New Heights in Patient Care and Medical Education
THE TIME IS RIGHT

“This year, the Pension Protection Act allowed me to give my IRA distribution directly to Weill Cornell Medical College – Tax Free. I take great joy in giving back to the institution that has made such a difference to my family.”

This charitable IRA rollover is a very sensible option. This new provision provides an exclusion from gross income for certain distributions of up to $100,000 from an individual retirement account (traditional or Roth), which would otherwise be considered taxable income. To qualify, the charitable gift must be made to a tax-exempt organization like Weill Cornell Medical College.

PLEASE NOTE THE FOLLOWING WHILE CONSIDERING YOUR GIFT:

+ You must be 70 1/2 years of age or older
+ Tax benefits apply to gifts up to $100,000 from an IRA (401k plans do not qualify)
+ The provisions expires December 31, 2007
+ The gift must be outright to Weill Cornell Medical College

Consider joining other alumni and friends who are taking advantage of the Pension Protection Law to meet their charitable goals.

For more information, contact the Office of Gift Planning

1-800-345-3015
development@med.cornell.edu

Weill Cornell Medical College
18 TEAM WORK
BETH SAULNIER
The Medical College and Cornell’s Ithaca campus may be 250 miles apart, but more and more of their researchers are working together. With the University offering $400,000 a year in grants to support collaborative projects, investigators in fields from geriatrics to nanotechnology are joining forces to improve human health. A look at five projects now under way.

26 THE HEIGHT OF HEALING
BETH SAULNIER
The new $232 million Weill Greenberg Center is no ordinary clinical care building; it’s a state-of-the-art facility designed to bring the patient experience to a whole new level. Dedicated in January, the thirteen-story glass structure features an underground parking garage, original works of art, comfortable waiting rooms, city views—and a user-friendly attitude. It’s also setting new standards as a venue for medical education.

32 ANIMAL MAGNETISM
NEERAJA VISWANATHAN
There are more than 540 infectious diseases transmitted from animals to people, and 120 of them can be fatal to humans. In Weill Cornell’s Program for Respiratory Virus Infections and Biodefense, Dr. Anne Moscona and colleagues are studying these zoonotic pathogens using cutting-edge technology that obviates the need for high-level biohazard precautions—battling potential bioterror agents without the space suits.
A Building That Makes a Difference
Antonio M. Gotto Jr., MD, DPhil, Dean of the Medical College

On January 26, Weill Cornell Medical College realized one of the most ambitious and exciting projects in its 109-year history: the opening of the Weil Greenberg Center, the first clinical building the Medical College has constructed.

The Weill Greenberg Center is the centerpiece of the College’s recently completed capital campaign, “Advancing the Clinical Mission.” Amazingly, the $282 million building was financed entirely by philanthropy and in particular the overwhelming generosity of Sanford Weill, chairman of the Board of Overseers at Weill Cornell, and Maurice Greenberg, also a member of the Board. The momentous event was commemorated by a proclamation from New York City Mayor Michael Bloomberg and attended by many eminent friends of the Medical College, including Mr. Weill, Mr. Greenberg, Cornell University President David Skorton, and Bob Appel, chairman of Weill Cornell’s new “Discoveries That Make a Difference” capital campaign.

Although this outstanding event is singularly important in the history of the Medical College, the new Weill Greenberg Center also sets a high standard for medical education and has ushered in a new era of patient care in New York City. The patient experience is at the center of the building’s design, and many of the architectural details were overseen by Mr. Weill himself. A spa-like environment— including a waterfall, reflecting pools, and still-water images—promotes the healing process and provides a sense of well-being.

Between appointments, patients may rest in the Myra Mahon Patient Welcome and Resource Center, the focal point of the building, which is located at the top of the escalators from the entrance lobby. The Resource Center features lounges, computer workstations, and the Health Information Library, staffed by a trained librarian.

The building’s educational resources are groundbreaking in their own right. Our Clinical Skills Center provides students with a state-of-the-art facility to practice clinical skills with standardized “actor” patients, and the Center’s self-study lab features virtual-reality technology and computer-controlled mannequins that allow students to work on a variety of medical procedures. These facilities are allowing the next generation of Weill Cornellians to interact even more effectively and sensitively with their future patients.

Our researchers have new collaborative opportunities as well. With a state-of-the-art facility to practice clinical skills with standardized “actor” patients, and the Center’s self-study lab features virtual-reality technology and computer-controlled mannequins that allow students to work on a variety of medical procedures. These facilities are allowing the next generation of Weill Cornellians to interact even more effectively and sensitively with their future patients.

The building’s educational resources are groundbreaking in their own right. Our Clinical Skills Center provides students with a state-of-the-art facility to practice clinical skills with standardized “actor” patients, and the Center’s self-study lab features virtual-reality technology and computer-controlled mannequins that allow students to work on a variety of medical procedures. These facilities are allowing the next generation of Weill Cornellians to interact even more effectively and sensitively with their future patients.

A few key features of the new building include:

- The large atrium allows natural light to illuminate the entire building and promote well-being.
- The Resource Center features lounges, computer workstations, and the Health Information Library, staffed by a trained librarian.
- The building’s educational resources are groundbreaking in their own right. Our Clinical Skills Center provides students with a state-of-the-art facility to practice clinical skills with standardized “actor” patients, and the Center’s self-study lab features virtual-reality technology and computer-controlled mannequins that allow students to work on a variety of medical procedures. These facilities are allowing the next generation of Weill Cornellians to interact even more effectively and sensitively with their future patients.

Collaboration at the Medical College is extending far beyond the walls of the new Weill Greenberg Center, though. Working with Cornell University President David Skorton, a cardiologist with appointments at both the Ithaca campus and Weill Cornell, we are aggressively expanding collaborative research efforts between the two campuses.

In short, it is an exciting time for the Medical College—perhaps the most exciting time since the College opened in 1898. With the help of Sandy Weill, Hank Greenberg, and our other benefactors, Weill Cornell and its physicians and students are in the vanguard of twenty-first-century medicine.

—Dean Antonio Gotto

Opening the Next Chapter on Human Health
David P. Hajjar, PhD, Dean of the Graduate School of Medical Sciences

Weill Cornell Medical College and the Weill Cornell Graduate School of Medical Sciences have made incredible progress in the last ten years—much of it very visible. As the executive vice dean for research at Weill Cornell, I am pleased to report that the Medical College has experienced the highest rate of increase in National Institutes of Health (NIH) core funding among leading American medical colleges, and this during a time when such funding has become increasingly competitive. And we have just opened a state-of-the-art ambulatory care and medical education building, the Weill Greenberg Center, about which much can be read in this issue of Weill Cornell Medicine.

Perhaps a little less visible to those outside our institution, our student population is also growing, particularly at the Graduate School. In the past ten years, graduate student enrollment has nearly doubled—and it is accelerating. In 1997 our enrollment was less than 200, but today we have 380 students. In a few years, there will be more graduate students than medical students at Weill Cornell.

