests that this drug enhances learning and helps patients maximize the benefits of exposure therapy," Dr. Difede said. "We're hoping that D-cycloserine will produce faster, longer-lasting reductions in symptoms." That study is open to patients who experienced the disaster from outside the World Trade Center, including those who witnessed it from afar. ■

In This Case, More Is Not Necessarily Better

The addition of an extra med in treatment of HIV produced no better results, Weill Cornell team finds



Dr. Roy Gulick

If it isn't broken, don't fix it. That's the take-home message of a new study that finds no benefit in adding a fourth medication to the three-drug regimens most HIV-positive patients already take to keep AIDS at bay.

"We saw no differences over three years between three- and four-drug combinations in terms of lowering HIV levels, strengthening immune system T-cells, or side effects," said study lead researcher Dr. Roy Gulick, director of the HIV Clinical Trials Unit at NewYork-Presbyterian/Weill Cornell.

Dr. Gulick, who is also associate professor of medicine at Weill Cornell Medical College, went on to say that, "The findings suggest that current triple-drug 'cocktails' are continuing to perform remarkably well for the large majority of patients. In fact, more than 80 percent of our patients kept their HIV levels to below detectable levels for the three years of the study."

His team published the findings in a recent HIV/AIDS-themed issue of the *Journal*

The image below demonstrates the drastic reduction in the number of drugs needed to treat HIV. From over a dozen pills in the early 1990s to just three highly active antiretrovirals today, Dr. Roy Gulick and his team found that adding a fourth medication had no discernable positive effect on patients.



of the American Medical Association.

The motivation for the study was simple, Dr. Gulick said.

"When active antiretroviral therapies first came of age in the 1990s, we quickly realized that two drugs worked better than one in reining in HIV. Then we saw that three drugs worked even better," he said. "So, the

logical question was—would four meds prove even more effective?"

Prior four-drug trials have proven inconclusive, mainly because the addition of a fourth drug meant adherence might be affected, confounding the results. "We solved that by including the fourth medication—the nucleoside abacavir—in one combo pill with two other nucleosides, zidovudine and lamivudine," he said. "Patients also took a second daily pill that contained the non-nucleoside drug efavirenz."

Today's three-drug regimens now include the two nucleosides rolled into one pill, plus efavirenz. That means that one pill, once-daily treatment for HIV is now possible.

The trial included 765 patients from a diverse patient population, recruited from 33 centers across the U.S.

Dr. Gulick and researchers concluded that adding a fourth drug produced no significant benefit over the three-year course of the study.

"For example, in terms of virologic failure,

meaning rebounding levels of HIV in the blood, 26 percent of those on three-drug regimens experienced failure vs. 25 percent in the four-drug therapy," Dr. Gulick said.

Results were similar when the team compared the number of patients whose HIV levels dipped to undetectable levels: 85 percent of those who took three drugs had levels below 50 copies per millimeter, compared to 88 percent who received abacavir as well. "There were also no significant differences in side effects between the two groups," Dr. Gulick added.

This is all good news for patients with HIV, he said. "Our current triple-drug therapies appear to be so effective that it's hard to improve on that. In that sense, we're doing incredibly well," Dr. Gulick said.

"When active antiretroviral therapies first came of age in the 1990s, we quickly realized that two drugs worked better than one in reining in HIV. Then we saw that three drugs worked even better. So, the logical question was—would four meds prove even more effective?" – Dr. Roy Gulick

Still, some patients with prior treatment experience may benefit from additional drugs, he added. "Treatment is always on a case-by-case basis and some patients do take a fourth medication—even five- or six-drug regimens aren't unheard of," Dr. Gulick said.

But for most patients starting treatment, three remains the magic number. "If patients take their medications as directed and see their doctor if and when problems emerge, HIV can be suppressed with triple-drug regimens that are standard today," Dr. Gulick said. ■

>>> from page 1

Starr Foundation Forms Five-Institution Coalition Against Cancer

Rockefeller University, will provide a framework for research that builds on the complementary strengths of each institution, specifically each institution's research into the genetic basis of the disease. In addition to sharing knowledge, the consortium will also provide an opportunity for scientists to utilize cooperative technologies.

