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News of the Joan and Sanford I. Weill Medical College and Graduate School of Medical Sciences of Cornell University January 2005

Let the Building Begin: Weill Cornell Pours Foundation for New Facility

Keeping pace with the trend toward accommodating increased ambulatory services outside of the hospital setting, Weill Cornell Medical College has begun construction on its new state-of-the-art ambulatory care and medical education building. The 13-story, \$230 million medical complex, due to open at 1305 York Avenue at East 70th Street in 2006, is the College's first clinical facility to be built in its 106-year history and is destined to enhance the patient experience in every way. "This building represents the essence of Cornell—a place of higher education and intellectual capital bar none, a source of health and wellness for all, and a program that will shape the face of medicine

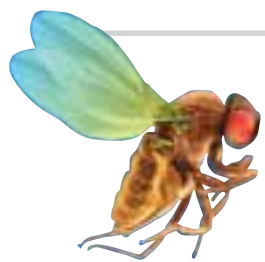
to come," said Jeffrey Lehman, president of Cornell University. The centerpiece of Weill Cornell's capital campaign, *Advancing the Clinical Mission*, the new facility is designed to further medical excellence and improve patient care by: **▶ Helping Weill Cornell care for New York City's increasing volume of ambulatory patients.** In 2003, Weill Cornell physicians managed more than 700,000 ambulatory visits. **▶ Enhancing medical education in an ambulatory setting.** With the new centralized, multipractice facility, Weill Cornell will continue to serve as an educational model. >>> page 2



PARTICIPATING IN THE HISTORIC GROUNDBREAKING CEREMONY FOR THE NEW BUILDING WERE (left to right): Peter Meinig, chairman, Board of Trustees, Cornell University; Kevin Brine, Medical College overseer and chairman, Capital Campaign; Manhattan Borough President C. Virginia Fields; Sanford Weill, chairman, Medical College Board of Overseers; New York City Mayor Michael Bloomberg; Dr. Antonio Gotto, Jr., dean of the Medical College; Tommy Thompson, U.S. Secretary of Health and Human Services; Jeffrey Lehman, president, Cornell University; Corinne Greenberg; Dr. Herbert Pardes, president and CEO, NewYork-Presbyterian; and Congresswoman Carolyn Maloney.



THE NEW AMBULATORY CARE AND MEDICAL EDUCATION BUILDING, shown here as an architectural rendering (not to scale), will accommodate the Medical College's ambulatory care programs, facilitate clinical research, and provide students with important, hands-on patient learning experiences.



Turning Back the Aging Clock

Could human middle age in the future be pegged at 60, 70 or even 80 years? Scaled down to the lifespans of fruit flies buzzing in a Weill Cornell lab, it already is. Just by turning off one copy of a single gene, researchers enabled the flies to live 51% longer — equal in human years to a healthy old age of 113. That gene, called *stunted*, is only one of a few such genes linked to aging in the *Drosophila* fly, long a model for research into aging. Most importantly, *stunted* appears to work on a receptor lying on the surface of cells that is already a prime target for drug research. "That's why we're so excited, because this receptor, called the G-protein coupled receptor [GPCR], is such a fantastic target for drug development," explained researcher Dr. Xin-Yun Huang, pro-

fessor of physiology and biophysics at Weill Cornell Medical College. The findings were published in the June *Nature Cell Biology*. In 1998, scientists discovered the first longevity-linked GPCR gene, aptly dubbed *methuselah*. When one copy of the gene was disabled, flies lived 35% longer. But Dr. Huang knew that was only half of the puzzle. For every receptor there's a ligand — a signaling molecule within the cell that connects with the surface receptor. He theorized that a gene governing this GPCR-linked ligand might be linked to longevity, too. To answer this question, his team analyzed masses of fly cells, looking for ligands that "lock into" the *methuselah*-controlled receptor. "In this case we found two ligands actually produced by the same *stunted* gene," Dr. Huang said. >>> page 3



John Abbott

DR. SHAHIN RAFII (LEFT) heads the new Ansary Center for Stem Cell Therapeutics. He and his colleagues have made a number of advances in stem-cell research, including the discovery of vascular and muscular stem cells present in adult and fetal tissues that can contribute to organ and tumor revascularization.

THE KEYS TO UNLOCK THE CURE FOR CANCER, HEART ATTACK, AND OTHER DISEASES ARE surely within reach as clinicians and bench scientists continue to pursue the study of stem cells. This most promising field of research is being furthered at Weill Cornell Medical College with the establishment of the new Ansary Center for Stem Cell Therapeutics, launched with a \$15 million grant from Shahla and Hushang Ansary, a vice chairman of the Medical College's Board of Overseers.

"The Ansary Stem Cell Center will help lead the way into 21st century medicine," said Dr. Antonio Gotto, Jr., dean of Weill Cornell Medical College. "Weill Cornell scientists and physicians are already world leaders in stem cell research, and Mr. Ansary's generous gift will help spur the creativity and collaboration of our scientists, as well as help draw the best and brightest young researchers in the field to our campus." Directing the Center is Dr. Shahin Rafii, the Arthur B. Belfer Professor of Genetic Medicine. >>> page 5

Aspirin a Day May Keep Breast Cancer Away

More evidence that COX enzyme activity has links to cancer

Millions of American women take an aspirin tablet each day to prevent heart attack or stroke, and a Weill Cornell researcher says that same little pill may protect them from a second major killer — breast cancer.

Aspirin “seems to protect against another disease, hormone receptor-positive breast cancer,” said Dr. Andrew Dannenberg, the Henry R. Erle, M.D.-Roberts Family Professor of Medicine at Weill Cornell Medical College and co-director of NewYork-Presbyterian Hospital’s Cancer Prevention Program.

The study is another milestone in Dr. Dannenberg’s pioneering work with the enzyme cyclooxygenase (COX) — a therapeutic target of non-steroidal anti-inflammatory drugs (NSAIDs) such as aspirin or ibuprofen.

“To our knowledge, this is the first study where an understanding

of a specific cyclooxygenase-dependent mechanism has led to the identification of a subset of patients who benefit from aspirin or NSAID use,” he said.

Dr. Dannenberg is co-investigator of a study on aspirin use and breast cancer, published in the May 26 *Journal of the American Medical Association*.

Up to 70 percent of all breast cancers fall into the category of hormone receptor-positive breast cancers — malignancies with cells that grow when exposed to the female hormone estrogen. Luckily, these types of breast cancers are more easily treated, since drugs like tamoxifen counteract this hormonal effect.

Doctors have long suspected that daily use of aspirin, ibuprofen, and other NSAIDs lowers the risk for a variety of cancers, including breast cancer, because they inhibit the activity of cyclooxygenase. Animal studies have shown that COX stimulates the production of a molecule called prostaglandin E2 (PGE2), which, in turn, increases estrogen synthesis.

“We postulated that if that mechanism were the same in humans, then aspirin, an inhibitor of PGE2 production, should protect better against hormone receptor-positive than hormone receptor-negative breast cancer,” Dr. Dannenberg said, “and that is what we found.”

The study was led by Dr. Mary Beth Terry of Columbia Mailman School of Public Health, with co-investigator Dr. Alfred Neugut of Columbia University College of

Physicians and Surgeons, who co-directs the Cancer Prevention Program at NewYork-Presbyterian with Dr. Dannenberg. Dr. Kotha Subbaramaiah, associate professor of biochemistry in medicine at Weill Cornell Medical College, was also a co-investigator.