To further our innovative research goals and plan for this growth, we have unveiled a new capital campaign, “Discoveries That Make a Difference.” It will pull together and build on much of what we’ve accomplished as well as provide the best environment for our growing student body. It is the third part of the Medical College’s overall strategic plan and follows logically upon the earlier two phases. Where Phase I focused on basic research and Phase II on patient care and clinical research, this third phase ties the two together and completes the vision by means of translational research. Educational opportunities will be enhanced and other clinical services will be strengthened.

The centerpiece of the campaign will be a 2650 million Biomedical Research Building, the first new research facility built by the Medical College in twenty years. The planned 350,000-square-foot structure will double our existing research space, accommodating more laboratories and scientists to accelerate biomedical discoveries in cancer, aging, cardiovascular disease, infectious disease, and metabolic disorders. The facility’s proximity to the Weill Greenberg Center will help foster translational research with clinicians, while its design will support collaboration through a disease-based, rather than department-based, approach.

We will also increase our collaboration with our parent university in Ithaca. Between the two campuses, our expertise across disciplines is enormous, and by tapping into our complementary skills we can alter modern medicine in a meaningful way. For example, together we can study metabolic regulation at the molecular, cellular, and whole-animal levels by bringing together biochemists, cell biologists, and physiologists. Through this collaboration, we will better understand insulin-resistance syndromes and other metabolic disorders. Weill Cornell will be investing $150 million in this effort, to be matched by the Ithaca campus, to unlock cross-discipline discoveries in biomedical engineering, nanomedicine, and systems biology, cancer biology, chemical biology and experimental therapeutics, and global health and infectious diseases.

Even as I write this, New York City and Ithaca scientists are collaborating on a number of projects that exemplify the ideals of translational research. For example, biomedical engineers in Ithaca have worked with physicians at the Medical College to develop a biodegradable “living bandage” that promotes healing of burns and wounds. Pharmacologists at the Weill Cornell Graduate School and molecular biologists and geneticists from Ithaca have made discoveries in gene transcription that could open doors to new therapies for cancer and neurological diseases. Urologists are working with applied engineers and physicists to use multiphoton microscopy technology in endoscopes that will provide non-invasive, in vivo imaging of the bladder to scan for cancer.

This new campaign is a major step forward in the development of research and training opportunities in the Graduate School of Medical Sciences. We’ll be better equipped to collaborate with our clinical colleagues in New York City as well as across the state with scientists and engineers in Ithaca. We’ll have more room to recruit more outstanding researchers. And perhaps most important, we’ll be better equipped to accommodate the increasing number of students who will make an important contribution to the study of disease.

—Dean David Hajjar
Making the rounds: President Skorton speaks with Jenica Upshaw '08 and Assistant Professor of Medicine Dr. Carla Boutin-Foster after his Grand Rounds talk.

Skorton ‘Comes Back Home’ with Grand Rounds

N HIS FIRST GRAND ROUNDS LECTURE, CORNELL PRESIDENT DR. David Skorton stressed the importance of collaboration between Weill Cornell and the Ithaca campus, as well as between the Medical College and the academic health centers with which it is affiliated. “We need to focus on planning with agreement among all the institutions and increase the interdependence of the Medical College with the [NewYork-Presbyterian] Hospital and Cornell to make it more applicable to today’s physicians,” said Skorton, who holds faculty appointments in internal medicine and pediatrics. Skorton’s lecture, on January 18, attracted approximately 200 people, the largest Grand Rounds audience in recent memory. In his talk, he stressed the important role of students and faculty in breaking down barriers among institutions, and outlined Weill Cornell’s dramatic rise in appointment in internal medicine and pediatrics. Skorton’s lecture, on January 18, attracted approximately 200 people, the largest Grand Rounds audience in recent memory. In his talk, he stressed the important role of students and faculty in breaking down barriers among institutions, and outlined Weill Cornell’s dramatic rise in research spending over the past decade. Being at Grand Rounds, Skorton said, made him feel as if he was “coming back home.” As an administrator, he joked, he was “a doctor who went wrong.”

Gift Endows Jaffe MS Unit

THE WEILL GREENBERG CENTER WILL BE HOME TO THE NEW JUDITH Jaffe Multiple Sclerosis Unit. Made possible by a $5.33 million gift from the Feil Family Foundation (with matching funds from the Dean’s Challenge), the Unit is named for the daughter of Gertrude and Louis Feil. It will include patient exam rooms, doctors’ offices, an infusion room, and a suite for support staff such as nurses, technicians and a social worker. The gift will also endow two clinical investigators in MS. “The Feil family’s gift secures urgently needed expanded space,” says Dr. Brian Apatoff, director of the Multiple Sclerosis Clinical Care and Research Center. “With the opening of the new unit and its additional staff, we expect patient visits to more than double.”

Sudanese ‘Lost Boy’ Visits Weill Cornell

DURING HIS SUMMER VACATIONS BEFORE MEDICAL SCHOOL, FIRST-YEAR student Dan Friedman worked in the psychiatric emergency program at St. Joseph’s Hospital in Syracuse, New York. There, he met a security guard named John Bu Dau. Two decades earlier, Bu Dau had fled civil war in his native Sudan, one of 20,000 orphaned “Lost Boys” desperately trying to survive; at age thirteen, he was elected to lead a group of 1,200 boys trekking across Africa toward safety. He eventually came to the U.S. as a refugee, becoming one of the subjects of the award-winning documentary film God Grew Tired of Us. In January, Friedman brought Dau, along with documentarian Christopher Dillon Quinn, to Weill Cornell to share his experiences with students and faculty. Friedman is a co-founder of Cornell Health Advocates for Southern Sudan, which aims to support Dau’s dream of founding a clinic in the southern Sudanian county of Duk. The campus event included a screening of the film and a question-and-answer session. “He’s very modest,” Friedman says of Dau, “but he blows me away.”

$5 Million Grant Endows Eyson Ophthalmology Floor

THE DEPARTMENT OF OPHTHALMOLOGY IS AMONG THE RECIPIENTS OF $28 million in grants awarded by the Eyson Foundation to celebrate its fifth anniversary. The department received $5 million, which will support the Eyson Family Ophthalmology Floor at the new Weill Greenberg Center. The grant continues a relationship that began nearly thirty years ago, when longtime ophthalmology chair Dr. D. Jackson Coleman treated Margaret Eyson for a detached retina, and she became interested in the field. Their friendship led to the establishment of the Eyson Vision Research Center at Weill Cornell in 1989.

Blauser to Oversee Special Projects

JOANNE BLAUSER, SECRETARY OF THE MEDICAL COLLEGE, HAS BEEN appointed executive vice dean for special projects. In her new role, she will work with Dean Gotto on strategic planning initiatives. In November, Blauser was among the employees honored for twenty-five years of service to Weill Cornell.