Maurice Greenberg, chairman of the Board of Directors of the Starr Foundation and chairman emeritus of the Board of Trustees at NewYork-Presbyterian Hospital, cited the strength of the five institutions as critical to his gift. "What really motivated us was to bring the best institutions to work together and share their knowledge, to promote collaborations rather than having separate centers of knowledge," Mr. Greenberg said. "Discoveries will be made much more rapidly with these

institutions working together."

Weill Cornell Dean Antonio Gotto Jr. praised the Starr Foundation's foresight in funding research during a time when the number of federal research grants has been drastically reduced. According to *Science*, 2005 marked the lowest amount of NIH money awarded for both new and continuing grant submissions since 1999. The percentage of grants funded also fell to its lowest point over the six-year period.

"Mr. Greenberg and the Starr Foundation had the foresight to make a major gift in this field and this promising area of research at a time when we face a series of intensely difficult periods of funding from the NIH," Dean Gotto said. "There is no question that both initial investigators as well as long-standing,

established researchers are having increasing difficulty getting grants funded. A gift of this type for these five institutions coming at such a critical time is especially important."

The Starr Foundation grant will be earmarked specifically for joint projects involving two or more institutions, including several highly promising initiatives already under way. Key areas of focus for the Starr Cancer Consortium will include:

- **Creation or accelerated development of powerful technology platforms designed to unravel the genetic and molecular basis of cancers;**
- **Application of these technologies in joint projects aimed at developing new and highly effective approaches to diagnosis and treatment;**

Lung Cancer

Dr. Henschke, who is chief of the Chest Imaging Division at NewYork-Presbyterian/Weill Cornell and professor of radiology and radiology in cardiothoracic surgery at Weill Cornell Medical College.

If her prediction comes true, it would mark a reversal of fortune for lung cancer, which has long been the leading cancer killer of both men and women. Each year, more than 173,000 Americans are diagnosed with the disease, but late diagnosis means 95 percent will die from their illness.

Until relatively recently, there's been no readily available, accurate means of spotting lung malignancy in its earliest stage (stage I), when a surgical cure remains highly likely. "Twenty years ago, CT scans simply didn't give us the level of detail needed to spot the tiny nodules that herald cancer," Dr. Henschke explained.

Technology marches on, however, and CT lung scans that once yielded just 30 images now produce more than 600 in a single breath-hold. Today's scanners now produce image "slices" that are thinner than a millimeter, giving radiologists the ability to detect much more subtle abnormalities.

But would this higher level of precision result in earlier cancer detection, and greater patient survival?

To find out, Dr. Henschke launched a decade-long investigation in 1993 that quickly expanded to include 38 institutions in seven countries worldwide. This effort, named the International Early Lung Cancer Action Project (IELCAP), is the largest long-term study dedicated to assessing the usefulness of annual CT screening for at-risk patients.

The study recruited nearly 32,000 who were 40 years and older, all of whom were at risk of lung cancer due to a history of smoking, exposure to secondhand smoke, or workplace exposures to carcinogens such as asbestos, radon or uranium.

Annual CT screening detected 484 study participants with lung cancer, 412 or 85 percent of whom had stage I disease.

"However, we were pleased to find that for those patients with stage I lung cancer who opted for early treatment, they had an estimated 10-year survival rate of 92 percent," Dr. Henschke reported. In contrast, all of the stage I patients who decided to forego treatment died over the following 10 years.

Cost is an issue, of course, since there are millions of smokers and ex-smokers in the United States who might benefit from annual CT screening. The average price tag for low-dose CT chest screening ranges from \$200 to \$300.

"But allowing stage I disease to go undetected means it will be treated at a much later stage, when costs are much higher," Dr. Henschke pointed out. After factoring the added costs of not screening, annual CT scans for lung cancer turn out to be just as cost-effective as other currently recommended cancer screens, such as colonoscopy or mammography.