The researchers analyzed data on over 2,800 Long Island women involved in the Long Island Breast Cancer Study, headed by Dr. Marilie Gammon of the University of North Carolina. Approximately half of the women were healthy and half had breast cancer.

The women were asked about their use of two NSAIDs, aspirin and ibuprofen, and one non-



Dr. Andrew Dannenberg

Brad Hess

“To our knowledge, this is the first study where an understanding of a specific cyclooxygenase-dependent mechanism has led to the identification of a subset of patients who benefit from aspirin or NSAID use.”

— Dr. Andrew Dannenberg

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NSAID pain reliever, acetaminophen, the active ingredient in Tylenol.

The researchers found that women who took aspirin regularly were about 26% less likely to develop hormone receptor-positive breast cancers than women who had not taken aspirin. This association was greater in menopausal women than in younger, premenopausal women, they added.

“From a public health perspective, this may represent

an additional benefit to those who need to take aspirin for other reasons, such as cardiovascular disease or arthritis,” Dr. Dannenberg said. “It could be a widely accessible benefit, even in developing countries, because aspirin is so inexpensive.” He cautioned, however, that aspirin can have serious side effects.

Acetaminophen appeared to confer no benefit in terms of breast cancer prevention, while the number of women who took

ibuprofen on a regular basis was too small to determine any benefit.

The researchers noted that while it is still too early to recommend that women take daily aspirin to prevent breast cancer, it reinforces the need for prospective clinical trials to confirm the findings. “From my standpoint, the ability to translate a preclinical finding to the clinic is very, very exciting,” Dr. Dannenberg said. ■

<<<from page 1 New Facility

A 10,500-square-foot Clinical Skills Center will allow medical students the opportunity to practice clinical skills in a controlled environment. Virtual reality and state-of-the-art tech-

“Transforming the patient experience is one of Weill Cornell’s top priorities, and the new building is designed with the comfort and well-being of patients in mind,” said Dr. Antonio Gotto, Jr., dean of the Medical College. “It will offer a number of special amenities, including the Patient Welcome Resource Center, located

“Transforming the patient experience is one of Weill Cornell’s top priorities, and the new building is designed with the comfort and well-being of patients in mind.” — Dr. Antonio Gotto, Jr.

nology will give students the ability to work individually and in teams on a number of medical procedures.

► **Facilitating clinical research.** The new ambulatory setting will promote faculty collaboration and communication for research purposes, and in particular, will benefit the growing number of clinical trials conducted by Weill Cornell.

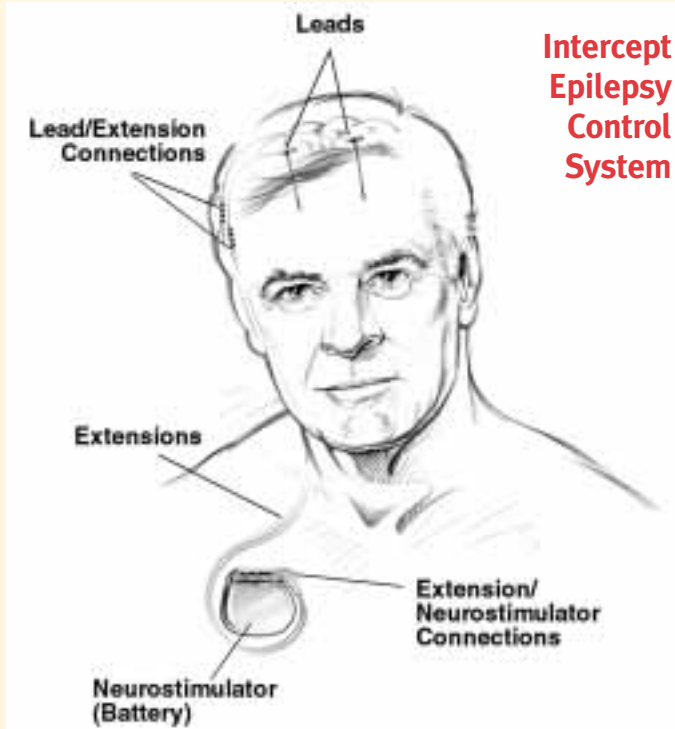
at the top of the elevator just off the entrance lobby. The center provides a spacious and comfortable area for patients and families to rest between appointments, as well as an array of medical information and assistance with medical billing and insurance questions.” Doctor visits will also be streamlined, with special attention paid to efficient scheduling of appointments, and any follow-up scheduling

required. Consolidating key clinical programs in one location will also make it easier for patients to access services and care under one roof.

The new building, designed by Polshek Partnership and Ballinger, will feature gently sloped vertical surfaces with architectural elements geared towards maximizing an atmosphere of wellness and comfort; reflecting pools and cascading water features which underscore a feeling of healing and tranquility; large picture windows which allow soft light to bathe the interior spaces while ensuring privacy; and design features of soft fabrics and colors that add to a soothing environment.

The groundbreaking ceremony was held on May 25, 2004. “Today marks an historic occasion,” said Kevin Brine, chairman of Weill Cornell’s capital campaign and member of the Board of Overseers. “We start construction on a building that will truly serve as a model for the coordinated delivery of superior health-care services in the 21st century and set a new standard for patient-centered, integrated care, and medical education.” ■

A Pacemaker for the Epileptic Brain



A new deep brain stimulation (DBS) implant device that emits steady electronic signals within the brain is poised to revolutionize the care of patients with epilepsy. On April 15, a Weill Cornell neurosurgeon implanted the device in a patient — the first such procedure ever performed on the East Coast, and only the second performed nationwide. The brain “pacemaker,” called the Intercept Epilepsy Control System, works to prevent epileptic seizures right at the source,

deep within the brain. “In one-third of patients, medication alone is not effective in stopping seizures and, therefore, other treatment options need to be explored,” explained Dr. Douglas Labar, director of Weill Cornell’s Comprehensive Epilepsy Center and professor of neurology and neuroscience. Dr. Labar serves as the Medical Center’s principal investigator of a major nationwide clinical trial on the Intercept System. The “Intercept System” consists of a “neurostimulator” — a battery-operated device the size of a pack of

cards, implanted within the chest. Two wires run from the neurostimulator through the patient’s chest and back of the neck to connect with two electrodes in the brain.

A team led by Dr. Michael Kaplitt, director of stereotactic and functional neurosurgery and assistant professor of neurological surgery at Weill Cornell, performed the groundbreaking Intercept surgery. During the procedure, surgeons drilled two holes the size of quarters into the sedated patient’s skull to allow access for the two electrodes. The electrodes were then inserted into an area deep within the brain called the anterior nucleus of the thalamus, which influences seizure activity. Surgeons implanted the neurostimulator pack into the patient’s chest at the same time. The neurostimulator prevents seizures by sending a mild but steady electrical current to the thalamus that effectively “settles” electrical activity in the area.

“We are now looking at how deep brain stimulation affects the rate of seizures, and how it interacts with medication the patient is taking,” Dr. Labar said. “All of these factor into how the pack will be programmed.”

