

2 JUST SAY "NO"

New nitric oxide screen could be a boon to cardiogenic research.

3 DEFENDING THE FETAL BRAIN

B vitamin variant could stem the damage from maternal drinking during pregnancy.

4 THE OBESITY/CARDIO LINK

Dr. Antonio Gotto and Louis Aronne talk about reducing cardio risk at AMA briefing.

7 LIFE AFTER THE PH.D.?

Postdocs discuss a life in the sciences at Tri-Institutional Career Symposium.

8 COMMENCEMENT 2006

Graduates are urged to consider developing nations as they embark upon medical careers.

the **S**cope

Weill Cornell

News of the Joan and Sanford I. Weill Medical College and Graduate School of Medical Sciences of Cornell University June 2006

A True Marriage of the Minds

Research is a family affair for WCMC husband-and-wife neuroscientists

For most researchers, a flash of insight at the family dinner table or a nagging question late at night means waiting till the next morning to talk it over with colleagues.

Not so for Weill Cornell Professor of Neurology Dr. M. Elizabeth (Betsy) Ross.

"I have to say that one of the big perks of having two neuroscientists in a marriage is that you always have an expert consultant at home," said Dr. Ross.

That other "expert consultant" would be her husband of 25 years, Dr. Costantino Iadecola, the George C. Cotzias Distinguished Professor of Neurology and Neuroscience at Weill Cornell, and an attending neurologist at NewYork-Presbyterian Hospital.

Both Dr. Ross and Dr. Iadecola run their own labs—hers focusing on the neurogenetics of the developing brain, and his on cerebral blood flow and its potential effect on stroke and neurodegenerative disease.

The two fields are disparate enough to keep them working independently, but close enough in context to allow each researcher to turn to the other for advice.

"For example, we'll often read each other's work and provide commentary," said Dr. Ross, who also directs the graduate program in the Department of Neurology and Neuroscience. "It's been a real benefit—we're familiar with the vocabulary, but outside of each other's discipline. It helps us recognize when the other is, or isn't, communicating properly."

It's a collaboration that stretches back to 1981, when the two first met and worked together as post-doctoral fellows in the Division of Neurobiology, then headed by Dr. Don Reis. "I had come over from Italy, and Betsy was already here, finishing up her M.D.-Ph.D.," Dr. Iadecola said. An attachment sprang up among the pipettes and petri dishes, and the two were married in 1987.

After a decade-long sojourn at the University of Minnesota, the couple were recruited back to Weill Cornell in 2002. "We've come full circle," said Dr. Iadecola.

Their return has proven a win-win situation for everyone. Just this past fall, Dr. Ross' group published important work in the *Proceedings of the National Academy of Sciences* that appears to solve

a longstanding medical mystery—the genetic mechanism by which folic acid supplementation protects the developing fetus from severe malformations called neural tube defects. Then, in January, her team described in *Nature Neuroscience* the crucial role the *Lis1* gene plays in another deadly congenital malformation called lissencephaly.

Dr. Iadecola has been busy, too. His lab's work has greatly enhanced our understanding of blood flow insufficiency as a potential contributor to Alzheimer's disease. And, in results published in the February *Nature Medicine*, his team identified new pathways associated with COX-2 and responsible for stroke damage. "Besides pointing the way to better, safer COX-2 inhibition, the study also highlighted the importance of this prostaglandin in boosting risks for stroke," Dr. Iadecola said.

He and his wife say their marriage has provided them with a unique, engaging atmosphere that enhances their work lives, too.

"Betsy is a molecular biologist by training, and we've worked closely together in the past—you'll see both our names listed on many papers," Dr. Iadecola said. "Still, today, when my team encounters something in that arena that we just can't figure out, we'll ask her."

His wife said this cross-talk works both ways. "We often interact, particularly

at the level of people in our labs—sharing equipment and expertise," she said. "We compare techniques for culturing cells from animals of different ages, for example—Costantino works with older animals and my group tends to work with embryos in young pups."

And there's another "young pup" they both work with, she said.

"Thomas, our son, is 16 now. When we were building our family and he was just a toddler, he used to break into our dinner conversation and say stuff like, 'So, the stroke is less?' I think he was the only preschooler in the city that could point out the cerebellum," joked Dr. Ross.

Whether or not Thomas will follow in their footsteps remains an open question, but both agree they like having him on their team.

"He's been a joy," his mother said, "and a real part of the collaboration." ■



Drs. M. Elizabeth (Betsy) Ross and Costantino Iadecola

Dr. Isadore "Issie" Rosenfeld Takes Home Greenberg Award

Greenberg-Starr University Professorship in honor of Dr. Peter Guida also announced at ceremony



Dean Antonio Gotto Jr. and Dr. Isadore Rosenfeld

More than 450 pre-eminent physicians and government, business and community leaders gathered on May 4 to honor Dr. Isadore Rosenfeld with NewYork-Presbyterian Hospital/Weill Cornell's highest honor, the Maurice R. Greenberg Distinguished Service Award, at a dinner at the Pierre

Hotel in New York City.

Following a video presentation featuring luminaries from a variety of fields, including the late actor Walter Matthau and former U.N. Ambassador Hushang Ansary, opening remarks were given by Dr. Peter Guida, recently retired associate professor of surgery at the Medical College and >>> page 5

Cardiologist Takes the Reins in Ithaca

DR. DAVID J. SKORTON, PRESIDENT OF THE UNIVERSITY OF IOWA, was appointed Cornell University's 12th president by the Cornell Board of Trustees at a special meeting on Saturday, January 21, 2006.

A cardiologist, musician and a national leader in research ethics, Dr. Skorton will hold faculty appointments in internal medicine and pediatrics at Weill Cornell Medical College and in biomedical engineering at the College of Engineering on the Ithaca campus.

Dr. Skorton's wife, Dr. Robin Davisson, will join the Cornell faculty with a joint appointment in biomedical sciences in the College of Veterinary Medicine on the Ithaca campus and in cell and developmental biology at the Medical College.

"As an academic physician and a colleague, I have followed and admired, for many years, the clinical, educational and research excellence at Weill Cornell. It is an honor and privilege to be joining you and working together in New York City, Doha and around the world," Dr. Skorton said.

Dr. Skorton will assume the Cornell University presidency on July 1, 2006, followed by an inauguration ceremony in Ithaca on September 7. ■



CORNELL UNIVERSITY PHOTOGRAPHY

Just Say “NO”

New screen for nitric-oxide-modified proteins could be a boon to cell-signaling research and identifying important new drug targets

In work that could accelerate new drug discovery, a Weill Cornell team has devised the first-ever method of quickly spotting a chemical modification of proteins that is proving to be crucial in a wide range of diseases.

S-nitrosylation (SNO)—the process by which a ubiquitous and important signaling molecule called nitric oxide (NO) chemically bonds to sulfur in some cellular proteins—is implicated in everything from angina to septic and cardiogenic shock. Spotting these bonding sites could identify new protein targets that are key to the search for drugs to fight these killer illnesses, but the SNO bond is so fragile and fleeting that no one has been able to do so in any practical way. Until now.

“Our new high-throughput screen, called SNO Site Identification, or SNOSID, is a potential breakthrough for both basic science and drug research—a tool that could significantly accelerate our understanding of nitric oxide signaling in cells,” explained researcher Dr. Steven Gross, professor of pharmacology at Weill Cornell and co-developer of the new technology.