"Of course, the best way to lower the number of people dying from lung cancer each year is to further discourage smoking," Dr. Henschke stressed. "Barring that, early detection with CT screening has real potential to extend and save thousands of lives. Obviously, it's a technology whose time has come." ■

• Support for basic biological research to provide insights into the fundamental molecular and cellular processes underlying cancer.

The Starr Foundation, with assets today of approximately \$3.5 billion, has donated funding in excess of \$2 billion since its establishment in 1955—with more than \$1 billion in New York City alone—making it one of the largest private foundations in the United States. The foundation supports education, cultural institutions, medicine and health care, human needs, public policy and the environment.

Near the end of the press conference, Mr. Greenberg turned to Dean Gotto and said, "This is a major step forward in the fight against cancer. I am convinced that this team of five major research institutions will make great strides in the years ahead to find the causes—and the cure—for cancer." ■

science ataglance

Two Decades of Tracking to Defeat Crohn's Disease



Dr. Fabrizio Michelassi

SEAN KELLNER

One doctor's decades-long effort to track surgical outcomes for Crohn's disease patients is giving new insights into what works best. "Beginning with my work as a young surgeon in 1988, I kept records on well over 1,000 patients," said Dr. Fabrizio Michelassi, chairman of the Department of Surgery at Weill Cornell Medical College and surgeon-in-chief at NewYork-Presbyterian Hospital/Weill Cornell. Published in a recent issue of *Surgery*, Dr. Michelassi's data are unmatched in the literature and are already providing important insights into how patients with complications of Crohn's disease can best be managed, especially those requiring multiple surgeries. "The study offers surgeons a degree of clarity that just wasn't there before," Dr. Michelassi said. ■

New Drug Safely Fights Low-Platelet Disease

Phase I and II multicenter clinical trials suggest that an experimental platelet-boosting agent called AMG 531 could help thousands of Americans battling chronic immune thrombocytopenic purpura (ITP). "ITP is an immune condition where the body attacks and destroys platelet cells essential to clotting," explained lead researcher Dr. James Bussel, professor of pediatrics at Weill Cornell and attending pediatrician at NewYork-Presbyterian Hospital/Weill Cornell. As reported in the *New England Journal of Medicine*, AMG 531 helps boost platelet production, effectively replacing cells lost to ITP. "Larger trials are already under way," said Dr. Bussel, "and we're hopeful that ITP patients will soon have a potent new weapon against this potentially fatal disease." ■

Enzyme Cuts Into Prostate Cancer

A little enzyme gives a lethal chop to a molecule responsible for prostate cancer's blood supply, a Weill Cornell team reports. Prior work had shown that this cell-surface enzyme, neprilysin, might be a tumor suppressor. "But our mouse studies found it also cleaves a large substrate molecule, FGF-2. This molecule encourages prostate tumor angiogenesis, or tumor blood vessel growth," explained lead researcher Dr. Oscar Goodman, assistant professor of medicine in the Division of Hematology and Oncology at Weill Cornell.

As reported in a recent issue of the *Journal of Biological Chemistry*, the work suggests that drugs that boost neprilysin levels might shrink tumors by starving them of the blood they need to survive. ■

NYC Data Refutes Link Between Antidepressants and Child Suicide

Sporadic reports of children committing suicide after using SSRI antidepressants led the FDA in 2004 to slap a "black box" warning on the drugs, advising doctors of the potential risk. But a Weill Cornell survey of all 107 New York City pediatric suicides from 1999 to 2002 uncovered no such link. "We found just five cases where postmortem tests showed any trace of antidepressants in the bloodstream," said lead researcher Dr. Andrew Leon, professor of biostatistics in psychiatry and professor of public health at Weill Cornell. The findings, published in the *Journal of the American Academy of Child and Adolescent Psychiatry*, "are not definitive but should give reassurance to parents troubled by recent reports," added senior researcher Dr. Kenneth Tardiff, a professor of psychiatry and public health at Weill Cornell. ■



ISTOCK.COM

Top Postdoc Researchers and Mentors Honored

Postdoctoral associates from NYC and Ithaca campuses present their work during annual Postdoc Research Day

>>> from page 1

Big Apple to the Big Red

Medical College and provost of medical affairs of Cornell University. “By bridging the distance between Ithaca and Manhattan and bringing our best research minds together to develop solutions for the most daunting health issues of our time, I am confident we will unlock scientific and medical discoveries that can improve lives around the globe.”