At NewYork-Presbyterian/Columbia, another East Coast first occurred on March 25th, when a team led by Columbia neurosurgeon Dr. Robert Goodman implanted the “responsive neurostimulator” (RNS) beneath the skull of a patient with epilepsy. Instead of issuing a steady current, the device picks up on signs of seizure activity within the cerebral cortex of the brain, issuing a short, mild “counter shock” to stop the attack.

With devices like these, the ability to more directly attack the sources of seizures in the brain open new possibilities for improved therapies for resistant epilepsy. ■



Weill Cornell Research Changes HIV Treatment Guidelines

WITH HIV THERAPY, SIMPLER IS NOT ALWAYS BETTER, according to an NIH-sponsored AIDS Clinical Trials Group study led by Weill Cornell researchers that has already led to changes in the recommended treatment for HIV infection.

The study, published in the April 29th *New England Journal of Medicine*, compared three different HIV-suppressing regimens, none of which included powerful HIV protease inhibitor medications.

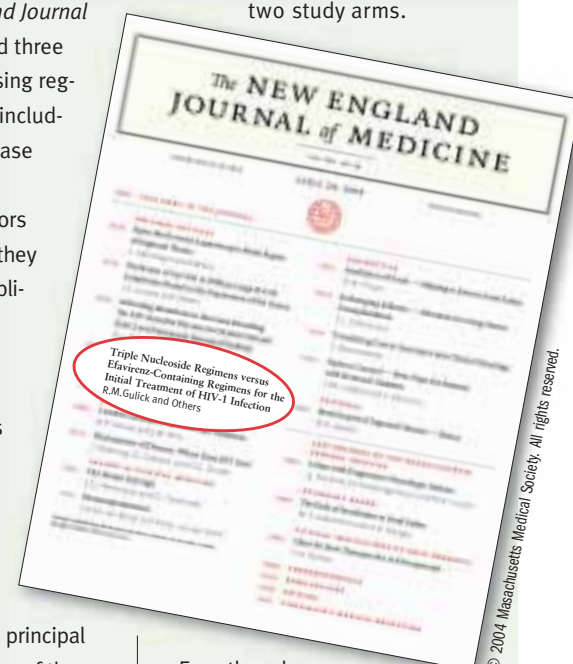
HIV protease inhibitors are very effective, but they can also be “very complicated and cause side effects, so the whole field has really tried to move toward regimens that are effective at controlling HIV, but, at the same time, are simpler and less toxic,” explained Dr. Roy Gulick, the study’s principal investigator and director of the Cornell HIV Clinical Trials Unit at Weill Cornell Medical Center.

The team planned to compare the 96-week outcomes of a racially diverse group of 1,147 HIV+ patients nationwide receiving one of three non-protease inhibitor daily regimens:

- ▶ AZT/lamivudine/abacavir (marketed as Trizivir) (one pill, twice a day);
- ▶ AZT/lamivudine (marketed as Combivir) plus efavirenz (marketed as Sustiva) (three pills, one in the morning, two at night);
- ▶ A four-drug regimen of AZT/lamivudine/abacavir plus efavirenz (three pills, one in the morning, two at night).

After 32 weeks of the study, however, a monitoring board at the National Institute of Allergy

and Infectious Diseases recommended that researchers stop the Trizivir arm of the study because 21% of patients taking Trizivir alone were experiencing treatment failure (as shown by increased levels of HIV in the blood), compared to just 11% of patients in the other two study arms.



Even though two-pill Trizivir therapy could be simpler to take each day than the three-pill regimens, it did not suppress HIV levels as well.

“The simplicity of the newer drug combination prompted a lot of people to consider it among the first-line treatments for HIV, which was endorsed by treatment guidelines,” said Dr. Gulick. “Our results have led directly to a change in the current treatment guidelines.”

As the other two study arms continue, these initial findings “raise caution about regimens that appear to be simpler,” Dr. Gulick said. “While simplicity and a lack of toxicity are important, potency against HIV has to be the first quality by which we judge a treatment regimen.” ■

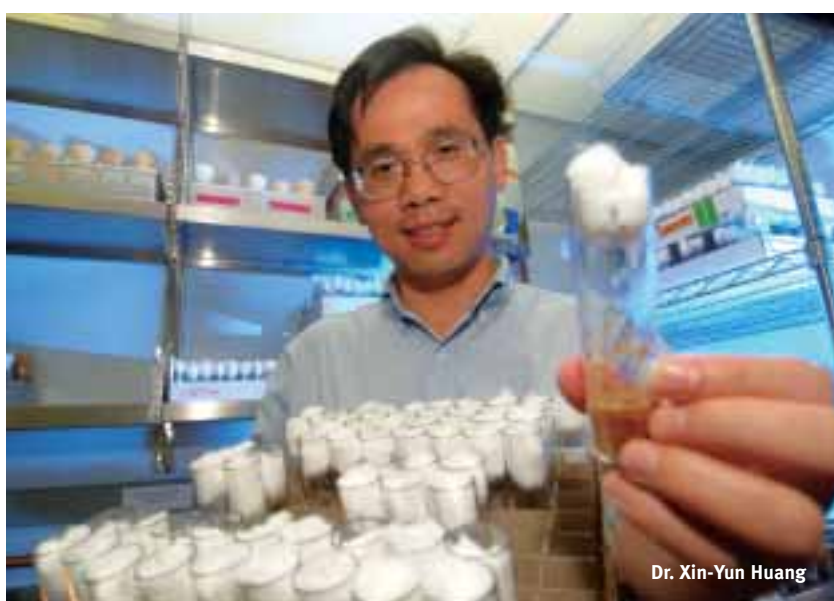
<<<from page 1 Turning Back the Aging Clock

The next step was simple: Switch off one copy of the *stunted* fly gene and see what happens.

“The result was beautiful,” he said. “It was just like we predicted.” One strain of flies lived 25% longer than normal flies, while another buzzed and flitted 51% longer than other flies.

The mechanism behind this extended longevity remains unclear, although Dr. Huang believes it has something to do with reductions in oxidative stress on cells. “There’s a correlation between resistance to stress and aging,” he said.

The ultimate aim of this research is to help humans live longer, healthier lives. While an “immortality pill” may seem farfetched, Dr. Huang is heartened by the fact that drug companies are very familiar with the G-protein coupled receptors. “They are already the most successful target in all drug development,” he said. ■



While an “immortality pill” may seem farfetched, Dr. Huang is heartened by the fact that drug companies are very familiar with the G-protein coupled receptors.

Blacks at Greater Risk for Enlarged Hearts

Even after accounting for high blood pressure, U.S. blacks are twice as likely as whites to experience dangerous enlargement of the heart and a thickening of cardiac muscle, according to a study led by Dr. Jorge Kizer, a cardiologist and assistant professor of medicine and public health.

The study, the largest ever on the subject, underscores the need “to be very vigilant about reaching blood pressure targets in African-Americans,” said Dr. Kizer. His team published their findings in the June issue of *Hypertension*.

Cardiologists have long understood that chronic high blood pressure leads to left ventricular hypertrophy — an increase in weight of the heart’s main pumping chamber — and “concentric geometry,” a thickening of the heart walls that doesn’t necessarily affect the overall weight of the heart.

Both of these conditions are independent risk factors for heart attack, heart failure, and stroke.

In their study, Dr. Kizer’s team sought to determine whether blacks were more prone to hypertension-linked enlarged hearts than whites. Looking at ultrasound images of patients’ hearts, they compared the cardiac muscle of 1,060 black patients to those of 580 white patients, all of whom were being treated for hypertension.