Already, his team is using an inhibitor of NO synthesis in an important phase III clinical trial that could save the lives of heart attack patients undergoing cardiogenic shock. “The blinded study is still ongoing, so results aren’t yet in,” Dr. Gross said. “But we’re hopeful the drug will become the new standard of care for these patients.”

Just how important is NO to human health and illness?

“NO is actually a reactive ‘free-radical’ molecule that we used to think of only as an environmental toxin,” Dr. Gross said. “But it turns out that nature has invented a way to use it for physiological signaling via its chemistry with proteins. Already, that sets it apart from common signaling molecules which act by ‘lock and key’ interactions with receptor proteins, but not by covalent chemical bonding.”

Instead, via S-nitrosylation, NO covalently bonds to sulfur in specific proteins with important downstream consequences—things like fighting infections, communicating between nerve cells, determining the diameter of blood ves-

sels and even determining the force of the heart’s contraction.

Obviously, NO is no slouch when it comes to its importance as a potential drug target. In fact, one of the earliest heart medications ever used, nitroglycerin, substitutes for NO to trigger a widening of constricted arteries.

Trouble is, the S-nitrosylation bond is so fragile that it’s been extremely difficult for drug developers to pinpoint important binding sites. “It’s been frustrating,” Dr. Gross said.

Enter SNOSID. As described by the Weill Cornell team in a recent issue of *Proceedings of the National Academy of Sciences*, this high-throughput proteomic screen relies on state-of-the-art mass spectrometry to scan the body’s thousands of gene-expressed proteins to find S-nitrosylation sites.

The team built on a technology originally devised by Dr. Samie Jaffrey, now an associate professor of pharmacology at Weill Cornell, called the “biotin switch.”

“Since we knew that we couldn’t pin down the S-nitrosylated bond itself, SNOSID uses a kind of surrogate, biotin, which more stably replaces NO at sites of S-nitrosylation,” said Dr. Gang Hao, who helped develop SNOSID while a postdoctoral researcher in Dr. Gross’ lab. “It’s a kind of chemical flag letting us know where NO used to be and allowing us to enrich these sites for analysis.”

The technology has researchers working in both basic science and drug discovery excited. “It should greatly accelerate progress in the fight against disease,” said Dr. Gross, who called the phase III cardiogenic shock drug trial already under way, “just the tip of the iceberg for introduction of new NO-based drugs into clinical practice.”

“As SNOSID uncovers new and important sites of protein S-nitrosylation, novel drug targets are likely to be revealed,” he said. “It should open the door to fertile new areas of research.” ■



Dr. Steven Gross (seated), Behrad Derakhshan (left) and Dr. Gang Hao

the Scope Weill Cornell

Published by the Office of Public Affairs, Joan and Sanford I. Weill Medical College and Graduate School of Medical Sciences of Cornell University

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

DEAN, WEILL 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 WRITERS
Jarrett Kroll, Georgia Tucker

EDITORIAL ASSISTANT/COPY EDITOR
Andria Lam

DESIGN
Shostak Studios, NYC

PRINCIPAL PHOTOGRAPHY
Amelia Panico

Office of Public Affairs
1300 York Avenue, Box 144
New York, New York 10021

212-821-0560
publicaffairs@med.cornell.edu
www.med.cornell.edu/publications

New Centers at WCMC to Offer Gift of Hope

Lehman Brothers and Arthur and Rochelle Belfer Foundations to support new lung, blood research centers

Unlocking cancer’s deadly secrets—then quickly exploiting that knowledge to speed treatments to patients—is the goal of every researcher. And now, two major gifts are helping bring Weill Cornell scientists the tools they need to reach that goal.

In March, the Lehman Brothers Foundation announced it was pledging \$6 million to help establish the Lehman Brothers Lung Cancer Research Center, a core component of the newly established Lung Cancer Research Institute.

And just a month later, Weill Cornell announced an \$8 million pledge from the Arthur and Rochelle Belfer Foundation to create the Arthur and Rochelle Belfer Institute of Hematology and Medical Oncology at the College.

“Both of these initiatives will spearhead research that can have a real impact in the prevention, diagnosis and treatment of two major killers—lung and blood cancers,” said Dr. Antonio M. Gotto Jr., dean of the Medical College. “These

generous gifts will help us expand and improve our world-class research programs, and translate new insights into interventions that can aid patients at the bedside as soon as possible,” he said.

A FOCUS ON LUNG CANCER

The Lehman Brothers Foundation gift—boosted by a significant contribution from Weill Cornell Medical College Overseer Dr. Madelyn Antoncic and her late husband, Dr. Albert E. Johnson—should speed the groundbreaking of a new state-of-the-art cancer research laboratory and help recruit some of the world’s top experts in lung oncogenesis.

new Center, the core of the proposed Lung Cancer Research Institute, which is expected to be unique in the world.

“Our success here will be critical in fighting this disease, which surpasses all other cancers in terms of lives lost, with an economic impact that is almost incalculable,” said Dr. Altorki, the David B. Skinner, M.D. Professor of Thoracic Surgery at Weill Cornell and head of the lung cancer program at NewYork-Presbyterian/Weill Cornell.

“We are proud to play a role in a project with such potential to save lives,” added Francine S. Kittredge, president of the Lehman Brothers

Foundation. “The gift to fund the Center is one of the single largest the foundation has yet bestowed.

Work led by Dr. Altorki and others is already yielding important new insights into lung cancer. For example, his team is currently conducting major clinical trials looking at potential lung cancer vaccines, as well as the role of COX-inhibitor drugs as useful adjuncts to chemotherapy. Another effort—a collaboration with Dr. Andrew Dannenberg—is focused on reducing the carcinogenic effects of smoking for current or former smokers. Then there’s the work of Dr. Claudia Henschke, whose groundbreaking studies in

“Both of these initiatives will spearhead research that can have a real impact in the prevention, diagnosis and treatment of two major killers—lung and blood cancers.”

— Dean Antonio M. Gotto Jr.

The College has already appointed renowned clinician-scientist Dr. Nasser Altorki to lead the

Foundation. “We applaud Weill Cornell Medical College for supporting Dr. Altorki’s work so signif-

low-dose CT scans have greatly improved the early diagnosis of lung tumors.

Deadly Duos Drive Multiple Myeloma

Weill Cornell discovery suggests new dynamic behind blood cancer relapse

Like dancers in a lethal waltz, a specific pairing up of cell-cycle regulators triggers the inevitable relapse that kills patients with multiple myeloma, a Weill Cornell team has discovered.

The finding—that proteins called cyclins link up with kinase enzymes to restart the deadly blood cancer—challenges the accepted dogma on myeloma relapse and opens the way to new treatments.