Illustrating the already increasing connections between Ithaca and Weill Cornell, assistant professor of research in surgery Suzanne B. Schwartz and Hua Song, a doctoral student in fiber science, spoke at the Oct. 26 campaign launch ceremony and presented a sample of artificial skin recently invented by Cornell researchers that is changing the way burn victims are treated. The creation of this “living bandage” is the result of an ongoing research partnership between C.C. Chu, a biomedical engineer in the Department of Fiber Science and Apparel Design in Ithaca, and Dr. Roger Yurt, a surgeon at NewYork-Presbyterian/Weill Cornell’s William Randolph Hearst Burn Center.

Demonstrating the real-life application of the artificial skin, the audience listened intently to New York City firefighter Steve Halliday, who suffered third-degree burns over more than half of his body in a 2002 fire and was rushed to Weill Cornell for treatment in its world-renowned burn unit. As a testament to his amazing recovery, Halliday has since participated in three triathlons, attributing his success to the care he received at Weill Cornell.

“The docs here never gave up on me, and for that I will always be grateful.”

Discoveries That Make a Difference will fund programs such as the construction of a proposed new \$650 million, 350,000-square-foot Biomedical Research Building in

“We have our work cut out for us, but we are poised for greatness.”

— Sanford I. Weill

the vicinity of the Medical College. This new facility will double Weill Cornell’s existing research space, accommodating more laboratories, thereby allowing scientists to accelerate biomedical discoveries. The building will be designed with laboratories in an open layout to foster communication and collaboration among scientists. The campaign will also fund new translational and clinical research programs focused on metabolic, cardiovascular, and neurodegenerative disorders, cancer, infectious diseases, reproduction and fertility, solid organ transplantation and immunological and inflammatory diseases.

“We have our work cut out for us,” Mr. Weill said.

“But we are poised for greatness.” ■

For more information about the *Discoveries That Make a Difference* Campaign, please visit www.med.cornell.edu/campaign.



Sanford I. Weill, chairman of the Board of Overseers of Weill Cornell Medical College, and NYC firefighter Steve Halliday.



Postdocs explore the poster presentations made by their colleagues during the day-long symposium.

Postdoctoral associates play a critical role in the Weill Cornell biomedical research enterprise, providing much-needed intellectual capital in laboratories throughout the Medical College. To affirm the importance of that role, Weill Cornell honored “postdocs” and their scientific contributions during the annual Postdoctoral Research Day on Nov. 3.

“This really is their day,” said Karen Sherman, administra-

tive director of the Office of Postdoctoral Affairs. “The day is entirely organized by postdocs.”

Now in its second year, the event has grown to 19 oral presentations and 56 poster presentations—and for the first time included postdocs from Cornell University in Ithaca.

“None of the Ithaca-based postdocs had ever been down to the New York City campus and they were very excited about seeing the Medical College,” said Christine Holmes,

academic affairs and appointments

Dr. Laura Forese Appointed Chief Operating Officer at NewYork-Presbyterian/Weill Cornell



DR. LAURA FORESE has been appointed chief operating officer at NewYork-Presbyterian Hospital/Weill Cornell Medical Center, the clinical partner of Weill Cornell Medical College. As chief operating officer, Dr. Forese will be responsible for all operations at NewYork-Presbyterian/Weill Cornell

and NewYork-Presbyterian/Westchester.

Dr. Forese received a B.S.E. in civil engineering and operations research Phi Beta Kappa and summa cum laude from Princeton University in 1983, and a medical degree Alpha Omega Alpha from Columbia University College of Physicians and Surgeons in 1987. After completing training in orthopaedic surgery at NewYork-Presbyterian Hospital/Columbia University Medical Center, Dr. Forese obtained a degree in health services management from the Mailman School of Public Health (then called Columbia School of Public Health).