“The study found that after adjusting for a number of factors, there was nearly a two-fold greater prevalence of left ventricular hypertrophy among the black group than among the white group,” Dr. Kizer said. “And when we looked at concentric geometry, this showed a 2.3-fold



Dr. Jorge Kizer

greater prevalence in blacks than whites.”

The exact reasons for this racial disparity remain unclear. Poorer access to health care may mean that some African-Americans’ blood pressure goes untreated for longer periods of time, Dr. Kizer speculated. Studies have also shown that many blacks don’t undergo the same nighttime dip in blood pressure that white patients experience. Both of these factors could place added pressures on the heart.

The implications of the study are clear: “Whatever the cause of the differences, we have to be more aggressive about treating high blood pressure in African-American patients,” Dr. Kizer said. ■

Two Heart Tests Are Better Than One

LIKE A SEPARATE SET OF EYES, adding echocardiogram to the standard electrocardiogram (ECG) can be an important predictor in identifying heart patients at highest risk for death, say Weill Cornell researchers.

“These widely used methods for assessing cardiac performance may have complementary information that could help physicians better identify people who are at risk,” said Dr. Peter Okin, professor of medicine and director of clinical affairs in the Greenberg Division of Cardiology at Weill Cornell Medical College.

In a study published in *Hypertension* (April), Dr. Okin, along with NewYork-Presbyterian/Weill Cornell’s Dr. Richard Devereux, and others, followed the three-year outcomes of nearly 2,200 Native Americans diagnosed with heart disease, all of whom were assessed using computerized ECG and echocardiogram. The researchers are studying Native Americans because they tend to have many risk factors for cardiovascular disease, including smoking, high blood pressure, obesity, and diabetes.

Both ECG and echo can turn up

findings that suggest an increased chance of dying. With ECG, one type of electrical activity in particular, called ST depression, may point to an elevated risk. With echo, doctors look for structural changes, such as left ventricular hypertrophy, to highlight advanced disease. Echocardiogram is more expensive than ECG, and is used less often.

However, Dr. Okin’s team found the one-two diagnostic punch of echo plus ECG works best to spot patients most prone to death from cardiovascular disease. “An elevated left ventricle mass combined with minimal amounts of ST provide a tremendous concentration of risk in this population,” he said.

During the three-year study, risks for dying from cardiovascular disease rose from 6.5% in patients with a suspicious result from one test but not the other, to 20.4% in patients with abnormal results from both tests.

“We would encourage physicians to take advantage of the combined information to identify patients who appear to be at highest risk,” he said. “This study suggests that with better surveillance we can spot trouble early and save lives.” ■

science at a glance

New Markers of Alzheimer’s

Vascular changes in the aging brain may help trigger or speed Alzheimer’s, writes Weill Cornell neurobiologist **DR. COSTANTINO IADECOLA** in an article in the May *Nature Reviews/Neuroscience*. In fact, imaging



suggests subtle neurovascular changes go hand-in-hand with the very earliest stages of the disease, or can be predictive of subsequent disease development. The good news, Dr. Iadecola said, is that these blood flow changes “can be used very effectively to diagnose patients early on,” when treatment works best. Furthermore, treatments improving cerebrovascular function may help slow down the progression of the disease. ■

Growth Factor Combo Repairs Hearts

A combination of growth factors has been shown to prevent cardiac tissue damage during heart attack. In a study in rats published in the March *Journal of Experimental Medicine*, **DR. JAY EDELBERG**, associate professor of medicine, found that injecting three growth factors together into the heart reduced the area of dead and dying

tissue. “Our study shows that some of the body’s natural growth factor pathways try to inhibit programmed cell death,” said Dr. Edelberg. “What we are doing is increasing their delivery to a much higher level to suppress that death, which hopefully allows the body to repair the cells and possibly create new heart cells.” ■



Dr. Daniel Gardner

This Web site allows scientists to upload their data for use by researchers elsewhere, free of charge.



Web Surfing the Brain

Neuroscientists bent on accessing fresh, complex data from labs around the world can now click neurodatabase.org to find exactly what they need. Weill Cornell neuroscientist **DR. DANIEL GARDNER** helped create the Web site, which was funded by the Human Brain Project, and allows scientists to upload their data for use by researchers elsewhere, free of charge. “It’s tremendously exciting,” said Dr. Gardner, who outlined the site’s potential in an article in the May *Nature Neuroscience*. ■

Saving the Lives of Brain Cells

A Weill Cornell researcher has helped elucidate the mystery of how dying nerve cells trigger the death of healthy, neighboring cells, too. By neutralizing proNGF — a protein secreted by expiring brain cells — cardiovascular expert **DR. BARBARA HEMPSTEAD** and her study collaborators boosted nerve cell survival in brain-injured rats to 90%.

The finding, published in the March online issue of *Proceedings of the National Academy of Sciences*, could lead to a “drug that could be tested in animals and eventually humans,” Dr. Hempstead said. ■

A New York First Fights Brain Cancer

In March, Weill Cornell neurosurgeons and radiation specialists performed a unique procedure delivering liquid radiation to the area around an excised brain tumor — the first time the technique has been used in the New York City area. A team led by neurosurgeons **DRS. SUSAN PANNULLO** and **THEODORE SCHWARTZ** and radiation oncologist **DR. DAVID SHERR**, placed a balloon filled with liquid radiation into the space left behind by the tumor, where it delivered targeted radiation for several days. This marks “another step in the multidisciplinary, aggressive approach we take at Weill Cornell in the fight against brain cancer,” Dr. Pannullo said. ■

Nerve Synapses Reveal Their Secrets

It's been a scientific mystery for 30 years, but Weill Cornell scientists are shedding new light on brain signaling within the synapse — the gap between nerve cells. In three separate studies, Dr. Ryan and his colleagues have uncovered secrets of the synapse that could speed research into neurological disease.

Every human thought, action and emotion relies on the conversion of electrical impulses within nerve cells into chemical signals able to jump from cell to cell. “The synapse is a ‘little machine’ that does this conversion,” said Dr. Timothy Ryan, associate professor of biochemistry. “By understanding how the synapse works, we are writing the repair manual for problems with this gap.”

Using an electrical signal, nerve cells trigger the release of a chemical neurotransmitter, usually glutamate, contained in tiny packages at the synapse called vesicles. Vesicles empty themselves of glutamate, then are re-formed and refilled to await the next signal. Early studies had suggested it took a full minute to refill them. In a study, published in *Neuron* (March 25), the Weill Cornell team found that vesicles actually re-formed within about a second of depletion, but only one at a time. Still, this was more than enough to keep pace with demand. “Identifying the ‘speed limit’ of vesicle reformation should provide deeper insight into neurological disease,” said Dr. Ryan.

Researchers at Yale University School of Medicine in collaboration with Dr. Ryan's group at Weill Cornell furthered the understanding of synaptic transmission —



Dr. Timothy Ryan

Robert Clark

looking at molecules that help set the speed limit. Published in the September 23 issue of *Nature*, their study provided the first conclusive genetic demonstration that an insufficient supply of a lipid, called PI (4,5) P2, on the plasma membrane of brain cells slows the vesicle retrieval process, and with it, synaptic transmission and neurological function.