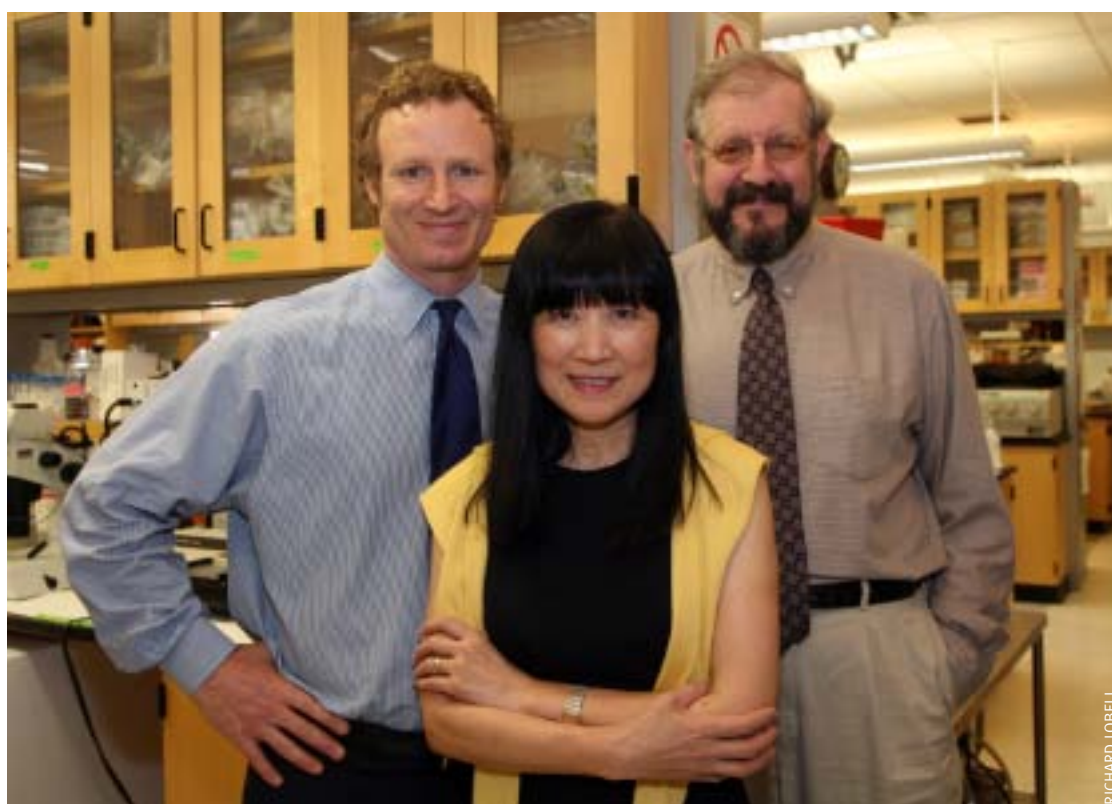
“Before, it was believed that the overexpression of a particular cyclin, called cyclin D1, was all that was needed to drive myeloma cells into a state of uncontrolled proliferation. But our research is showing that the cyclins need help,” said senior researcher Dr. Selina Chen-Kiang, professor of pathology and laboratory medicine and professor of microbiology and immunology.

“It’s as if the cyclin is the gas, and the cyclin-dependent kinase (Cdk) is the engine—you need both to get the car going,” Dr. Chen-Kiang said.

Her team’s study, using bone marrow myeloma cells from patients and cancer cell lines appeared in a recent issue of *Cancer Research*.

Multiple myeloma is a bone marrow disease and the second most common blood cancer. It is also uniformly fatal: although drugs can push the disease into remission, the continued presence of cancer cells means relapse always occurs. Life expectancy after diagnosis averages just three years.

Dr. Chen-Kiang states that, based on what we knew about cancer cell biology,



Drs. Scott Ely (left), Selina Chen-Kiang and Maurizio Di Liberto

the old “cyclin-D overexpression” theory just never made sense to her when it came to explaining relapse. “It was like having the gas without the engine,” she said.

So, her team went to work. “We found that cyclins pair up with enzymes in specific ways to govern changes in cancer cell proliferation,” said co-lead researcher

“[This finding] is a first for any cancer and might apply to other malignancies—it may be that people did not look hard enough before.”

— Dr. Selina Chen-Kiang

Dr. Scott Ely, associate professor of clinical pathology and laboratory medicine. One such pairing—cyclin D2 and the kinase enzyme CDK6—was particularly deadly. “All of the cell lines that we obtained from end-stage patients showed this pairing,” he said.

Besides challenging the accepted wisdom on myeloma relapse, the finding points to possible new drug targets to prevent relapse in the first place.

“The search for compounds that affect enzymes such as CDK4 and CDK6 is an obvious next step,” according to co-lead researcher Dr. Maurizio Di Liberto, assistant research professor of pathology and laboratory medicine. “Specific cyclin-

kinase pairings might also serve as good prognostic indicators, helping to guide treatment.”

The finding may even have implications for other malignancies.

“It shows us just how complex cancer’s origins can be,” said Dr. Chen-Kiang.

“Specific pairing between cyclin D and CDK4, and cyclin D2 and CDK6 in one cancer is a first and might apply to other malignancies—it may be that people did not look hard enough before.” ■

“This generous gift couldn’t be more needed—lung cancer is by far the leading killer among cancers, with more than 163,000 Americans dying from the disease every year. Yet it receives much less research funding than other malignancies,” Dr. Altorki noted. “However, look at what the right resources can do,” he said. “According to the National Cancer Institute, there’s been a 26 percent decline in the per capita death rate for prostate cancer since 1990, largely due to more and better research. That’s exactly what we want to accomplish for lung cancer.”

BENCH-TO-BEDSIDE FOR BLOOD CANCERS

The second major gift this spring is aimed at creating a powerhouse center for research against another cancer killer: the hematological malignancies.

The Arthur and Rochelle Belfer Foundation’s pledge of \$8 million dollars toward the Arthur and Rochelle Belfer Institute of Hematology and Medical Oncology will not only fund an extensive renovation of the Medical College’s hematology and medical oncology labs, but also purchase vital new equipment for its tissue bank and aid in the recruitment of eight new faculty members focused on

translational (“bench-to-bedside”) and clinical research.

This isn’t the first time the foundation has helped push the boundaries of medical research at Weill Cornell: they previously helped fund the Medical College’s Belfer Gene Therapy Core Facility.

The proposed Institute will build on the Medical College’s existing strengths in areas such as lymphoma, leukemia, myeloma, aerodigestive malignancies and cancer prevention. “The kind of translational medicine this gift will help make possible can only take place in an academic medical setting such as our own, where physician-scientists expand the limits of medical knowledge,” said Dr. Gotto.

That expansion will include high-tech work in promising fields such as cancer genomics and proteomics, which look at blood cancer’s earliest origins in the DNA of cells. “The foundation is very pleased to play a part in advancing cutting-edge research efforts that will have immediate application and tangible benefit in the treatment of cancer patients at Weill Cornell and worldwide,” said Robert Belfer, vice president of the Arthur and Rochelle Belfer Foundation and an overseer of the Weill Cornell Medical College.

The Division of Hematology and Medical Oncology has grown steadily over the past decade, from a small group of dedicated clinicians and researchers 10 years ago, “to a division which now has 30 research professionals and internationally recognized physician-scientists,” says division co-chief Dr. David Nanus, the Mark Pasmantier Professor of Hematology and Oncology in Medicine at Weill Cornell.

The Belfer Foundation’s gift should raise the division’s profile even higher, bringing it closer to receiving U.S. National Cancer Institute Comprehensive Cancer Center status—a distinction shared by just 38 other institutions in the nation.

More than that, however, the promise of more resources brings with it the hope for breakthroughs in the fight against blood cancers.

“Imagine getting vaccinated against cancer. Imagine having a cancer treatment strategy tailor-fit to your needs. Imagine scientists pinpointing cancer markers in order to prevent the development of disease,” said Dr. Barbara Hempstead, co-chief of the Division of Hematology/Oncology and the O. Wayne Isom Professor of Medicine at Weill Cornell. “This gift helps put these goals and many others within reach.” ■

Fetal Brain Gets New Defense Against Alcohol

Vitamin B3 variant may stem damage from maternal drinking

It would be great to think that every pregnant woman abstained from drinking alcohol, but the reality is that one in 12 American women polled don’t follow that rule. The result: One in every 1,000 children born in the U.S. today suffers lifelong cognitive impairment due to fetal alcohol syndrome (FAS).