In 1993, she joined the full-time faculty at Columbia, specializing in pediatric orthopaedic surgery, where she continues to retain an appointment as associate clinical professor. She served as chief of surgical and anesthesia services at Helen Hayes Hospital in West Haverstraw, NY, and from June 1998 to December 2002, she was vice chair in the Department of Orthopaedic Surgery at Columbia University. Subsequently, she was vice president for medical affairs at NewYork-Presbyterian Hospital until her appointment as chief medical officer for NewYork-Presbyterian in January 2005, a role in which she will continue to serve.

Dr. John Carucci Named First Clinique Clinical Scholar



Assistant Professor of Dermatology **DR. JOHN CARUCCI** has been named the first Clinique Clinical Scholar, a position created to support the research efforts of a junior faculty member in dermatology. The Clinique Clinical Scholar is one of the components of the collaboration between Clinique and Weill Cornell, announced



Dr. Joel Pardee, associate dean of the Graduate School, presents Dr. Antje Blumenthal with an award for her podium presentation during Postdoc Research Day.

Microbiology and Immunology, and Dr. Samie Jaffrey, associate professor in the Department of Pharmacology, both of whom Dr. Granger cited for their outstanding approachability, among many other attributes. (For a full list of nominated professors, visit www.med.cornell.edu/postdocs/association.)

Of the 75 research presentations, four podium presentations and 12 posters were recognized as outstanding by a panel of volunteer faculty judges, with Dr. Antje Blumenthal (microbiology and immunology, Weill Cornell) and Dr. Yvonne Tallini (biomedical science, Cornell University) taking top honors in the podium and poster groups, respectively. Dr. Blumenthal studied the role of B lymphocyte receptor RP105 during *Mycobacterium tuberculosis* infection while Dr. Tallini investigated atrioventricular delay and insulation in the murine heart.

The symposium included a keynote address from Nobel Prize-winning scientist Dr. Eric Kandel, of Columbia University. Dr. Kandel presented a history of his work exploring the molecular mechanisms of memory storage and his work uncovering new aspects of neuronal signaling.

After 12 hours of presentations, Holmes, who plans on having a Postdoctoral Research Day at Cornell in Ithaca modeled on Weill Cornell's success, was equal parts tired and satisfied. "It was long day, coming down in the morning and leaving in the evening, but it was well worth it." ■

director of the Office of Postdoctoral Studies at Cornell University. "It was a great opportunity for our postdocs to make connections and see the research under way in New York City."

Also for the first time, the event included Excellence in Mentoring Awards for faculty members nominated by postdocs. Thirteen nominations were received for 12 professors, who were judged by their ability to support postdocs in the laboratory as well as their ability to prepare them for the next level, be that a career in academia or an alternative field.

"Not all postdocs want to go on to academia—which mentors are quite good at—but we need mentors who are supportive of postdocs in general, whatever their career might be," said Dr. Kathleen Granger, a member of the Postdoctoral Association's Executive Committee who coordinated the Mentoring Awards. "One of our goals is to acknowledge these mentors in hopes that it will encourage better mentorship throughout the entire community."

This year's winners were Dr. Sabine Ehrh, associate professor in the Department of



Nobel laureate Dr. Eric Kandel of Columbia University (left) was the keynote speaker at the Nov. 3 Postdoctoral Research Day. With Dr. Kandel is postdoctoral associate and postdoctoral executive committee member Leonardo Pignataro.



100, Fit and Fabulous!

Centenarian is proof positive of NewYork-Presbyterian's commitment to put patients first

EVER SINCE SHE HAD CARDIAC SURGERY IN 1998, LILLIAN Sharky exercised three times a week at NewYork-Presbyterian/Weill Cornell's Cardiac Health Center. It was only natural, then, that when Ms. Sharky turned 100 on November 1, Dr. Paul Kligfield, director of the Cardiac Health Center, his staff and some of her fellow patients threw a birthday party for her. Ms. Sharky, who was born in 1906 in Manhattan, is the center's oldest patient.

"The Cardiac Health Center helps people of all ages with their sense of well-being after a cardiac event," Dr. Kligfield says. Asked what she gains from the class, Ms. Sharky replied, "Everything!"