$15 Million Gift Funds Alzheimer’s Institute

HELEN AND ROBERT APPEL HAVE GIVEN $15 MILLION TO WEILL CORNELL, to fund a center devoted to the study of Alzheimer’s disease. The Appel Institute for Alzheimer’s Research will bring together scientists in neurology, neurogenetics, biochemistry, and microbiology, in the hope of developing better treatments—and, ultimately, a cure—for the disease. “Helen and I have witnessed the devastating effects of Alzheimer’s firsthand,” says Robert Appel, a member of the Weill Cornell Board of Overseers. “The impact from the discoveries uncovered within the Institute’s walls will forever change the way we diagnose, treat, and eventually cure Alzheimer’s.” The Appel gift is part of the new $3.3 billion “Discoveries That Make a Difference” campaign, which will fund development of the planned 350,000-square-foot Biomedical Research Building, set to break ground in the near future.

Qatar Students Help in Immunization Effort

PRE-MED STUDENTS IN THE QATAR BRANCH TOOK AN active role in the Authority’s Multi- antigens immunization campaign in January. Working with doctors and nurses in Doha, they administered vaccines against polio, measles, mumps, rubella, and pneumococcal disease to children in the local schools. “As pre-medical students we should be exposed to these kinds of experiences so, if we get into medical school, we have experience dealing with patients,” said student volunteer Mouayyad Zaza.

Prior to the week-long campaign, WCMC-Q students helped conduct health awareness sessions with shoppers at Doha’s Landmark Mall. The campaign’s goals are to raise community awareness of the importance of immunization and administer vaccines to nearly 60,000 children aged two months to five years.

Holt Named to New Development Post

SUSAN HOLT HAS BEEN APPOINTED TO THE newly created position of chief development officer. Holt has nearly twenty-five years of development experience, including terms at Vanderbilt University Medical Center and Case Western Reserve University School of Medicine. Reporting directly to Dean Gotto and Vice Provost for Development Lanny Schafer, she will be responsible for creating a new Office of Institutional Development. "Susan Holt has the talent, experience, energy, and drive needed to build and lead a robust and dynamic advancement program that will engage and involve all of our donors and new constituents in an even more ambitious campaign," Schafer says.

Fins and Goto Lead Ethics Seminar

THE CONTINUING RELEVANCE OF THE HIPPOCRATIC OATH WAS THE focus of a seminar held at the Fifth Avenue Presbyterian Church in February. Led by Dean Gotto and medical ethics expert Dr. Joseph Fins, the event invited audience members to participate in a modified ethics committee meeting on deciding end-of-life issues, as well as a discussion of the ethics of clinical drug trials. Fins, a professor of public health, chaired a Weill Cornell committee that revised the oath to make it more applicable to today’s physicians; the new version debuted at Commencement 2005.

Weill Cornell and CU Offer Global Health Program

A J OINT PROGRAM ON GLOBAL HEALTH WILL BRING TOGETHER FACULTY and students from Weill Cornell and the Ithaca campus for academic research, outreach, and internships in such nations as Bangladesh, Ghana, Peru, Tanzania, and Brazil. Funded by the University and the National Institutes of Health, the program will offer a multidisciplinary undergraduate minor, as well as professional and graduate studies through Weill Cornell and the Ithaca-based colleges of Human Ecology, Arts and Sciences, Veterinary Medicine, and Agriculture and Life Sciences. According to Dr. Warren Johnson, the Kean Professor of Tropical Medicine, the program “will be the site of unique and innovative multidisciplinary collaboration, combining expertise in medicine, nutrition, health policy, and more.”

All fired up: As the torch for the Asian Games passed through Education City on December 1 during its seven-day journey around Qatar, WCMC-Q students had the chance to act as bearers. Pictured are Class of 2010 members (left to right) Naveed Anwar, Mohsen Hassan, Mohammed Al Hijji, Zuhair Salah, and Shalini Rivishankar. The Games were held in Doha during the first two weeks of December.

S P R I N G  2 0 0 7 4  WE I L L C O R N E L L M E D I C I N E
A new drug shows great promise against the platelet-depleting autoimmune disorder known as immune thrombocytopenic purpura (ITP). Dr. James Bussel of Weill Cornell Medical College, in concert with other scientists, have developed a novel protein called AMG 531, which appears to produce healthy amounts of platelets with no major side effects. The two-phase trial, conducted at nine centers around the country, was led by pediatrics professor Dr. James Bussel. The results were published in the New England Journal of Medicine: “Further clinical trials are well under way,” Bussel says, “and the next step, we hope, will be to license the compound. Then, maybe, we can begin to add its use to other illnesses.” The Platelet Disorder Support Association estimates that some 200,000 Americans are living with ITP.

A Possible Alzheimer’s ‘Fingerprint’

A joint effort between scientists at Weill Cornell and on the Ithaca campus has identified a neurochemical “fingerprint” that could someday be used to definitively diagnose Alzheimer’s disease in living patients. Presently, doctors assess clinical symptoms to decide if a patient has Alzheimer’s as opposed to another form of dementia; it can only be confirmed on autopsy, via the examination of brain tissue. Dr. Norman Relkin, associate professor of clinical neurology and neuroscience at Weill Cornell, and Kelvin Lee, an Ithaca-based professor of molecular and cell biology, studied 2,000 cerebrospinal fluid proteins from thirty-four patients with autopsy-proven Alzheimer’s. They discovered twenty-three protein biomarkers that, together, form a “fingerprint” specific to the disease. “A subsequent ‘validation’ group of ten patients with new scores of Alzheimer’s and eighteen healthy and demented control subjects turned up similar results,” Relkin says. “Based on their clinical symptoms, we found the new scores to be 80 percent accurate and a 90 percent accuracy in avoiding false diagnoses.”

The discovery could help physicians assess the effectiveness of Alzheimer’s drugs by tracking changes in the biomarkers; such research, Relkin says, is already being conducted on an experimental Alzheimer’s treatment called 1g4 (intravenous immunoglobulin). The researchers stress that their results in correlating the biomarkers to Alzheimer’s, though promising, must be replicated in larger populations.

WCMC Launches Major Secondhand Smoke Study

An $8.7 million grant from the Flight Attendant Medical Research Institute (FAMRI) will fund a series of clinical studies on the health effects of secondhand smoke, to be conducted at Weill Cornell and elsewhere. Principal investigator for these landmark studies is Claudia Henschke, chief of NewYork-Presbyterian’s chest imaging division and leader of the International Early Lung Cancer Action Program (IELCAP). Researchers are recruiting 5,000 participants for the study; they must be aged forty and over and have been exposed to heavy smoking. Candidates include flight attendants working prior to the 1988 ban on smoking aboard airliners, as well as employees of restaurants and bars.