But a new Weill Cornell study finds that nicotinamide—a vitamin B3 variant—could limit alcohol-linked neurological damage for newborns.

“Currently there are no effective treatments to prevent or reverse FAS’ devastating effects, but we are hopeful nicotinamide could be such a treatment,” explained researcher Dr. Daniel Herrera, assistant professor of psychiatry at Weill Cornell.

His team gave the B-vitamin to 7-day-old mice exposed to alcohol in the womb. “Seven days after birth, the mouse’s brain development was roughly equivalent to that of a human fetus in the third trimester,” Dr. Herrera said.

Reporting in *PLoS Medicine* in February, the researchers found that nicotinamide reduced or reversed damage in three brain areas especially vulnerable to prenatal alcohol exposure: the anterior cingulate cortex, the hippocampus and the thalamus. “The treatment boosted the rodent’s thinking and memory and also reversed a prior rise in hyperactivity,” Dr. Herrera noted.

“The newborn mice seemed to get the biggest neuroprotective boost from the treatment if it was given during or soon after alcohol exposure,” Dr. Herrera said, “but there could also be a ‘window of opportunity’ that lasts a few hours after exposure.”

Of course, the best way of putting an end to FAS is prevention: making sure women understand the long-term effects drinking has on the fetal brain. “But until that happens, any agent we can find that curtails those effects will be invaluable. I’m hopeful that we have found one,” Dr. Herrera said. ■



Dr. Daniel Herrera

SUSAN SAN GIOVANNI

Addressing Risk of Cardiovascular Disease, Obesity

Dean Antonio Gotto and Dr. Louis Aronne speak to reporters at AMA media briefing

Reducing the risk for cardiovascular disease and obesity requires staying on top of the latest information about the risk factors associated with the diseases, as well as reshaping our understanding of fat production within the body, Dr. Antonio Gotto Jr., dean of Weill Cornell Medical College, and Dr. Louis Aronne, director of the Comprehensive Weight Control Program at NewYork-Presbyterian Hospital/Weill Cornell Medical Center, told a group of reporters and editors during the American Medical Association's media briefing on cardiovascular disease on April 27 at the Millennium Broadway Hotel in New York City.

In defining risk for cardiovascular disease, Dr. Gotto said, today's patients must not only manage high cholesterol and dietary risk factors like fat intake, but also must address other risk factors, such as cigarette smoking, high blood pressure, obesity and low HDL ("good") cholesterol.

"It's going to take a lot more than one small lifestyle change to reduce the toll of cardiovascular disease significantly," he said. "Although patients can't control their age, race and genetics, they can make positive changes that will



Dean Antonio Gotto

affect their blood pressure, cholesterol levels, weight and risk for diabetes, all of which contribute to cardiovascular disease."

Additionally, research has shown that these risk factors act synergistically; that is, the total risk of several factors is greater than the sum of its parts.

"Having multiple risk factors exponentially increases your risk for having a heart attack or stroke," Dr. Gotto said. "In cases where patients have two or more risk factors, the cardiovascular disease risk caused by the whole package is much worse than the risk associated with each individual risk factor."

The net result of these new developments is that patients should be treated based on their total risk, also called "global risk," for cardiovascular disease, which kills approximately one million Americans each year and is the number one cause of death in both men and women in the United States.

As a nationwide epidemic, obesity has become one of the foremost risk factors associated with cardiovascular disease and Weill Cornell physician Dr. Louis Aronne believes new research into a newly characterized physiologic system may help illuminate the root causes of the condition.

The endocannabinoid (EC) system is responsible for many functions, including glucose homeostasis, energy balance and the production and



Dr. Louis Aronne

THEODORE GRUDZINSKI

accumulation of triglycerides. The EC system also helps regulate body weight and appears to include a "feed-forward" mechanism that may contribute to obesity—in short, eating fattening foods may increase an individual's desire for more fattening foods and metabolic tendency to gain weight.

"It seems as though the EC system receptors are overactivated when 'fattening foods' are consumed and weight is gained. This overactivation leads to an increase in food intake and more fat production in the liver," Dr. Aronne said. "Eventually, what starts out as just eating the wrong foods may lead to the development of obesity, cardiometabolic risks and heart disease."

Participating media outlets included The New York Times, The Los Angeles Times, The Wall Street Journal, Ladies' Home Journal, and WNBC, among others. ■

Paving the Way for Better, Safer Pharmaceuticals

New insight into cell-surface receptors could revolutionize drug discovery

A combination of computer modeling and real-life experiments in the lab may point the way to better, safer pharmaceuticals.

Hard-won insights into the working of cell-surface proteins called G protein-coupled receptors (GPCRs) are changing what we knew about how drugs bind to cells to work their magic, say researchers at Weill Cornell working in collaboration with colleagues at Columbia University College of Physicians and Surgeons.

"Right now, over half of all drugs target GPCR receptors, so the importance of this work can't be overstated," said co-senior researcher Dr. Harel Weinstein, the Maxwell M. Upson Professor and chairman of the Weill Cornell Department of Physiology and Biophysics, and the director of the College's HRH Prince Alwaleed Bin Talal Bin Abdulaziz Al-Saud Institute for Computational Biomedicine.

Prior to this work, most experts have had little real understanding of how drugs latch onto and influence GPCR receptors. At first, scientists thought these membrane receptors acted alone—as "monomers"—but over the past few years it became clear that they acted in pairs, or "dimers," as they hooked up with other molecules (ligands).

"That was all theory, though, and what was needed was a real structural confirmation," Dr. Weinstein said. To that end, his lab designed and used a complex computational model to predict which pairs of GPCRs might link up with a particular pharmaceutical molecule to switch a receptor "on" or "off."

"But we also needed to identify the interface between these GPCR pairs and how they interacted with the drug in question," he said.

That's when Dr. Weinstein teamed up with Columbia Associate Professor of Psychiatry and

Pharmacology Dr. Jonathan Javitch. Focusing on one type of GPCR, dopamine receptors (important to psychiatric drugs), his lab spent two years perfecting a lab-based means of mimicking the link-up of GPCR dimers and the pharmaceutical agents that turn them on or off.

"This was the first-ever structure-based demonstration of how drugs work with receptors, and it supported our model," Dr. Weinstein said.

The bottom line: Not only do GPCRs work as dimers, but these pairs also appear to be arranged in



Dr. Harel Weinstein (left) and Dr. Jonathan Javitch

long rows called oligomers, Dr. Weinstein said. "We haven't proven this yet, but it seems as if activating or inactivating the receptor requires rearranging not only GPCR dimers, but these rows of pairs, or oligomers, as well."

This painstaking research, reported in the *Proceedings of the National Academy of Sciences*, has opened a new window into drug discovery, he said. "We're learning every day that medicines act in much more complex ways than we thought. But with that complexity comes opportunity—for more targeted, less toxic drugs." ■

Blood-Building Protein Protects the Heart

Tenascin-C in marrow may fight cardiac clots

ONE OF THE JOYS OF SCIENCE IS MEETING THE UNEXPECTED.