Following closely on the heels of this research, Dr. Ryan and his Weill Cornell group identified the role of a key protein, synaptotagmin I, that appears to be important in chemical messaging as well.

“What you have is an empty vesicle that needs pick-up and refilling,” explained Dr. Ryan. “When we compared the synaptic activity of brain cells from mice genetically engineered to lack synaptotagmin I to those of healthy, normal mice, we saw that the delivery/pick-up system was impaired in mice without this key protein.” Synaptotagmin I has long been known to play a key role in the delivery process, and this study showed that it is critical in determining the speed of the retrieval process as well. The study was published in the October 18 online “Early Edition” of *Proceedings of the National Academy of Science*.

“These are exciting times in synaptic research,” Dr. Ryan said. “Understanding how this machinery works could mean real clinical benefits in years to come.” ■



NERVE CELLS AND THEIR BRANCHING SYNAPSES provide insight into neurological disease.

Embryo Yields Clues for Cancer and Cardiac Treatment

Research into an area of the embryo off-limits to blood vessel growth could someday lead to treatments to repair hearts or stop cancer in its tracks.

“We found that a known signaling mechanism is actually inhibiting blood vessel formation. Before this, people didn't know that these factors could do this sort of thing,” said

however, insights into how the embryo limits blood vessel growth could have important implications for that research.

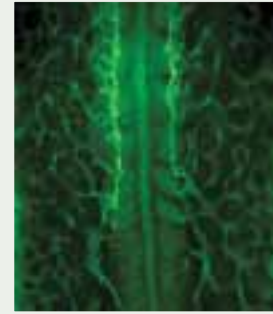
In their study, published in the May 11th *Developmental Cell*, Dr. Mikawa's team examined an area in the central “midline” region of quail embryos. While blood vessels flourish in other areas, they seem to be curiously absent here.

Dr. Mikawa suspected that a midline structure called the notochord — a primitive backbone — might be emitting chemicals to stop angiogenesis.

“We tested it, and our hypothesis was right,” he said. The notochord turned out to be more than a physical barrier to vessel formation, as was previously assumed. Instead, it appears to emit two chemicals, Chordin and Noggin, that block a protein essential to new blood vessel formation. The next step is to see if Chordin and Noggin work the same way in adult tissues.

The discoveries hold within them the promise of exciting new treatments for cancer and heart disease.

“We can start asking about the repair of the vascular system and damaged hearts,” Dr. Mikawa explained, “or whether this new signaling is playing a role in tumor angiogenesis. Those will be future directions.” ■



THE NOTOCHORD (center) blocks the formation of blood vessels (green mesh).

Dr. Takashi Mikawa, the Joseph L. Hinsey Professor of Cell and Developmental Biology at Weill Cornell Medical College.

Inhibiting vessel formation is the mechanism by which powerful anti-angiogenesis (blood-forming) ‘statin’ drugs starve tumors of the blood supply they need to survive.

These drugs haven't always worked as well as had been hoped,

Genome Divulges Intestinal Bug's Achilles' Heel

It causes severe diarrhea in millions worldwide each year and can prove lethal to babies, the elderly, and people with AIDS. But the sequencing of the *Cryptosporidium* parasite's genome should turn the tables on this age-old scourge.

“The completion of the genome sequence represents the greatest advancement in our understanding of the organism,” said Dr. Thomas Templeton, co-lead researcher on the sequencing effort and assistant professor of microbiology and immunology at Weill Cornell Medical College and Graduate School of Medical Sciences. The finding was published in *Science* (April 16).

“Currently there are no drug treatments for *Cryptosporidium*,” he said. But already, “through genome sequence annotation, we have identified many new drug targets that may lead to new pharmaceuticals to treat the illness.”

Cryptosporidium parvum lurks in contaminated water or food, and *Cryptosporidium* infection outbreaks can lead to serious diarrhea.

Unfortunately, studies into drug therapies against the parasite have been stymied by difficulties in replicating the environment of the gastrointestinal system in which the bug thrives, and thus the parasite is extremely difficult to cultivate in the laboratory.

Aiming at the genetic blueprint



PURIFIED CRYPTOSPORIDIUM OOCYSTS. These extremely durable stages are infectious if they contaminate drinking water supplies or swimming pools.

of *Cryptosporidium* instead, Dr. Templeton annotated the predicted function of greater than 4,000 genes encoded in the parasite's nine million base pairs of genomic DNA, the sequence of which was determined by colleague Dr. Mitchell Abrahamsen at the University of Minnesota.

They have already made some intriguing discoveries. According to Dr. Templeton, the bug is an “extreme parasite,” with a highly streamlined metabolism absolutely dependent on the host for food

energy and essential metabolic needs such as amino acids and nucleotides. Imagine a lifestyle akin to continuous world travel, using only carry-on luggage, restaurants and hotels.

A spare metabolism means fewer targets for drug inhibition, and this is a major reason that the

parasite has resisted pharmaceutical attack. Nevertheless, genome analysis has identified key elements in the parasite's metabolism that might be Achilles' heels for potential drug targets.

“We hope to take advantage of our refined knowledge to find drugs, or even vaccines, that halt growth of the parasite,” he said. In fact, the researchers say they have already zeroed in on a number of candidate enzymes and proteins that look promising as potential drug targets. ■

<<<from page 1

The Ansary Center

Dr. Rafii has made a number of advances in stem cell research, including the discovery of vascular and muscle stem cells that are present in the adult bone marrow, fetal and embryonic tissues. These stem cells are known to help in wound healing, organ regeneration and tumor revascularization.

A stem cell is an immature cell that can divide and make exact copies of itself and has the ability to differentiate into specialized cells for regenerating various tissues in the body — such as heart muscle, brain, pancreatic, and liver tissue. However, the molecular and cellular pathways that support self-renewal of stem cells or direct them to differentiate into vascularized organs is not fully known.

“It is hoped that stem cells can one day be used to replace and regenerate organs that are damaged by illness,” said Dr. Rafii. “One of the missions of the Ansary Stem Cell Center is to unify the efforts of scientists at Weill Cornell to develop the technology for the expansion of adult, fetal or embryonically derived stem cells and differentiate

them into pre-fabricated vascularized tissue explants. Ultimately, these vascularized tissues will be transplanted to repair injured heart or brain or regenerate organs at will. As these stem cells and their progeny can also home to tumor tissue, they could be utilized therapeutically to deliver biologically active toxins to destroy tumor stroma and blood supply. Dissecting the mysteries of embryonic and fetal stem cell physiology will also enhance our understanding of developmental defects and will have a tremendous impact on how patients will be managed in the near future.”

“I hope the Center will make it possible for scientists at Weill Cornell to significantly expand research in such areas as heart malfunctions, brain diseases and injuries, curing diabetes, and, in effect, reduce human suffering,” said Mr. Ansary, a prominent Houston philanthropist who is active in business and civic affairs. “It's an exciting time, and we believe this prestigious Center will have a significant impact in the field, and will attract other world-class scientists to the Medical College.” ■



A spacious reception area will welcome patients to Weill Cornell's clinical practices.

Weill Cornell: We Care

One of the essential components of the *Advancing the Clinical Mission* campaign is a focus on improving the patient experience.

Few people look forward to visiting the doctor. Apart from the anxiety surrounding the typical exam, there are the inevitable frustrations attending even routine checkups. Hassles with scheduling an appointment, finding the doctor's office, and billing questions contribute to the stresses associated with trips to the doctor.