The five-year effort will include three major projects: determining the probability of respiratory diseases such as emphysema, chronic bronchitis, and lung cancer; assessing the increased risk of cardiovascular disease; and determining if raised levels of prostaglandins can be used as a biomarker of the effects of tobacco smoke. Two pilot projects will also be added each year, beginning with one study of rheologic patients exposed to secondhand smoke and another on the use of gene expression tests to study changes in histone H3 phosphorylation. “The good news,” says Henschke, “is that we expect to show that it is possible to screen for disease caused by secondhand smoke early enough for effective treatment.”

Pulmonary Disease Effort Gets $14 Million Boost

The National Heart, Lung, and Blood Institute has awarded Weill Cornell a $14.2 million grant to fund genetic research in chronic obstructive pulmonary disease (COPD). While smoking is the primary risk factor for COPD, notes Dr. Ronald Crystal, chief of the Division of Pulmonary, Critical Care Medicine, genetic variation dictates a person’s individual risk. “Genetic variability is why a one-pack-a-day smoker develops COPD, while another person with the same habit never does.”

More than 12 million Americans have been diagnosed with COPD, and an equal number are estimated to be undiagnosed. The disease, which causes chronic bronchitis and emphysema, is the fourth most common cause of death in the U.S. and a leading cause of disability. The researchers’ first step, Crystal says, will be to identify the specific genes responsible for COPD’s susceptibility and resistance. In the next ten years, he says, “we will be able to predict those individuals who are at increased risk for developing COPD, and offer early detection prior to development of symptoms and individualized therapies for those with the disease.”

A joint effort between scientists at Weill Cornell and on the Ithaca campus has identified a neurochemical “fingerprint” that could someday be used to definitively diagnose Alzheimer’s disease in living patients. Presently, doctors assess clinical symptoms to decide if a patient has Alzheimer’s as opposed to another form of dementia; it can only be confirmed on autopsy, via the examination of brain tissue. Dr. Norman Relkin, associate professor of clinical neurology and neuroscience at Weill Cornell, and Kelvin Lee, an Ithaca-based professor of molecular and cell biology, studied 2,000 cerebrospinal fluid proteins from thirty-four patients with autopsy-proven Alzheimer’s. They discovered twenty-three protein biomarkers that, together, form a “fingerprint” specific to the disease. “A subsequent ‘validation’ group of ten patients with new scores of Alzheimer’s and eighteen healthy and demented control subjects turned up similar results,” Relkin says. “Based on their clinical symptoms, we found the new scores to be 80 percent accurate and a 90 percent accuracy in avoiding false diagnoses.”

The discovery could help physicians assess the effectiveness of Alzheimer’s drugs by tracking changes in the biomarkers; such research, Relkin says, is already being conducted on an experimental Alzheimer’s treatment called 1g4 (intravenous immunoglobulin). The researchers stress that their results in correlating the biomarkers to Alzheimer’s, though promising, must be replicated in larger populations.

WCMC Launches Major Secondhand Smoke Study

An $8.7 million grant from the Flight Attendant Medical Research Institute (FAMRI) will fund a series of clinical studies on the health effects of secondhand smoke, to be conducted at Weill Cornell and elsewhere. Principal investigator for these landmark studies is Claudia Henschke, chief of NewYork-Presbyterian’s chest imaging division and leader of the International Early Lung Cancer Action Program (IELCAP). Researchers are recruiting 5,000 participants for the study; they must be aged forty and over and have been exposed to heavy smoking. Candidates include flight attendants working prior to the 1988 ban on smoking aboard airliners, as well as employees of restaurants and bars.

The five-year effort will include three major projects: determining the probability of respiratory diseases such as emphysema, chronic bronchitis, and lung cancer; assessing the increased risk of cardiovascular disease; and determining if raised levels of prostaglandins can be used as a biomarker of the effects of tobacco smoke. Two pilot projects will also be added each year, beginning with one study of rheologic patients exposed to secondhand smoke and another on the use of gene expression tests to study changes in histone H3 phosphorylation. “The good news,” says Henschke, “is that we expect to show that it is possible to screen for disease caused by secondhand smoke early enough for effective treatment.”

Toward a More Certain Thyroid Cancer Diagnosis

A breakthrough by researchers using microarray technology could revolutionize diagnosis of thyroid cancer. Physicians have long done fine-needle aspiration biopsies to sample thyroid nodules that may be malignant. But the histology performed on those samples is often inconclusive, prompting the removal of the thyroid—and a lifetime dependence on synthetic thyroid hormones—when it may not have been necessary. In an article in the Journal of Molecular Diagnostics, surgeons Dr. Thomas Fahey III and Dr. Carle Lubitz outline a possible alternative. Using microarray profiles, their team compared the expression of thousands of genes from thyroid tissues and was able to group twenty-five genes that together distinguish the cancerous from the benign. “We next tested the accuracy of these patterns using twenty-two fine-needle aspirate samples from benign or malignant thyroid nodules,” Lubitz says. “In all but one case, the microarray test agreed completely with the results of extensive histological analysis in the lab.”

Such microarray analysis, the researchers say, could offer more accurate diagnoses in as many as 25 percent of cases. Noting that gene-based diagnostics are going to make clinical decisions about thyroid and other cancers a lot less uncertain,” Lubitz says.
What a Headache

Patients with pain find relief

DEBORAH LEISTER HAD JUST hit puberty the first time a migraine struck. Both her parents had a history of the condition—but back in the late Sixties, treatment amounted to a handful of aspirin and a day or so in bed, waiting for the debilitating pain to pass. When Leister was thrown through a car windshield in her late twenties, the resulting injuries exacerbated her troubles. In 2001 she suffered a stroke—as may happen with chronic migraine sufferers—and the headaches became a daily reality.

“I am a complicated patient,” admits Leister, a fifty-two-year-old Philadelphia suburbanite and single mother of a teenaged son. “I have a history of migraines, closed-head trauma, and hormone replacement therapy.” Even worse, the stroke left the former banker unable to work and rendered her previous treatment regimen ineffective. Then her doctor suggested Botox, which was thrown out by her spine and the breadth of her shoulders, fifty mini-injections spanning the length of her neck.

Once every three months, Leister receives a combination of intravenous narcotics in consultation with her neurologist who is an expert in the prevention and treatment of cerebrovascular disease, “and much of the interaction is educational,” says Jamieson. “It is a riddle of education, because sometimes people with a headache cause that can’t kill them, they have to decide how much treatment they want. They may just need instruction on avoiding headache triggers, or they may need daily medication to prevent headaches.”