Weill Cornell researchers have discovered that a bone-marrow-based protein focused on neovascularization also springs into action in cardiac tissue whenever the heart is threatened by clots.

Besides solving a 30-year-old medical riddle, the finding—reported in the April *FASEB Journal Express*—could lead to clot-busting drugs that work by boosting tenascin-C's activity.

"We knew that local progenitor cells in and around the heart go to work to carve out a vasculature through clots whenever thrombosis occurs. But up until now we didn't know the major players behind that process. This discovery came as a big surprise, and it's the first mechanism we've seen that can explain it," said Dr. Jay Edelberg, associate professor of medicine and cell and developmental biology.

Experts have long noted that the heart reacts in two ways to restore blood flow when threatened by a clot: it tries to break the clot down with enzymes, and it tries to tunnel through the clot by quickly building new vessels. But what's driving the latter process?

In studies conducted in mice and in heart attack patients, the Weill Cornell team found that "tenascin-C seems to instruct this process, much as it does for endothelial progenitor cells in the bone marrow," said lead researcher Dr. Victoria Ballard, a postdoctoral fellow in medicine. "It's a temporary phenomenon—the protein just seems to pop up when needed."

Mice genetically engineered to lack tenascin-C showed no sign of clot neovascularization during thrombotic attack, suggesting the protein is key to the process.

On the other hand, the opposite was true of clots taken from heart attack patients, according to co-researcher Dr. Shing-Chiu Wong, director of the Cardiac Catheterization Laboratory at NewYork-Presbyterian/Weill Cornell.

"We found tenascin-C hard at work in those clots," he said. "The body appears to use it to form new vessels that weaken the obstruction."

Drug development focused on enhancing the activity of tenascin-C should yield powerful new agents against heart attack or stroke, the researchers said.

"Tenascin-C is a big molecule, so our next step is to find appropriate binding sites for potential pharmaceuticals," said Dr. Edelberg, who is also a cardiologist at NewYork-Presbyterian Hospital. "Drugs might be developed to prevent heart damage by keeping tenascin-C on 'high alert' in case a blockage occurs. Or they might focus on boosting the protein's power to break up clots during an attack." ■

<<< from page 1

Dr. Isadore Rosenfeld Takes Home Greenberg Award

associate attending surgeon at NewYork-Presbyterian Hospital. Other speakers included Maurice Greenberg, chairman emeritus of the Board of Trustees at NewYork-Presbyterian Hospital and a member of the Weill Cornell Medical College Board of Overseers for whom the award is named; and Arthur Mahon, vice chairman of the Board of Overseers and a trustee of NewYork-Presbyterian Hospital.

“When we see the talent this man has, it’s enormous,” said Mr. Greenberg. “Not only in caring for patients, but in outreach and for this institution.”

Arthur Mahon, who co-chaired the dinner with his wife, Myra, and Dr. Peter Guida and Bernadette Castro, spoke of Dr. Rosenfeld’s unique ability to inject humor into the practice of saving lives. “It’s such a privilege to be on this stage,” he said. “Dr. Rosenfeld always speaks with grace and humor, and performs on so many levels.”

Dr. Rosenfeld—or “Issie” as he is known for short—displayed that characteristic sense of humor to full effect during his acceptance speech, opening with a bit of sarcasm—“Can I talk now?”—to widespread laughter.

Noting that the award had been presented posthumously several times previously, Dr. Rosenfeld was happy to receive the award while he was still alive. “I want you to know that I’m very grateful to be honored while I’m alive, it’s so much... more meaningful. And fun.”

Dr. Rosenfeld also dedicated a few lines roasting Dr. Antonio Gotto, dean of Weill Cornell Medical College, whom Dr. Rosenfeld has known for decades.

They first met during a presentation of Dr. Gotto’s groundbreaking research into the cardiovascular effects of cholesterol. Impressed by his work, Dr. Rosenfeld invited Dr. Gotto to breakfast—during which Dr. Gotto ordered eggs, bacon and buttered toast.

“Here was a major researcher in the field of cardiology, eating with gusto the very foods that would kill him,” Dr. Rosenfeld said. “That takes guts.”

The highlight of the evening was a story—which Dr. Rosenfeld repeatedly insisted was true—about a banker friend whose life Dr. Rosenfeld had saved. The patient was the head of a consortium of European banks and he hoped to repay Dr. Rosenfeld by creating three new buildings in Dr. Rosenfeld’s name.

After seemingly endless meetings and correspondence, in which the financial pledge trickled from \$1 billion down to \$200 million and finally to zero, it became clear there was no European consortium of banks. And that the story was untrue.

While Dr. Rosenfeld had never treated a patient who made a \$1 billion pledge, his story rang with a much more personal truth.

Speaking directly to Mr. Greenberg, Dr. Rosenfeld said, “I want to thank you and let you know that this award means more to me than all the buildings in the world.”

The event also honored the retirement of Dr. Peter Guida, who in addition to more than five decades of research

and surgical care also helped establish the Maurice R. Greenberg Distinguished Service Award and has co-chaired the award dinner since its inception.

During a special presentation, Dr. Gotto announced the creation of the Greenberg-Starr University Professorship in honor of Dr. Guida.

“Over many years, he has been a great guy and a great asset to this institution,” said Mr. Greenberg.

“This is a surprise,” Dr. Guida said upon receiving the honor. “I am overwhelmed and humbled. No words can describe the gratitude I feel. This honor is beyond anything I can imagine. This institution has been my life; it has supported and challenged me. I can never thank you all enough.” ■

CORRECTION

Dr. Daniel Gardner was incorrectly identified as Dr. David Gardner in the March/April issue of *The Scope*. We regret any inconvenience that may have resulted from this error.



Dr. Peter Guida

MARIE WALLACE

science at a glance

Don’t Suppress the Lymphoma Tumor-Suppressor Gene

AN INACTIVATED “TUMOR-SUPPRESSOR” GENE THAT NORMALLY pushes mature B lymphocytes to become plasma cells could be a driving force behind diffuse large B-cell lymphoma (DLBCL), Weill Cornell research reveals. “In clinical DLBCL samples, we detected deletions and mutations in a gene called PRDM1 that abolish its function,” explained lead researcher Dr. Wayne Tam, assistant professor of pathology and laboratory medicine. “Our data indicates a tumor suppressor role of PRDM1 in DLBCL. Inactivation of this gene may contribute to the pathogenesis of DLBCL by disrupting normal B-cell differentiation into plasma cells.” Reported online in *Blood* in May, the findings could solve the riddle of what causes DLBCL, one of the most common and aggressive lymphomas. ■



Dr. Wayne Tam

SUSAN SAN GIOVANNI

Brain Stent Procedure a First in Metro NYC

ARTERY-OPENING STENTS HAVE LONG BEEN standard practice to clear clogged vessels in the chest and neck. But a Weill Cornell team of surgeons are the first in the New York City area to implant Boston Scientific’s Wingspan Stent System in the brains of stroke patients at high risk for a second attack.