In order to address these issues, and with a determination to enhance a visit to the doctor, Weill Medical College conducted extensive market research on a broad cross section of patients and physicians. The result of this initiative is the *Weill Cornell: We Care* program.

With nearly one million visits every year to more than one hundred sites at Weill Cornell Medical Center, and an average of eight contacts per patient, the task of restructuring clinical services is formidable. But the College has proven equal to it, enlisting faculty and staff in leadership roles to oversee the implementation of its new plans.

Among those plans are such

amenities as receptionists to answer every phone call individually, greater ease in scheduling appointments, a significant decrease in patient paperwork and automatic forwarding of medical records to all doctors treating the same patient.

Another important feature of the *Weill Cornell: We Care* program will be the Patient Welcome Resource Center in the new ambulatory care and medical education building, scheduled to open in 2006. Located immediately at the top of the escalators from the entrance lobby, the Center will be the focal point of the new building and will offer special patient amenities and a comfortable, spacious place to rest between appointments and browse medical information in one of its lounges, computer workstations, or the library.

"This is a new vision for the patient care experience, and what we hope to achieve if we all participate," says Dr. E. Darracott Vaughan, Jr., chief medical officer for Weill Cornell Medical College. "We want each and every patient contact to be ideal. We want to be known for delivering not only the best patient care, but also the best patient service in New York City." ■

graduateschoolnews

Du Vigneaud Symposium Highlights Student Science

FOR NEARLY A QUARTER OF A CENTURY THE

Vincent du Vigneaud Memorial Symposium has been the highlight of the academic year for graduate students and faculty. A professor and head of the Department of Chemistry at Cornell University Medical College from 1938 until 1967, Vincent du Vigneaud won the Nobel Prize in Chemistry in 1955 for the synthesis of oxytocin. The symposium that bears his name is a celebration of the exceptional work of graduate students, enabling them to present their findings to faculty and colleagues. On May 4, 84 students had their presentations judged by a select group of faculty, with awards presented at a reception later that day.

Dr. Roger Tsien, professor of pharmacology, chemistry and biochemistry at the University of California at San Diego, gave the keynote address. Best known for designing molecules that help trace signal transduction events within the cell, Dr. Tsien has provided scientists with techniques to achieve a clearer look into the inner workings of the cell.

For more on the du Vigneaud Symposium, you can download the program and abstract book at www.biomedsci.cornell.edu/duVigneaud.

The 2004 Vincent du Vigneaud Prize was awarded to:

PETER JORDAN, Adaptive Diastolic Interval Control of Cardiac Action Potential Duration Alternans (Professor David Christini)

BARRY KAPPEL, Deletion of Specific Immunity: Abrogating Graft-versus-Host Disease while Retaining Graft-versus-Tumor Activity (Professor David Scheinberg)

MONA LEE, Human Mitochondrial Peptide Deformylase: A New Anti-Cancer Target of Actinonin-Based Antibiotics (Professor David Scheinberg)

STEPHEN PITT, Probing RNA-Ligand Recognition by NMR Spectroscopy: Residual Dipolar Couplings in the Determination of HIV-1 TAR Structural Dynamics (Professor Dinshaw Patel)

RISA SHAPIRO, Roles for Ik2, A Drosophila Ikb Kinase, in Anterior-Posterior and Dorsal-Ventral Embryonic Patterning (Professor Kathryn Anderson)



FACULTY MEMBER DR. TERRY MILNER (center) listens to graduate student Michael Bruno (left) present his poster on gramicidin channel function.

DU VIGNEAUD AWARDS OF EXCELLENCE

VICTOR C. CHU, Receptor Utilization by Influenza Viruses (Professor Gary Whittaker)

XIAOYI HU, mTOR Promotes Survival and Astrocytic Characteristics Induced by PTEN Loss/Akt Signaling in Glioblastoma (Professor Eric Holland)

JENNIFER GIORDANO-COLTART, Characterization of the Human Origin Recognition Complex (Professor Jerard Hurwitz)

KATIE GONZALEZ, Bhringi: A Novel Twist Co-Regulator (Professor Mary Baylies)

GIANIONA PANAGHIE, Functional Characterization of a Mutation in the KCNQ1 Potassium Channel Gene Associated With Long QT Syndrome (Professor Geoffrey Abbot)

ANDREW RAKEMAN, Khlo Is Required for Morphogenesis and Cell Migration in the Mouse Embryo (Professor Kathryn Anderson)

MING-CHING WONG, Dimerization Partners and Tissue Context Regulate Twist Activity During Myogenesis (Professor Mary Baylies)

DU VIGNEAUD FIRST-YEAR PRIZES

RAM MADABHUSHI, Mcs6 Genetically Interacts with Sep1, A HNF-3/Fkh Transcription Factor (Professor Robert Fisher)

LISA PLACANICA, Regulation of Anxiety Associated Genes Linked to the 5HT1aR (Professor Miklos Toth)

BRANKA STANCEVIC, Ceramide-Rich Platform Formation in Endothelial Cells (Professor Richard Kolesnick) ■

academic affairs and appointments

New Chairman of Surgery: Dr. Fabrizio Michelassi



DR. FABRIZIO MICHELASSI has been named chairman of the Department of Surgery and the

Lewis Atterbury Stimson Professor of Surgery at Weill Medical College of Cornell University and surgeon-in-chief at NewYork-Presbyterian Hospital/Weill Cornell Medical Center. Dr. Michelassi joins the Medical Center from the University of Chicago, where he was the Thomas D. Jones Professor, vice chairman of the Department of Surgery, and chief of the Section of General Surgery. Dr. Michelassi succeeds Dr. William T. Stubenbord, who has served as acting chair since 2002.

An internationally renowned surgeon, Dr. Michelassi is an authority in the genetics of gastrointestinal cancer and an expert in inflammatory bowel disease. His development of a bowel-saving procedure for the treatment of Crohn's disease has improved the quality of life for countless individuals. At Weill Cornell, he will focus on enhancing surgical options for patients, including minimally invasive treatment.

Dr. Michelassi received his medical degree from the University of Pisa School of Medicine in Italy, where he also completed a surgical internship and surgical residency. He also completed a surgical internship and residency at New York University, and was a research fellow in surgery at Massachusetts General Hospital.

"Dr. Michelassi brings a unique blend of clinical and scientific excellence, a commitment to medical education, and administrative expertise to Weill Cornell that will enable him to strengthen the Department's programs and access the exciting opportunities available in the field today," said Dr. Antonio Gotto, Jr., dean of the Medical College.

Dr. Wayne Isom Honored with Greenberg Award



Recognizing his many years of outstanding service to NewYork-Presbyterian Hospital and

Weill Cornell Medical College, **DR. O. WAYNE ISOM**, chairman of cardiothoracic surgery and the Terry Allen Kramer Professor of Cardiothoracic Surgery at Weill Cornell Medical College and cardiothoracic surgeon-in-chief at NewYork-Presbyterian/Weill Cornell, was selected as the

2004 Maurice R. Greenberg Distinguished Service Award honoree. The award, which includes a \$50,000 grant made possible through an endowment from Maurice R. Greenberg, chairman of the American International Group, is the highest honor bestowed by Weill Cornell on a member of its professional staff. Dr. Isom has been with the Medical Center for nearly two decades during which time Weill Cornell's cardiothoracic surgeons have completed more than 20,000 open-heart procedures.