Even with comprehensive care, headaches remain an unpleasant fact of life for some patients. Leister, for example, still experiences incapacitating pain a couple of times a month—especially when the barometric pressure fluctuates too quickly. “I could be a better weatherman than a lot of people on TV,” she says. “I know if it’s going to be really hot, snowy, or rainy.” On those occasions, she heads for the local emergency room, where physicians administer a combination of intravenous narcotics in consultation with Jamieson. “There are certainly things that can be done to decrease the triggering of headaches, but migraines happen even without triggers,” Jamieson says. “There are millions of people whose brain is wired such that they have a propensity for headaches.”

— Sharon Tregaskis

When it comes to migraine, every individual has different triggers—the trick is figuring out what launches the cascade of physiological responses. Often implicated: aged cheeses, caffeine, perfumes, tobacco smoke, bright lights, or hormonal changes.

INSIGHTS & VIEWPOINTS

The Greek physician Aretaeus of Cappadocia first documented what we now recognize as a migraine nearly 2,000 years ago. But it wasn’t until the early twentieth century that the field became a specialty, investigated with the scientific rigor that would yield real understanding of the condition and hold out the possibility of effective cures. Much of the credit goes to occasional migraine sufferer Dr. Harold Wolff, who studied briefly with Ivan Pavlov in Leningrad and dedicated his mid-century career to understanding the relationship among cerebral blood vessels, nerve networks, and migraine.

In 1948, Wolff authored Headache and Other Head Pain, the definitive text on the subject, now nearly 1,800 pages long and in its seventh edition. He also served as founding director of the Department of Neurology for New York Hospital-Cornell Medical Center when it opened in 1932, went on to head the neurology service at Bellevue, and in the early Fifties was named the first Anne Parrish Tindall Professor of Medicine in Neurology, endowed by a grateful patient at the Cornell-based headache center he founded. Until his death in 1962, Wolff demanded that second-year students master a 101-question diagnostic exam he called the “irresducible minimum of information necessary for an understanding of the nervous system.”

Almost a half-century later, a comprehensive history remains the cornerstone of headache treatment. “Most diagnosis is direct—through the history,” says Jamieson, a board-certified vascular neurologist who is an expert in the prevention and treatment of cerebrovascular disease, “and much of the interaction is educational.” While the bulk of her patients experience migraines, men often suffer from cluster headaches and some patients experience pain related to changes in the pressure of spinal fluid around the brain. “People who have headaches tend to have multiple types,” says Jamieson. “It’s like ice cream. Most people think of vanilla or chocolate, but there are many flavors.”

When it comes to migraine, every individual has different triggers—the trick is figuring out what launches the cascade of physiological responses. Often implicated: aged cheeses, caffeine, perfumes, tobacco smoke, bright lights, or hormonal changes. (The second and third trimesters of pregnancy frequently offer women a respite due to higher-than-usual estrogen levels.) Ultimately,
Doc Fracture
Running the ED in Broken Bone, U.S.A.

R. MICHAEL MACQUARIE presides over an emergency department with a pair of Unlike—if informal—distinctions: it’s both the Broken Bone Capital of America and the latest ED known to medicine.

MacQuarrie, MD ’70, is the director of emergency services at Tahoe Forest Hospital in Truckee, California, a resort community within easy driving distance of sixteen ski areas. That adds up to hundreds upon hundreds of fractures each year, treated in an oddly festive atmosphere.

Most of MacQuarrie’s patients are on vacation, and even in the hospital they’re determined to have a good time. “These people have such great attitudes,” says MacQuarrie, who’s been at Tahoe for fifteen years. “They’re all talking and laughing, so despite the fact that it’s an emergency department, it’s sort of a happy, crazy place.”

A few years ago, one of the nurses devised a Wrist Fracture Hall of Fame, a large piece of posterboard that gives patients an artistic outlet. It’s been featured on MTV and in several national newspapers; past entries include “Pain is temporary and chicks dig scars,” so deal with it.” Says MacQuarrie. “People who’ve broken their wrist actually say, Hey, now do I get to sign the board?”

Each ski season gets a clean slate, and by mid-December 2006—though Tahoe had seen only two snowstorms—there were already forty-five odd inscriptions on the wall. By the end of the season, which runs from about Thanksgiving to Easter, the ED will see about 1,000 such cases, usually caused by what the staff whimsically terms a “FOOSH,” a Fall On an Outstretched Hand. It’s the most common snowboarding injury, incurred when “riders” [whose feet are connected to the board via bindings] collide with someone in the hallway. “We’re so used to this, we just gear up for it,” he says. “We keep calling people in so we can keep our throughput time short.”

The Tahoe Forest ED also does a brisk business in summer, though the patient population changes, there are fewer young athletic types and more multi-generational families, with the usual geriatric and pediatric health issues. Activities like skydiving, rock-climbing, hang gliding, and boating keep the injuries coming—as does the fact that the hospital is roughly 100 yards from Interstate 80. “In emergency medicine, the challenge and the joy is that when you come to work you have no idea what’s going to happen,” he says.

“One day you can be dealing primarily with complicated medical problems, the next day a busload of people rolls off the highway and we have a multiple-injury accident.”

MacQuarrie grew up in Palo Alto, California, and did his undergrad work at Dartmouth. His present job is a world away from the urban areas, he notes, people often use the ED for primary care, but his hospital sees a different demographic. “It’s a healthier group of people than in the city,” he says.

“Skiers are rarely hurt anymore because the snowboarders are the ones doing crazy things. Usually skiers get hurt because they’re run into by a snowboarder who’s out of control, doing a trick that’s got some crazy name.”

Med on skis: Lake Tahoe emergency services director Dr. Michael MacQuarrie

Not that MacQuarrie is against snowboarding; he enjoys the sport himself, though he prefers skiing. He just wishes that more snowboarders would wear wrist guards (there seems to be more horses than sense,” MacQuarrie says, sounding as if he’s only half-joking. “Skiers are rarely hurt anymore because the snowboarders are the ones doing crazy things. Usually skiers get hurt because they’re run into by a snowboarder who’s out of control, doing a trick that’s got some crazy name.”
All in the Family

Three siblings donate kidneys

Most people are lucky to get one kidney should they need a transplant, but Tom McManus has been lucky three times over. That’s how many live-donor organs he has received—from his siblings. In November, his five brothers and sisters all gathered for the most recent transplant, performed at NewYork-Presbyterian Hospital/Weill Cornell Medical Center. “We’re about as close as we can be at this point,” McManus says of his family.

The Long Island native first had kidney problems at the age of eighteen and faced end-stage renal failure six years later. His father, a pediatrician, urged the whole family to get tested for donor compatibility. “He said, ‘If it doesn’t get done, Tom’s going to be in the room and celebrated the successful operation. “One of the surgeons joked to my brother, ‘Hmm, I guess you’re up next,’” McManus recalls. “I looked at him and said, ‘I hope not.’”