COURTESY OF BOSTON SCIENTIFIC

“Many patients with excess plaque in their cerebral arteries just don’t respond to medical therapy, so this device offers them new hope,” explained

Dr. Pierre Gobin, professor of radiology and neurological surgery at Weill Cornell and director of the Division of Interventional Neuroradiology at NewYork-Presbyterian/Weill Cornell. The stent is inserted via a vessel in the leg and threaded up to the blocked cerebral artery. Once there, a tiny balloon at the tip is inflated to dislodge plaque and the Wingspan stent is inserted to open the vessel. The procedure has had a success rate of 98 percent in clinical trials. ■

HIV “Stealth” Protein Disarms Body’s Defenses

AS THEY DIE, HIV-INFECTED CELLS DISGORGE

a key protein that robs nearby immune B-cells of the antibodies they need to fight the virus, according to a groundbreaking new study from a team at Weill Cornell. “Our research may have solved a longstanding mystery: Why newly infected patients can have robust immune-cell counts but mount such a poor defense against the virus,” said lead researcher Dr. Andrea Cerutti, assistant professor of pathology and laboratory medicine. “That’s because this protein, called nef, interrupts a process that produces antibodies targeted to the virus. Immune cells with less-targeted antibodies remain, but they’re no match for HIV.” As reported in the March issue of *Nature Immunology*, the study suggests that “nef inhibitor” drugs may prove potent new weapons against the virus. ■

Thalidomide, Lenalidomide May Fight ALS

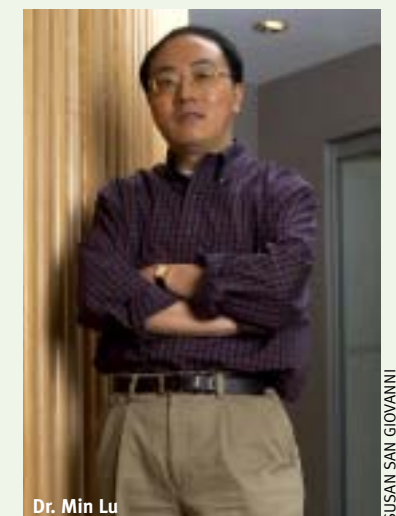
MOUSE STUDIES SUGGEST THAT THALIDOMIDE AND A DERIVATIVE DRUG, LENALIDOMIDE, COULD SLOW

the neurological damage of amyotrophic lateral sclerosis (ALS, or Lou Gehrig’s disease), a Weill Cornell team announced in the March *Journal of Neuroscience*. “We’ve gained a much better understanding of the disease’s origin, which we now think hinges on high levels of pro-inflammatory cytokines called TNF-alpha and FasL,” explained lead researcher Dr. Mahmoud Kiaei, an instructor in neuroscience at the Medical College. He and study co-author Dr. Suzanne Petri, a postdoctoral research fellow, believe the two drugs protect nerve cells by dampening overexpression of these cytokines. “The therapy shows real promise—treated mice lived much longer and showed much less wasting and motor-control deficits than untreated animals,” Dr. Petri said. ■

Finding SARS’ Soft Spot

THE 2003 SARS OUTBREAK TRIGGERED A GLOBAL PANIC AND KILLED

hundreds before it was finally wrestled under control. The threat of another outbreak remains, but new Weill Cornell research may make it a little less daunting. “We’ve described four crucial steps through which SARS gains entry into human cells,” explained researcher Dr. Min Lu, whose team published their findings in the May *Structure*. The new findings center on the molecular mechanics of the S2 protein, which lies on the coronavirus’ outer membrane and helps SARS ‘fuse’ with the host cell’s membrane. “This fusion process is vital to infection,” said Dr. Lu, an associate professor of biochemistry at Weill Cornell. “That means that drugs that target this process could offer a powerful new weapon against the virus—should it return.” ■



Dr. Min Lu

SUSAN SAN GIOVANNI



WCMC-Q Launches Open-House Series for Budding Medical Professionals

THE WEILL CORNELL MEDICAL COLLEGE IN QATAR (WCMC-Q) recently began a series of weekend open-house sessions for high school students in Doha. Parents and teachers were also invited so that they might gain some insight into life at the College.

Senior associate dean for education at WCMC-Q, Dr. Elizabeth Alger, said the sessions include an explanation of the pre-medical and medical programs, tours and an opportunity to speak with current medical students. Dr. Alger noted that these open houses are an opportunity for WCMC-Q to encourage visiting students' budding interest in medicine and science.

"A typical Open House is carefully structured," she said. "There are presentations by WCMC-Q faculty members, a med student and a Hamad Medical Corporation physician." Visiting students participate in laboratory sessions while parents and teachers tour the facility, learn about the admissions process and ask questions. "Inspiring young people to consider a career in medicine is a major part of WCMC-Q's mission in its drive to encourage the next generation of health-care professionals," Dr. Alger said. ■

Lynford Family Funds Scholarships for WCMC Students to Study in Developing Nations

A GENEROUS GIFT MADE BY the Lynford Family Charitable Trust will provide funding for annual endowed scholarships allowing two Weill Cornell students to take an international elective in a developing country. The gift was made by Jeffrey Lynford, president and CEO of Wellsford Real Properties, and his wife, Tondra Lynford, a practicing psychotherapist in New York City as well as co-founder of Resources for Children with Special Needs. The students selected for this scholarship will be known as the Lynford Fellows. "My wife and I are delighted to be able to fund an international elective scholarship at Weill Cornell Medical College that will help medical students become the next generation of global doctors," Mr. Lynford said.

The goal of the endowment is to provide the opportunity for medical students to participate in the delivery of medical care in needy areas of the world and to gain a better appreciation for the issues and problems facing developing nations. "The endowment is specifically designed to provide an academic and practical experience in developing

countries where the need for modern medical care is great. Hopefully medical students will find their experience to be highly rewarding," Mr. Lynford said.

The Lynford Charitable Trust has provided funding for education and medicine for more than 20 years, including the construction of an AIDS clinic in Dali, China, and support for the delivery of direct medical services at the Juanga Hospital in Orissa, India.

The scholarships will be overseen by the Medical College's Office of Global Health, which provides opportunities for students to take an international elective in more than 76 countries around the world.

"I'm delighted that the Lynfords so generously endowed a fellowship for international travel," said Dr. Madelon Finkel, director of Global Health Education and a professor of public health at Weill Cornell. "Their donation has helped our office expand its endowment portfolio, which enables more students to take an international elective because the funding for such travel is made available." ■

academic affairs and appointments

New Director in the Office of Development

PATRICIA GUTTER has been appointed director of the Office of Development at Weill Cornell Medical College and NewYork-Presbyterian/Weill Cornell. Ms. Gutter has held a number of positions during her six-year tenure, most recently serving as director of major gifts. As director of Development, she oversees development and fund-raising functions, including major gifts, planned gifts, corporate and foundation relations, special events and fund-raising programs. In addition, she coordinates closely with Hospital and Medical College leadership and respective campaign directors to achieve fund-raising goals. Ms. Gutter holds an M.S.W. from Fordham University Graduate School of Social Work and a B.A. from the College of Mount Saint Vincent.

First-Year MD-PhD Student Elected Student Overseer



WEILL CORNELL ART & PHOTO

ANKIT PATEL, a first-year student in the Tri-Institutional MD-PhD Program, has been elected as student overseer on the Medical College's Board of Overseers. Patel will be responsible for representing the interests of students from both the Medical College and Graduate School at the overseers' meetings. Patel, 22, whose experience includes a term as president of Cornell University's College of Agriculture and Life Sciences honor society as an undergraduate, has made outreach one of the goals of his term, specifically with his alma mater. "I'm honored to have been chosen as the student representative on the Board of Overseers and plan to work tirelessly with the administration to assure that the students' voice is heard," he said.

New Clinical Scholars Announced

Clinical Scholar Endowments are bestowed upon outstanding researchers or clinicians in the field of medicine who are in the early stages of their careers and have demonstrated the highest standards of science and clinical care. The awards are granted for an initial period of three years.