New Division Chiefs for Pediatrics

Bringing extensive knowledge and experience in their respective fields, three new division chiefs are expanding and enhancing the programs of Children's Hospital of NewYork-Presbyterian/Weill Cornell.

DR. JEFFREY PERLMAN, an authority in neonatal brain injury and

neonatal resuscitation, has been named chief of the Division of Newborn Medicine at Weill Cornell, and professor of pediatrics at Weill Cornell Medical College. Most recently, he served as medical director of the Neonatal Intensive Care Unit at Parkland Memorial Hospital in Dallas, and professor of pediatrics and OB/GYN at the University of Texas Southwestern Medical Center.

DR. ROBBYN SOCKOLOW, an expert in pediatric nutrition and digestive disease, has been appointed chief of the Division of Pediatric Gastroenterology and Nutrition and assistant professor of pediatrics at the Medical College. Dr. Sockolow joins us from Winthrop-University Hospital in Mineola, NY, where she was chief of pediatric gastroenterology and nutrition.

DR. SUSAN BOSTWICK has been named chief of the Division of General Academic Pediatrics and assistant professor of pediatrics and will also direct the residency program in the

Haiti's History, Culture, and Health Focus of SNMA Program

In 1492, Christopher Columbus found himself on the island of Hispaniola and claimed it for Spain. With that, *La Navidad* on Haiti's north coast became the first settlement in the New World to be built by the Spanish. The Spanish maintained control of the colony until 1697, at which time the island split into the French-controlled St. Domingue and Spanish Santo Domingo. For the next 100-plus years, the colony of St. Domingue (known as the Pearl of the Antilles) was France's most important overseas territory. But, in 1791, a slave rebellion led to a 13-year war of liberation against St. Domingue's colonists. Finally, in November 1803, the Battle of Vertières



STUDENTS AND FACULTY OF WEILL CORNELL listen to a discussion on the history, culture, and health of Haiti.

marked the ultimate victory of the former slaves over the French. On January 1, 1804, the new republic at Haiti was declared.

It is this anniversary that prompted the Weill Cornell chapter of the Student National Medical Association (SNMA) to honor Haiti's hard-fought freedom. On June 3, SNMA sponsored an

informative discussion on the republic and the health status of Haitian-Americans. Entitled "Haiti: History, Culture and Health," the program included an engaging talk on the legacy of the first black republic in the western hemisphere, the development of its unique cultural identity,

and the health-care issues affecting the migrant community. Joining in the commemoration of Haiti's bicentennial were physicians and leaders of the Haitian-American community, including Drs. Mario Saint-Laurent and Eric Jerome of the Association of Haitian Physicians Abroad, and renowned radio show host Jean-Junior Joseph. ■

Weill Cornell to Oversee Teaching Hospital in Qatar

To complement and support Weill Cornell Medical College's education and research programs in Qatar, the Qatar Foundation for Education, Science, and Community Development has announced plans to build a 350-bed, \$900 million teaching hospital on the Education City campus in the country's capital of Doha. The new hospital, which will serve as a primary teaching hospital of Weill Cornell Medical College-Qatar, will be financed by the Foundation with an \$8 billion endowment, the largest cash endowment of a hospital and research center in the world.

The new facility, which will be equipped with the latest digital medical technology at all levels, will also establish a General Clinical Research Center that focuses on issues affecting women and children.

Weill Cornell Medical College will be responsible



IN 2008, THE INNOVATIVE CAMPUS OF WEILL CORNELL MEDICAL COLLEGE-Qatar (above) will be further expanded with the addition of the new 350-bed teaching hospital.

for the clinical teaching and research conducted in the hospital and also will partner with the Qatar Foundation in its governance.

"After gaining one of the best medical qualifications around, it is fitting that our students should have the opportunity to apply their new knowledge and skills and supplement their education in a cutting-edge facility," says Dr. Daniel Alonso, dean of Weill Cornell Medical College-Qatar. ■

technologydevelopment



Dr. Gianpiero Palermo

Responding to Age-Related Infertility

THE OFFICE OF TECHNOLOGY DEVELOPMENT (OTD) IS CHARGED with protecting, developing, and marketing intellectual property at the Medical College, working closely with faculty to identify a potential diagnostic or therapeutic product. In the Center for Reproductive Medicine and Infertility directed by Dr. Zev Rosenwaks, a microelectrode device to be used for *in vitro* fertilization has been under development by Dr. Gianpiero Palermo. Director of Assisted Fertilization and Andrology for the Center, Dr. Palermo has been working on new technologies that confront age-related infertility. Interested in addressing the genetic problems that seem to be inherent in the cytoplasm of mature eggs, Dr. Palermo focused his attention on finding a way of transplanting the nucleus of the older egg into the cytoplasm of the younger egg. "When transferring the nucleus, we also need to reconstitute the entirety of the cell. This is accomplished by means of electrofusion," says Dr. Palermo. "To improve efficiency of the fusion, we designed a microelectrode that could be used not only to transfer safely and reliably the nucleus into an oocyte, but also enable us to position the oocyte adequately to optimize fusion."

With the invention ready for prototyping, the OTD contacted the marketing and product development firm of Mid-Atlantic Diagnostics. "We were thrilled by the opportunity to collaborate with an organization so highly regarded as Weill Cornell," says Mid-Atlantic's President Terry Fortino. Working with Dr. Palermo, the company has developed several prototypes.

"Our objective was to create a reusable electrode in a glass micro pipette," says Fortino, "and then get that glass coated with a material that allows it to be electrically conductive." With that now achieved, Mid-Atlantic Diagnostics has taken a license on the patent application and sales of the microelectrode are expected to begin in 2005.

Says Dr. Brian Kelly, Director, Technology Development at Weill Cornell, "This is a perfect illustration of the OTD's charge to work with Medical College faculty to imagine a commercial product promised by an invention, be it a drug, a device, or diagnostic tool, and find ways to bring that product into being." ■

Department of Pediatrics. She completed her residency in pediatrics at Weill Cornell, where she served as chief resident, and also received an M.B.A. from the University of Rochester.

First Clinical Scholar Endowments Established

The Clinical Scholar Endowment program has made its debut with the appointment of its first clinical scholars. "The new endowment program is an innovative approach toward supporting and retaining exceptional junior faculty members at Weill Medical College," says Dr. Antonio Gotto, Jr., dean of the Medical College. "The award enables talented clinicians to balance patient care with research and teaching, and fosters their commitment to academic medicine. Recipients embody the highest standards of science and will establish a tradition of excellence that will be passed on to their successors for generations to come."

The Clinical Scholar Endowments are established with a gift of \$1 million or more and are granted for an initial period of three years. The capital campaign, *Advancing the Clinical Mission*, will ultimately allocate \$50 million for the program to fund 50 junior scholars in perpetuity. To date, the following clinical scholars have been appointed:

The Bruce B. Lerman, M.D. Clinical Scholar — **DR. JORGE KIZER**, assistant professor of medicine.

Dr. Kizer is pursuing his career interest in patient-oriented research in cardiovascular disease.

The James P. Smith, M.D. Clinical Scholar — **DR. LYNNE STRASFELD**, assistant professor of medicine.