"She really loves to go there," said her niece, Linda Resnick. "She moves around and walks better there than anywhere else. And she feels she gives inspiration to other people. She takes that seriously. That's her job." Her Cardiac Health Center birthday celebration included cake as well as a rendition of "Happy Birthday" by staff and friends. When it ended, Ms. Sharky continued her practice of the last eight years and headed for her daily exercise class. ■

in 2005. Clinical scholars serve for an initial three-year period and may be extended up to two consecutive terms.

Dr. Carucci, who also directs the Mohs Micrographic and Dermatologic Surgery at NewYork-Presbyterian/Weill Cornell, received his M.D. and Ph.D. simultaneously at State University of New York-Health Science Center at Brooklyn. He is an expert in the use of laser surgery for treatment of various skin conditions. Dr. Carucci's current research focuses on the prevalence of squamous cell carcinoma of the skin in transplant recipients.

Susan Holt Named Chief Development Officer



SUSAN HOLT has been named to the newly created position of chief development officer in the Office of Development at Weill Cornell Medical College. In this position, Ms. Holt will be responsible for creating a new organizational structure to better meet the development priorities of Weill Cornell as it enters the third phase of its strategic

plan and beyond. Ms. Holt will report to Dr. Antonio M. Gotto, dean of the Medical College and provost of medical affairs for Cornell University, and Larry Schafer, vice provost for development.

"Development is a critical and valued function at Weill Cornell," said Dr. Gotto. "The current and previous campaign drives have demonstrated how successful fund-raising energizes our alumni and friends and supports our tripartite mission of research, education and patient care."

Ms. Holt most recently served as associate dean for development and alumni relations at Case Western Reserve University School of Medicine in Cleveland.

Fourth-Year Medical Student Receives Pisacano Scholarship



Fourth-year medical student **ELIZABETH ENSCHEDE** has been named one of five recipients of the Pisacano Scholarship, a scholarship of up to \$28,000 awarded to students through an extremely competitive process during their final years of medical school. Recipients of the

Pisacano Scholarship are widely regarded as the future leaders of family medicine.

According to the Pisacano Scholars Leadership Program, who are sponsors of the award, "each scholar has shown demonstrable leadership skills, superior academic achievement, strong communication skills, identifiable character and integrity, and a noteworthy level of community service."

Elizabeth, also who speaks fluent Spanish, has been actively involved in outreach both locally and globally. After graduating from Sarah Lawrence College, she served as leadership educator for Global Kids Inc., a non-profit organization that provides underprivileged teens with leadership skills to confront the issues they face in their neighborhoods. As part of this program, she helped bring a group from Global Kids to Croatia to work with Serbian refugee teens in the area.

While at Weill Cornell, Elizabeth traveled to Cuba, where she worked in health-care facilities for HIV, renal diseases and neonatal treatment. She also volunteers with the Physicians for Human Rights student group and serves as an educator with the AIDS Teaching Program, conducting workshops to teach high school students about HIV/AIDS and common STDs.

Elizabeth plans to stay in Brooklyn following medical school and residency, hoping to serve those with limited health-care resources. ■

Going Global

Weill Cornell students go abroad to experience worldwide public health issues firsthand



In between a Weill Cornell student's first and second year, their summers disappear and coursework becomes a year-round experience. But before that happens, many students use their last few fleeting summer months to take an international elective and travel abroad to learn about health-care delivery in other, often less affluent, countries.

"It's the only free summer that the students have," said Dr. Madelon Finkel, director of the Office of Global Health Education and professor of clinical public health at Weill Cornell. "At that point, the students are well-versed in epidemiology and public health, which allows them to focus on social aspects of medicine."

In order to receive credit and financial assistance, students must craft a project proposal and have both a Weill Cornell and host country sponsor before going abroad. After returning, students must report the outcome of their projects. Each student is required to prepare a poster for presentation

at an event held in early October. In addition to sharing their experience with their classmates, this presentation also serves to whet the appetite for an international experience among the incoming first-year class.