Helen and Robert Appel Clinical Scholar

DR. BASSEM MASRI, assistant professor of clinical medicine, has been named the first Helen and Robert Appel Clinical Scholar. Dr. Masri is also director of the Cardiac Prevention and Intervention Center and the Lipids Program at Weill Cornell. Before joining the Medical College faculty in 1999, Dr. Masri completed his fellowship in cardiology at the American University of Beirut and Baylor College of Medicine in Houston. He received both his B.S. and M.D. degrees, in 1984 and 1988, respectively, from the American University of Beirut, Lebanon, and also completed his internship and residency in internal medicine there.



WEILL CORNELL ART & PHOTO

Daisy and Paul Soros Clinical Scholar in Neurology

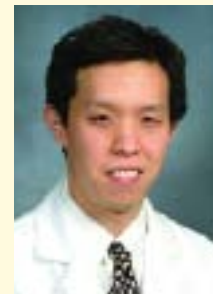


WEILL CORNELL ART & PHOTO

DR. CLAIRE HENCHCLIFFE, assistant professor of neurology, has been appointed the first Daisy and Paul Soros Clinical Scholar in Neurology. Dr. Henschcliffe, who also serves as director of the Parkinson's Disease and Movement Disorders Institute at NewYork-Presbyterian/Weill Cornell, received her M.D. from Columbia College of Physicians and Surgeons, and her D.Phil. from the University of Oxford. After her residency in neurology in the Neurological Institute at NewYork-Presbyterian/Columbia, Dr. Henschcliffe completed a fellowship in movement disorders, also at the Neurological Institute. Among Dr. Henschcliffe's current research is the study of "energy yoga," and the link between striatal dopamine release during meditation and its possible therapeutic benefits to help alleviate the symptoms of Parkinson's disease.

William Randolph Hearst Endowed Clinical Scholar in Microbiology and Infectious Diseases

DR. KYU YOUNG RHEE, an assistant professor in the Departments of Microbiology and Immunology and Medicine, has been named the first William Randolph Hearst Endowed Clinical Scholar in Microbiology and Infectious Diseases. Dr. Rhee received his M.D. and Ph.D. from the University of California at Irvine in 1999. Dr. Rhee, who completed his clinical training in medicine and infectious diseases at Weill Cornell, has been focusing on new drug targets for the treatment of tuberculosis. He was recently awarded the Ko8 Mentored Clinical Scientist Development Grant from the National Institutes of Health, and a Career Award in the Biomedical Sciences from the Burroughs Wellcome Fund.



WEILL CORNELL ART & PHOTO

Linda Horowitz Cancer Research Foundation Clinical Scholar



DR. FELICE SCHNOLL-SUSSMAN, assistant professor of medicine, has been named the newly established Linda Horowitz Cancer Research Foundation Clinical Scholar. Dr. Schnoll-Sussman's research focuses on the screening and surveillance of colorectal cancer in high-risk patients—she currently treats patients at Weill Cornell's Jay Monahan Center for Gastrointestinal Health—as well as studies in endoscopic ultrasonography and pancreatic cystic neoplasms. Board-certified in internal medicine and gastroenterology, Dr. Schnoll-Sussman received her M.D. from Mount Sinai School of Medicine in 1994. ■

Dr. Randi Silver Appointed Associate Dean

Weill Cornell Graduate School of Medical Sciences selects physiology/biophysics researcher for post

A noted expert on the renal system and cardiac arrhythmia, Dr. Randi Silver has been named associate dean of the Weill Graduate School of Medical Sciences of Cornell University. She is currently an associate professor of physiology and biophysics.

“Dr. Silver has been on the faculty at the Weill Graduate School since 1991 and she

has done a great job as a faculty member. She is highly committed to graduate education and now a career in graduate school administration. I am very excited about the

opportunity to work with her on a daily basis,” said Dr. David Hajjar, dean of the Graduate School and the Frank H.T. Rhodes Distinguished Professor of Cardiovascular Biology and Genetics. “It is an honor for me to assume the position of associate dean of Weill Graduate School of Medical Sciences at Cornell University and a privilege to work with Dean Hajjar, our students, and our joint Sloan-Kettering Institute and Weill

role because of the opportunity to prepare young scientists who train at Weill Cornell for the 21st century.”

Dr. Silver received her bachelor’s degree from Skidmore College in Saratoga

Springs, N.Y., and her Ph.D. from Brown University in Providence, R.I. Following her doctoral studies, Dr. Silver completed a postdoctoral fellowship at Weill Graduate School. She subsequently accepted a position as an instructor at the Medical College and rose to the position of associate professor in 1997. She is also currently a faculty member at the Marine Biology Laboratory in Woods Hole, Mass.

Dr. Silver’s research work involves the physiological basis by which the body normally conserves K⁺, therapeutic approaches for the management of cardiac arrhythmias associated with myocardial ischemia, and ischemic arrhythmias associated with “carrier-mediated” norepinephrine release.

Dr. Silver’s research support currently includes three grants from the National Institutes of Health (NIH); previous research support includes grants from the American Heart Association, the NIH, industry partners and several other foundations. ■



Dr. Randi Silver

“Dr. Silver is highly committed to graduate education and now a career in graduate school administration. I am very excited about the opportunity to work with her on a daily basis.”

—Dr. David Hajjar

has done a great job as a faculty member. She is highly committed to graduate education and now a career in graduate school administration. I am very excited about the

Cornell faculties,” said Dr. Silver. “As an academic scientist I have always enjoyed my role as a mentor to the members of my lab and students. I am excited by my new

postdocaffairs

Post Ph.D.: How to Succeed in Science 101

Career Opportunities for Postdocs Discussed at Tri-Institutional Career Symposium



Leonardo Pignataro, a postdoctoral associate in the Department of Anesthesiology.

Postdoctoral associates from Tri-Institutional partners Weill Cornell Medical College, The Rockefeller University and Sloan-Kettering Institute heard advice on the best ways to transition into science careers during a day-long symposium hosted by Weill Cornell on March 24 that featured professionals from academia, industry and alternative careers, each of whom delivered a presentation on their career and participated in an audience-led panel discussion. In addition to some reassuring words from panelists, the symposium also provided a forum for the kind of networking that nearly all speakers agreed was the cornerstone of any successful scientific job search.

“Eventually our postdoc positions are going to end and the hope for most of us is to be a principal investigator. So the goal of the symposium was to focus on what we can do to help us get there,” said Leonardo Pignataro, a Weill Cornell postdoctoral associate and the principal organizer of the event. However, because most postdocs will not become tenured faculty in academia, an additional goal of the symposium was to expose postdocs to the range of op-

portunities for science Ph.D.s both in and out of academia.

“One of the key missions of the Office of Postdoctoral Affairs is to provide up-to-date career information for science Ph.D.s and opportunities to acquire the skills necessary for a variety of careers. It is very important that postdocs are encouraged to pursue careers that best match their own unique skills, interests and lifestyle,” said Karen Sherman, administrative director of the Office of Postdoctoral Affairs.

According to Dr. Elizabeth Ross, professor of neurogenetics at Weill Cornell, academic search committees are looking for excellence in research, both demonstrated and potential, but postdocs need a value-added skill that makes them a unique addition to the institution. And networking, in

the form of attending faculty meetings, asking questions and organizing events, can be critical to making a name for a rising scientist. As one panelist succinctly put it, “Science is a personality-driven business. People hire people they know and like.”