Dr. Strasfeld specializes in internal medicine at the Iris Cantor Women's Health Center.

The Joachim Silbermann Family Clinical Scholar — **DR. TARYN YEON LEE**, assistant professor of medicine. Dr. Lee directs a new hospital-based Geriatric Medicine Consultation Service at Weill Cornell and, in addition to providing



Mrs. Roseanne Silbermann with Dr. Taryn Lee

services to patients, teaches residents the fundamentals of geriatric care.

The Charles, Lillian, and Betty Neuwirth Clinical Scholar in Oncology — **DR. RICHARD FURMAN**, assistant professor of medicine.

Dr. Furman serves in the Lymphoma/Myeloma Service in Weill Cornell's Division of Hematology/Oncology and is collaborating on the development of a clinical research program in lymphoproliferative disorders with a particular emphasis on chronic lymphocytic leukemia. *The Weill Cornell Clinical Scholar in Otorhinolaryngology* —

DR. ANTHONY LABRUNA, assistant professor in otorhinolaryngology and in surgery (plastic surgery).

Dr. LaBruna is pursuing clinical research in the development of cryopreservation of epidermal allografts and new approaches to laser treatment for laryngeal hemangiomas.

The Madoff Family Clinical Scholar in Hematology-Oncology — **DR. GAIL ROBOZ**, assistant professor of medicine.

The assistant director of Weill Cornell's leukemia program, Dr. Roboz investigates novel therapies for refractory/relapsed acute leukemias.

Development Department Appoints New Leadership

In a new structure for the Development Office, **PATRICIA GUTTER**, director of major gifts for NewYork-Presbyterian/Weill Cornell, and **CHRISTINE MEOLA**, recently appointed director of development, have joined forces to guide the

Medical Center's ongoing and growing development efforts.

A longtime member of the development staff, Ms. Gutter continues to oversee all major gift activities for Weill Cornell Medical College and the NewYork-Presbyterian Hospital downtown site. The major gifts team is responsible for identifying, cultivating, and stewarding prospects and donors of \$100,000 and above, which account for approximately 80% of all funds raised by both the Medical College and the Hospital.

Ms. Meola oversees corporate and foundation giving, planned giving, special events, publications and other fundraising programs and maintains a select portfolio of major gift prospects. Previously, Ms. Meola was assistant vice president for development at Fordham University in the Bronx, where she directed university-wide fundraising efforts, including major gifts, gift planning, corporate and foundation relations, and donor relations. ■

The Lads from Liverpool

What are the odds of three research scientists being born and raised within a mile of each other in a small suburb of Liverpool, England, and then finding themselves years later all working at Weill Cornell? Slim? Drs. John Moore, Neil Harrison and Brian Kelly will agree—and yet here they are on American shores, not only in the same city, but only hallways apart.

“None of us knew each other in Crosby, which was a small town of 50,000 people, about six miles from Liverpool,” says Dr. Harrison, professor of neuroscience, pharmacology, and pharmacology in anesthesiology. “We all went to different high schools, and never met until we showed up here at Weill Cornell.”

After leaving Crosby, Dr. Harrison and Dr. Moore, professor of microbiology and immunology, also went to Cambridge University during the same years, though their paths never crossed. “In leafing through old cricket records, I realized we played cricket against each other when we were both at Cambridge, though we didn’t know each other at the time,” says Dr. Moore. Making up for lost time, the two now play together in a cricket league in Greenwich, Connecticut.

Dr. Kelly, director of technology development, who came to the United States first in the late 1980s and then permanently in 1996, reckons that as young men, they most likely frequented the same pub, too.

“Going out on Friday and Saturday nights was the social highlight of the week,” he recalls. “It’s just what we did... and we all survived.”



Amelia Panico

FROM CROSBY TO CORNELL: Despite growing up in the same town outside Liverpool, (from left) Drs. Moore, Kelly, and Harrison did not meet until they came to Weill Cornell years later to pursue careers in science.

Dr. Harrison offers an explanation for what he calls such a “bizarre coincidence” that the three should find their way to Weill Cornell Medical College. “Crosby is a very small town with very good schools,” he says. “It also rains a lot, so there was the opportunity to stay indoors and do your homework!”

“Neil is right,” laughs Dr. Moore, “there weren’t a lot of distractions.”

“Though we had very good educations, there was very little opportunity in and around Crosby, so that sent us off to different parts of Britain,” adds Dr. Harrison. “And then the poor economy in Britain in the mid-1980s and 1990s led many of us to seek careers elsewhere, including the United States.”

“As we like to say, we raised the average IQ of both countries by coming here,” says Dr. Moore. ■

didyouknow?

► **DR. TIMOTHY RYAN** has been awarded a five-year grant from the National Institutes of Health to provide funds for a new tri-institutional training program in chemical biology (TPCB). The TPCB, which comprises combined faculty from Cornell University, Weill Cornell Medical College, The Rockefeller University and the Sloan-Kettering Institute, addresses the melding of two disciplines with diverse scientific cultures and approaches — chemistry and biomedical research — in this new era of science.

resulted in an increase in geriatric and medically compromised patients requiring treatment,” says Dr. David Behrman, vice chairman of the Department of Surgery, chief of the Division of Dentistry, Oral and Maxillofacial Surgery, and director of its residency program. “The field now requires a highly integrated dental and medical knowledge base that can best be achieved through implementation of a formal medical school curriculum.”

► At the June 2 commencement exercises of Weill Cornell Medical College, **DR. CLAUDE-JEAN LANGEVIN** became the first oral and maxillofacial surgery (OMS) resident to receive his M.D. degree as part of the combined OMS/MD program. Dr. Langevin will graduate from the combined program in June 2006. Initiated in July 2000, the six-year integrated OMS/MD program was established to enhance the education and training of participants, providing them with a medical school curriculum that will supplement their oral and maxillofacial surgical skills. “Demographic changes have

► Cornell’s newly established master of engineering degree in biomedical engineering has been approved by the New York State Department of Education. The approval allows students to link their undergraduate training to the new master’s program to achieve an advanced degree in biomedical engineering in five years. The program, which is taught by both University and Medical College faculty, benefits from long-standing partnerships Cornell has had with its medical school and with Hospital for Special Surgery. The degree curriculum will equip students to design biomedical devices and develop therapeutic strategies. ■

the Scope

January 2005

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COVER STORY:
LET THE BUILDING BEGIN
New facility to better serve needs of patients and enhance clinical research.



1

COVER STORY:
TURNING BACK THE AGING CLOCK
Fruit flies may reveal clues to longevity.



1

COVER STORY:
NEW ANSARY CENTER FOR STEM CELL RESEARCH
Shahla and Hushang Ansary establish new center with \$15 million grant.



3

SCIENCE STORIES:
WEILL CORNELL RESEARCH CHANGES HIV TREATMENT
Study published in *New England Journal of Medicine*.



4

SCIENCE BRIEFS:
BLACKS AT GREATER RISK FOR ENLARGED HEARTS
Lowering blood pressure key for African-Americans.

6

ACADEMIC AFFAIRS:
FIRST CLINICAL SCHOLARS NAMED



7

TECHNOLOGY DEVELOPMENT:
RESPONDING TO AGE-RELATED INFERTILITY

7

CLASS ACTS:
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Faculty will focus on research, as well as serve health-care needs of the region.

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