Scar tissue posed a technical challenge for the surgeon, Sandip Kapur, MD ’90, chief of the transplantation division and an associate professor of surgery. But it was a familiar problem: 10 to 15 percent of the division’s cases involve re-transplants. “We don’t shy away from high-risk operations,” Kapur says. “We try to have every possibility available to allow the transplant to go forward.”

The procedure has improved significantly since 1977, when McManus got his first kidney. The availability of a wider range of immunosuppressive drugs means advanced centers can individualize therapy, so recipients experience fewer side effects such as compromised bone density. But the real strides have been on the donor side. Surgeons used to make an eight- to ten-inch incision on the donor’s back and take out one or two ribs to get to the organ. “It was tough on my sister and brother,” McManus says. “They look like they were bit by sharks.” Now surgeons remove the kidney through one of three nickel-size incisions. “Patients go home the next day or the day after,” Kapur says. “If they have a desk job, they’re back to work within three weeks.”

That may offer some comfort to the two siblings, Paul and Patricia, who are compatible but have not yet donated a kidney. After the most recent transplant, the family gathered in the recovery room and celebrated the successful operation. “One of the surgeons joked to my brother, ‘Hmm, I guess you’re up next,’” McManus recalls. “I looked at him and said, ‘I hope not.’”

— Susan Kelley

A Dose of Hope

Dr. Gaynor takes an alternative approach to cancer treatment

T’s a struggle not to be calm around Dr. Mitch Gaynor. Even at the tail end of a gray Friday afternoon, after a crammed pre-holiday week, his smile is easy, his white coat crisp, and his speech soothing. His entire Upper East Side Manhattan office reflects his demeanor: plants, exposed brick walls, the soft sound of ocean waves piped into every room, patients snuggled on soft recliners and sipping green tea.

It hardly seems the kind of place where patients come to face one of their worst nightmares: cancer treatment. But that’s the point. Gaynor, an assistant clinical professor of medicine at Weill Cornell, has become a leader in the increasingly accepted movement toward integrative oncology—combining traditional Western medicine (chemotherapy, radiation, bone marrow transplants) with Eastern techniques such as meditation and yoga, along with lifestyle changes, nutrition programs, and dietary supplements. “When a patient comes to an oncologist for the first time, there’s a tidal wave of fear, a tidal wave of questions,” Gaynor says. But add some guided meditation and music therapy to the talk about chemo and surgery, he says, and “people invariably say they’re the most relaxed they’ve ever been.” It’s a bold statement and hard to believe—but his patients speak in equally gushing terms about their treatment. “The meditation is the most beautiful experience,” says breast cancer survivor Rosemarie. “I feel like I’ve been to heaven and back. I really never even felt sick.”

Another patient, Marisa, had been given just six months to live by a string of reputable doctors, but under Gaynor’s care went from being a Type-A corporate vice president of human resources to a holistic therapy convert. She credits meditation, along with a massive diet overhaul and Gaynor’s patient support group, with the fact that she’s still alive, her pancreatic cancer in check, seven years later. “Everyone else had said there was nothing that could be done,” she says. “But he said, ‘There’s so much you can do to fight this.’”

About fifteen years ago, Gaynor discovered Eastern spiritual practices—and their connection to healing—when he treated a Tibetan monk who introduced him to chanting and to the metal singing bowls that have become a staple of his practice. At the time he started prescribing Eastern approaches, he had already studied the wide-ranging effects of nutrition on cancer treatment and prevention, and had been using guided imagery with patients. But it was then, in the early Nineties, that his mission became as clear as the ringing of that monk’s bowls: he would use his extensive credentials in traditional medicine—and the growing number of reputable studies exploring alternative therapies—to take holistic practices to the masses. Four books, a meditation CD, and countless lectures and media profiles later, he has helped the field move toward mainstream acceptance.

One area of research that’s currently exploding, Gaynor says, is neurocardiology, the study of nervous system connections.
between the brain and the heart. “Whenever you're stressed, your heart goes into irregular rhythms,” he says. “It then releases chemicals throughout your blood stream that affect your immunity, your digestion, everything. We really are what we think.”

Another hot topic: nutrition’s role in diseases from cancer to arthritis and high blood pressure. “It’s important that people know they can eat to prevent cancer,” he says. “By far the biggest promise for cancer is not to get it in the first place.” In fact, that applies on a global scale as well, as he outlines in his book Nurturing Nurture/ Nurturing Health. Gaynor blames cancer’s massive proliferation—not to mention developmental and learning disabilities—on environmental pollution. “It’s not just a fear thing,” he says. “People need to understand there’s something they can do.”

Integrative medicine has gained much more widespread acceptance since Gaynor started using it a decade and a half ago; there are now two peer-reviewed journals dedicated to the field. But he feels his work won’t be done until it’s standard care at hospitals throughout the country—especially since many of his patients still travel long distances to seek his alternative approach. He’s seen more and more medical schools starting integrative medicine programs and inviting him to speak to students, whose receptiveness to his ideas gives him hope for the future. He’s also seen student interest growing every year in his integrative teaching at Weill Cornell, to the point where many medical students see it as just another part of the program instead of some touchy-feely afterthought. “The third line of the Hippocratic oath is, ‘I will keep pure and holy both my life and my art,’” he says. “There’s nothing unscientific or hokey about compassion or wholeness. We have a ‘flicker of light came on in me. For the first time, I felt some peace.’”

Bad for Baby: Fluoro-Jade B staining (a marker of neuronal degeneration) shows the effects of alcohol on the brains of neonatal rats and the protective effect of nicotinamide. (The top row depicts a region of the hippocampus; the bottom row the latero-dorsal nucleus of the thalamus.) At left is tissue after the administration of saline; in the center is ethanol alone; and at right is ethanol with nicotinamide. (Herrera and Alessandro Ieraci, a former postdoctoral fellow who has since returned to his native Italy, injected seven-day-old mice pups with enough ethanol to simulate a condition analogous to getting so drunk you'd end up in the ER—close to a comatose state; saline; and ethanol with nicotinamide.)

One in twelve American women growing every year in his integrative teaching at Weill Cornell, to the point where many medical students see it as just another part of the program instead of some touchy-feely afterthought. “The third line of the Hippocratic oath is, ‘I will keep pure and holy both my life and my art,’” he says. “There’s nothing unscientific or hokey about compassion or wholeness. We have a ‘flicker of light came on in me. For the first time, I felt some peace.’”

Bad for Baby: Fluoro-Jade B staining (a marker of neuronal degeneration) shows the effects of alcohol on the brains of neonatal rats and the protective effect of nicotinamide. (The top row depicts a region of the hippocampus; the bottom row the latero-dorsal nucleus of the thalamus.) At left is tissue after the administration of saline; in the center is ethanol alone; and at right is ethanol with nicotinamide. (Herrera and Alessandro Ieraci, a former postdoctoral fellow who has since returned to his native Italy, injected seven-day-old mice pups with enough ethanol to simulate a condition analogous to getting so drunk you’d end up in the ER—close to a comatose state; saline; and ethanol with nicotinamide.)