Second-year student Ian Huntington's five-week experience this past summer in Quetzaltenango, Guatemala, represents in some sense both what the College's program has achieved and what it seeks to do in the future.

"I kept my proposal pretty open. I wanted to remain flexible and looked around for questions that grabbed me," Huntington said. While observing in a general clinic, he realized that diabetes typified something of a social change in Guatemala; as the country undergoes globalization, diseases associated with obesity are on their way to becoming as important as those associated with malnutrition.

Huntington began looking closely at diabetic health-care delivery, from observing patient-doctor interactions in a government-sponsored specialty diabetes clinic to

searching records at the regional public health office. Before the end of the year, a first-person account of his experience will be published in *Global Pulse*, the international health journal of the American Medical Student Association.

According to Dr. Finkel, last year 20 percent of first-year students took an international elective, while 30 to 40 percent of fourth-year students elected to spend six to eight weeks abroad providing medical care to underserved populations and taking on more substantial research projects. One of the newest opportunities for international student electives is at the Bugando Medical Center in Tanzania,

with whom the College recently formalized an affiliation after several years of cooperative exchanges and support. Student interest in sub-Saharan Africa has dramatically increased in the last few years, with three to four students traveling there annually. Other opportunities include programs in Panama, India and Australia. "We are trying to expand from a traditional focus on infectious disease to encompass other opportunities in a wide variety of locations, including public health aspects of global health," said Dr. Finkel. "Our program at Weill Cornell seeks to provide an enriching experience in both developing—and developed—countries." ■

"I kept my proposal pretty open. I wanted to remain flexible and looked around for questions that grabbed me."

— Ian Huntington

the Scope Weill Cornell at a glance

January • February 2007

Non-Profit Org.
U.S. Postage
PAID
New York, NY
Permit No. 5503



1 COVER STORY:

From the Big Apple to the Big Red

NYC Mayor Michael Bloomberg was a featured speaker at the October 27 launch announcing a \$4 billion capital campaign to fund basic science research at Cornell University and Weill Cornell Medical College.

2 SCIENCE STORIES: NEW INSIGHTS INTO DEPRESSION

Morose mice and magnetic resonance imaging of the human brain are pointing to more effective treatments of clinical depression.

UPDATE ON IVIG TRIAL

A yearlong trial of IVIg therapy yields promising results for patients with Alzheimer's disease.

3 SCIENCE BRIEFS:

9/11 PTSD:

VIRTUALLY TREATABLE
Safely reliving the tragic events of 9/11 in a virtual environment gives patients a new sense of control.

NEUROTRANSMITTER PIONEER RECEIVES IOM SARNAT AWARD

Dr. Jack Barchas' work is celebrated for changing the theory and practice of psychiatry.

4 IN THIS CASE, MORE IS NOT NECESSARILY BETTER

Dr. Roy Gulick explains how the addition of an extra medication in HIV treatment does not produce better results.

5 SCIENCE AT A GLANCE: UNMATCHED DATA FOR CROHN'S PATIENTS

One doctor's decades-long effort to track surgical outcomes for Crohn's disease patients is giving new insights in what works best.

5 SCIENCE AT A GLANCE:

SSRI ANTIDEPRESSANTS AND CHILD SUICIDE LINK?

Weill Cornell survey of pediatric suicides from 1999 to 2002 proves there is no link between antidepressant use and pediatric suicide.

8 FOCUS ON:

GOING GLOBAL

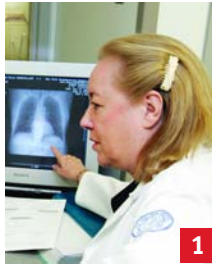
Weill Cornell students are engaged in emerging global public health issues by taking international electives.

COVER STORY:

Scanning for the Nation's #1 Cancer Killer

Featured on the front page of the October 26 edition of *The New York Times*,

Dr. Claudia Henschke describes her breakthrough study that uses CT scans to screen for early lung malignancies.



Weill Cornell Medical College and
Weill Cornell Graduate School of Medical Sciences
Office of Public Affairs, Box 144
1300 York Avenue
New York, NY 10021

ADDRESS CORRECTION REQUESTED