From the industry panelists, Dr. George Yancopoulos’ career exemplifies the fast-paced, high-risk science of biotech and pharma companies. After postdoc work in molecular immunology at Columbia University, Yancopoulos had achieved what he had long thought was his dream: a faculty appointment at Columbia and an eight-year, \$1.5 million Lucille P. Markey Scholar Award.

Then he did the unthinkable.

He turned it down and helped start a biopharmaceutical company, working out of an acquaintance’s apartment with enough capital to last a week.

Now 17 years later he is a member of the National Academy of Sciences and one of the most highly cited scientists in industry, proving that “high science” can be practiced in a market-driven environment. But Regeneron, the company he helped launch, has yet to make a major commercial breakthrough and reported a net operating loss of nearly \$100 million in 2005.

Beyond academic and industry speakers, the symposium also featured scientists with alternative careers, including a science writer, a consultant, a lobbyist and a patent lawyer. With so many choices, the proposition of launching a career could seem daunting.

“It’s important to stay optimistic, in your science and your life,” said Dr. Joel Pardee, associate dean of research services of the Weill Graduate School of Medical Sciences and faculty director of the Office of Postdoctoral Affairs. “It’s very important to follow that dream.”

The advice is not lost on Pignataro, who hopes for a career in academia: “We didn’t become scientists because there was sign on the door that said ‘Scientist Wanted.’ If you stay and persist, you will make it.” ■



Dr. Elizabeth Ross (left) speaks with Dr. Joel Pardee, associate dean of research services, and Cristina Cebrian, a former postdoc at Weill Cornell.

Commencement 2006: A Call to Action

Weill Cornell graduates urged to offer their services where they are needed most

The need—indeed, the responsibility—for physicians to take their skills and knowledge to those who need it most, and in particular to the Third World, underscored Commencement ceremonies for this year's graduates from the Weill Medical College and Graduate School of Medical Sciences of Cornell University. The joint ceremony, held on May 18 in Carnegie Hall, honored those who earned Master of Science and Doctor of Philosophy degrees from the Graduate School, as well as those who earned Doctor of Medicine degrees from the Medical College.

Commencement speaker Hunter Rawlings, interim president of Cornell University, spoke about the gap between First- and Third-World perspectives of medicine—the former demanding a 21st-century medical panacea, the latter simply hoping for relief from diseases often cured by Western medicine long ago.



MD-PhD graduate Kenolisa Onwueme receives some help with his academic regalia.

"Weill Cornell is a pacesetter and a leader in biomedical research and clinical care, and it has prepared you superbly for the medical issues of the 21st century," Rawlings said. "But as the world becomes more globally connected, you can choose the medical work that affects people the most. Many people in the Third World want relief from their pain and suffering. You are now in a position to help."

The opportunity to make breakthroughs both at the vanguard of research and in the care of the world's underserved was also central to Dr. Emilio Emini's speech. Dr. Emini, who received the Graduate School's Alumni Award of Distinction, recounted his rise to one of the world's most important AIDS vaccine researchers. "After graduation, I was about to begin a journey and I did not know the ultimate destination," Dr. Emini said. "Your journey in science will be remarkable and it will always be science in the service of life."

Dr. George McCracken, a nationally renowned leader in the treatment of pediatric infectious diseases who received the Medical College's Alumni Award of Distinction, encouraged the graduates to approach medicine from the patient's point of view. "I encourage you to have an open and inquisitive mind, be it in an office, laboratory or hospital. Asking questions about your patients is the basis of all clinical research," he said.

The Graduate School's Class of 2006 chose

Barry Jay Kappel as their student speaker. Kappel, who has published eight manuscripts and made significant contributions in the field of immunology, encouraged his fellow graduates to make outreach and teaching a part of their lives as scientists by going back to



Emphasizing his remarks that medical school requires a family commitment, Cornell University's interim president, Hunter Rawlings, congratulates a future graduate and his M.D. dad.

their high schools and talking about science.

Joshua David Farkas, the Medical College's student speaker, charged the Class of 2006 with helping restore the reputation of medicine in the country. "American medicine is in turmoil. I suggest we make patient care

our first priority. It's what led us as students here in the first place and I believe it can be our salvation," he said.

The Graduate School conferred 12 M.S. and 39 Ph.D. degrees, the highest number of graduates in the school's history. In addition,

four research teams associated with the '06 class published in the journal *Nature*, helping to push the total number of research papers published in scientific journals to more than 60.

The Medical College conferred 101 M.D. degrees to students who will go on to perform residency training or research in 19 different specialties. Almost 40 percent of the 2006 class trained abroad, primarily in the developing world, with an additional 10 students participating in the prestigious Tri-Institutional MD-PhD Program jointly sponsored by Weill Cornell, The Rockefeller University and the Sloan-Kettering Institute.

"I am extraordinarily proud of this talented and diverse graduating class," Dean Gotto said. "You are the future of medicine and will help discover break-

through treatments by expanding our knowledge of the human body and disease. I am confident that you will go forward from here today with empathy and dignity, spreading our message of compassionate care around the world." ■

the Scope Weill Cornell at a glance

June 2006

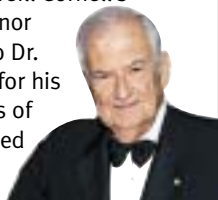
Non-Profit Org.
U.S. Postage
PAID
New York, NY
Permit No. 5503

1 COVER STORY:
Marriage of the Minds
Drs. M. Elizabeth Ross and husband Costantino Iadecola talk about their collaboration—in life and in the laboratory.

2 SCIENCE STORIES:
JUST SAY "NO"
New nitric oxide screen could be a boon to cardiogenic research.

1 COVER STORY:
Dr. Isadore Rosenfeld Receives 2006 Greenberg Award

New York-Presbyterian Hospital/Weill Cornell's highest honor awarded to Dr. Rosenfeld for his many years of distinguished service.



2 SCIENCE STORIES:
LEHMAN BROTHERS AND BELFER FOUNDATIONS TO FUND NEW CENTERS
With pledges totalling more than \$14 million, gifts from these two major foundations will establish centers for lung research and blood cancer research at Weill Cornell.

3 SCIENCE BRIEFS:
DEADLY DUOS DRIVE MULTIPLE MYELOMA
WCMC discovery suggests there is a new dynamic behind blood cancer relapse.

3 FIGHTING FETAL ALCOHOL SYNDROME
Weill Cornell researcher discovers that a vitamin B3 variant can be effective in the treatment of fetal alcohol syndrome.

4 OBESITY & CARDIO RISK
Dean Antonio Gotto Jr. and Dr. Louis Aronne speak to reporters at AMA media briefing about the connection between obesity and heart disease.

7 GRADUATE SCHOOL NEWS:
LIFE AFTER THE PH.D.
Postdocs from the Tri-Institutional MD-PhD Program hear advice on the best ways to transition into science careers at day-long symposium.

8 FOCUS ON:
COMMENCEMENT 2006
Graduates are urged to consider offering their skills to developing nations as they begin their medical careers.

COVER STORY:
Cardiologist Named New Cornell President

Dr. David Skorton will assume the presidency of Cornell University in Ithaca on July 1. He and his wife will also hold appointments at the Medical College.

To the right, Dr. Skorton and his wife proclaim "Let's go Red!" at a recent Cornell hockey game.



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

ADDRESS CORRECTION REQUESTED