One in twelve American women growing every year in his integrative teaching at Weill Cornell, to the point where many medical students see it as just another part of the program instead of some touchy-feely afterthought. “The third line of the Hippocratic oath is, ‘I will keep pure and holy both my life and my art,’” he says. “There’s nothing unscientific or hokey about compassion or wholeness. We have a ‘flicker of light came on in me. For the first time, I felt some peace.’”

Bad for Baby: Fluoro-Jade B staining (a marker of neuronal degeneration) shows the effects of alcohol on the brains of neonatal rats and the protective effect of nicotinamide. (The top row depicts a region of the hippocampus; the bottom row the latero-dorsal nucleus of the thalamus.) At left is tissue after the administration of saline; in the center is ethanol alone; and at right is ethanol with nicotinamide. (Herrera and Alessandro Ieraci, a former postdoctoral fellow who has since returned to his native Italy, injected seven-day-old mice pups with enough ethanol to simulate a condition analogous to getting so drunk you’d end up in the ER—close to a comatose state; saline; and ethanol with nicotinamide.)

One in twelve American women growing every year in his integrative teaching at Weill Cornell, to the point where many medical students see it as just another part of the program instead of some touchy-feely afterthought. “The third line of the Hippocratic oath is, ‘I will keep pure and holy both my life and my art,’” he says. “There’s nothing unscientific or hokey about compassion or wholeness. We have a ‘flicker of light came on in me. For the first time, I felt some peace.’”

Bad for Baby: Fluoro-Jade B staining (a marker of neuronal degeneration) shows the effects of alcohol on the brains of neonatal rats and the protective effect of nicotinamide. (The top row depicts a region of the hippocampus; the bottom row the latero-dorsal nucleus of the thalamus.) At left is tissue after the administration of saline; in the center is ethanol alone; and at right is ethanol with nicotinamide. (Herrera and Alessandro Ieraci, a former postdoctoral fellow who has since returned to his native Italy, injected seven-day-old mice pups with enough ethanol to simulate a condition analogous to getting so drunk you’d end up in the ER—close to a comatose state; saline; and ethanol with nicotinamide.)
HE LIFE OF A FIRST-Year medical student is filled with academic and social obligations. Although it may seem like the big decisions have been made—what school to attend and where to live, not to mention the most important decision: an area of specialty. To clarify their options, many students join peer-led interest groups. Luring medical students away from their textbooks, labs, or limits free time to discuss the ins and outs of a field is not as difficult as it sounds in the competitive world of medical studies, advice about the future is welcome.

The number of specialty interest groups at Weill Cornell changes from year to year, there were seven listed in the student handbook for 2006-07. Funded by the college, these groups solicit members during an activities fair and invite first-year students to consider joining them. First-year students are encouraged to consider groups devoted to neurology, orthopaedics, family medicine, sports medicine, pediatrics, and more. To explore their options fully, it’s common for first-years to sign up for multiple interest groups. Usually organized and led by a second-year, the events and activities vary in organization and popularity, but most interest groups meet monthly.

Second-year student Dean Arnaoutakis joined the Stimson Surgery Society last year and is now one of its organizers, two faculty advisers oversee scheduling and events, which usually draw more than two dozen students. Attendings and residents offer insights not only into the career track of a surgeon but also the lifestyle. “I think it provides a realistic picture,” Arnaoutakis says. “Attendings speak about their schedules, the number of days in the clinic and days operating. They talk about how they got to their current position and offer opinions on the future of their field.” Among the most popular recent events: a surefire workshop in which a resident taught participants how to tie surgical knots.

Adrienne Davis is one of the rare third-year students who organizes group meetings. She’s now co-chair of the Family Medicine Interest Group, which she learned about through a classmate at the end of her first year. “I had no idea what to specialize in,” Davis says. “I only knew I wanted to be someone’s doctor, in the traditional sense, with patient-physician relationships that are ongoing.” Though time becomes tighter during the third and fourth years and the choices narrow, many students continue to attend meetings to maintain the relationships they’ve forged.

“Geriatrics is a growing field,” says Dr. Robert Michels, a professor of medicine and psychiatry and former dean of the Medical College, who testified as a medical expert for the defense. “Was he confused, or uncertain of what he was doing?”

Mock trial: Lear’s competency is debated as attorney Daniel Karnstein (standing) questions Dr. Robert Michels.

And my fair kingdom, with all its holdings including the best condo in West Palm plus all my loot down to the model trains—

H.O., the kind you can no longer get. I did beseech to them, except—

“Bravo!”—the good one. Please don’t ask me why his reason’s rhyme.

It seemed a good idea at the time.

He opened and closed with a faraway look and tedium, if odd, whistling—a detail that seemed to call into question the competence he claimed to have regained.

As the trial progressed, the fundamental question of cognition emerged: did Lear understand what he was giving away and that the gift was irrevocable? Dr. Paul Appelbaum, director of Columbia University’s Division of Psychiatry, Law, and Ethics, took the stand as a forensic psychiatrist siding with Lear citing Shakespeare’s play; Appelbaum said that at the time of the transgression, the king was no longer the kind, effective manager he once had been. Rather, he had become argumentative, irritable, irrational, and occasionally abusive—all symptoms of early onset dementia. But Warner, representing Lear’s daughters, pointed out that people often display those traits and are not necessarily demented. Lear was functioning well, he knew, for example, the size and value of his land when he gave it away, and his memory seemed intact.

Besides, Warner said, one reason Lear gave away his kingdom would be so he could retire to Florida. “Now that’s a rational idea, isn’t it?” he asked Appelbaum. “Have you been to Florida?” Appelbaum replied. The institutions of medicine and law got their share of ribbing, too. Warner: “It’s also true, isn’t it, that in determining incompetence we have to remember one makes ideal decisions when ‘sane.’”

If the trial’s tone was often tongue-in-cheek, the issues it raised are serious. Future physicians will witness more family disputes involving questions of competence as the population ages and wealth becomes increasingly concentrated in elderly hands. “This is an important social issue,” says Michels. “The trial gave the students another way of thinking about something they’re going to see with their demented or older patients.”

After the lawyers made their summations, Judge Glen ruled that the king had, in fact, been competent. “Although Lear may have done a terrible, foolish, or unfortunate thing,” Michels says, “that doesn’t mean you can overturn his decision, because he knew what he was doing.”
Collaborating on a wide variety of research projects, investigators in Ithaca and at Weill Cornell bridge the gap between the two campuses.

Research shouldn’t be performed in isolation,” says New York-Presbyterian/Weill Cornell vascular surgeon Dr. K. Craig Kent. “Collaboration—taking people with different backgrounds and having them work together—is really the way that great research is accomplished nowadays.”

Kent is one of dozens of physicians, scientists, and engineers who have bridged the distance between Cornell’s Ithaca and Manhattan campuses, working together in cross-disciplinary projects. Collaboration between the two is a priority of University President Dr. David Skorton, a cardiology researcher who holds appointments on both campuses. “Researchers at Weill Cornell can take advantage of the cutting-edge basic science in Ithaca to develop clinical applications,” says Dr. Antonio M. Gotto Jr., dean of the Medical College. “And by the same token, it’s instructive for basic researchers to see what practical uses can be made of their discoveries. I think the more we see of each other, the more opportunities we’ll find.”

In 2004 the University announced a program of one-year seed grants for intercampus research teams. It awarded a dozen last year and will distribute an additional $400,000 in 2007. In 2006 Cornell formed a steering committee to investigate ways to overcome the 250 miles between the two campuses, including improved fiber-optic communication and such transportation initiatives as the Campus-to-Campus Bus. “The distance is certainly a consideration because some things have to be done on-site,” Gotto says. “But with the videoconferencing we’ve developed using broadband technology, we’re able to communicate, in some cases, almost as well as we could if we were down the hall.”

Although collaboration is now in the spotlight, some projects have been going on for years. Dr. Mark Lachs, director of Weill Cornell’s Center for Aging Research and Clinical Care, and Ithaca-based gerontologist Karl Pillemer are long-standing collaborators on the subject of elder abuse, and Ithaca computer engineer Anthony Reeves has been working with Weill Cornell radiologists on a lung-imaging project for a decade. Ithaca physics and engineering professor Watt Webb has also been conducting research on various topics in multiphoton microscopy with a cadre of Weill Cornell faculty, including biochemist Dr. Frederick Maxfield, urologist Dr. Douglas Scherr, and neurologist Dr. Gunnar Gouras. “With Ithaca and the Weill Cornell campus working together, we should be able to bring new inventions closer to clinical reality than either could alone,” says C. C. Chu, a professor of fiber science and biomedical engineering who is collaborating with Kent. “We have to work as partners to achieve that goal, to touch someone’s life.”

There are challenges, of course. Flying out of Ithaca is expensive, so is spending the night in Manhattan. “The day-to-day contact is difficult,” admits Abraham Stroock, an Ithaca engineering professor who holds appointments on both campuses. “Researchers at Weill Cornell can take advantage of the cutting-edge basic science in Ithaca to develop clinical applications,” says Dr. Antonio M. Gotto Jr., dean of the Medical College. “And by the same token, it’s instructive for basic researchers to see what practical uses can be made of their discoveries. I think the more we see of each other, the more opportunities we’ll find.”

In 2004 the University announced a program of one-year seed grants for intercampus research teams. It awarded a dozen last year and will distribute an additional $400,000 in 2007. In 2006 Cornell formed a steering committee to investigate ways to overcome the 250 miles between the two campuses, including improved fiber-optic communication and such transportation initiatives as the Campus-to-Campus Bus. “The distance is certainly a consideration because some things have to be done on-site,” Gotto says. “But with the videoconferencing we’ve developed using broadband technology, we’re able to communicate, in some cases, almost as well as we could if we were down the hall.”

Although collaboration is now in the spotlight, some projects have been going on for years. Dr. Mark Lachs, director of Weill Cornell’s Center for Aging Research and Clinical Care, and Ithaca-based gerontologist Karl Pillemer are long-standing collaborators on the subject of elder abuse, and Ithaca computer engineer Anthony Reeves has been working with Weill Cornell radiologists on a lung-imaging project for a decade. Ithaca physics and engineering professor Watt Webb has also been conducting research on various topics in multiphoton microscopy with a cadre of Weill Cornell faculty, including biochemist Dr. Frederick Maxfield, urologist Dr. Douglas Scherr, and neurologist Dr. Gunnar Gouras. “With Ithaca and the Weill Cornell campus working together, we should be able to bring new inventions closer to clinical reality than either could alone,” says C. C. Chu, a professor of fiber science and biomedical engineering who is collaborating with Kent. “We have to work as partners to achieve that goal, to touch someone’s life.”

There are challenges, of course. Flying out of Ithaca is expensive, so is spending the night in Manhattan. “The day-to-day contact is difficult,” admits Abraham Stroock, an Ithaca engineering professor who is working with Weill Cornell faculty. “There’s an obvious challenge due to geography; it’s always best to collaborate with the guy in the office next door who has a lab across the hall from yours. But I think the University has lubricated this process—by subsidizing transportation, for example. I have been to New York many times in the last two years and my collaborators have been to Ithaca, and we’ve been able to write proposals together and start to get experimental results published. My feeling is that, based on these new connections, I’ve learned a significant amount and initiated projects that would not have been initiated.”

To show the range of collaborative projects now under way, here’s a look at five that received 2006 seed grants.
Fluid Progress

Engineering meets wound care and more

Abraham Stroock is a professor of chemical and biomolecular engineering on the Ithaca campus, but he has a pair of research projects ongoing with collaborators in Manhattan. Stroock specializes in microfluidics, a field that involves the manipulation of fluids on an extremely small scale. With his Weill Cornell colleagues, he’s been applying microfluidics to blood-vessel propagation and wound treatment. “Clinicians are great because they’re so enthusiastic,” Stroock says. “They’re optimists, they make things happen.”

One project, with Weill Cornell cell and developmental biologist Thomas Sato and Ithaca-based biomedical engineer Lawrence Bonassar, involves the study of how blood flow—a physical rather than a chemical stimulus—affects blood vessels. In _in vitro_ work that may soon go to animal models, the researchers are examining the potential for using a patient’s adult stem cells to culture a network of new vessels. The research could have applications, Sato says, to “almost all the diseases that affect the cardiovascular system”—for example, to regenerate damaged tissue after a heart attack or stroke. “If we do conventional biological studies, it’s hard to separate chemical components from physical components,” Sato says. “So Abe and I have been working together to make an artificial blood vessel network in culture, where we can apply only physical forces.”

Sato has been studying the chemical side of blood vessel generation for fifteen years, work that has taught him that physical cues are needed in addition to chemical ones. That focus on blood flow taps into Stroock’s expertise in fluidics; Bonassar, who studies cartilage, plans to test their concepts in vitro on bone tissue. “Once we figure out what physical forces are necessary to make normal patterns of blood vessels, then we could potentially invent some way to modulate the physical cues, such as changing the blood flow or its viscosity,” Sato says. “By combining that with chemicals, we could make healthier, more normal-patterned blood vessels.”

Stroock has also been working with Dr. Suzanne Schwartz, a surgery professor in the William Randolph Hearst Burn Center at Weill Cornell Medical Center, to develop an active dressing that could deliver drugs to chronic wounds while remaining sterile and in place. It could have particular applications to diabetic patients, whose wounds often resist healing under current standards of care. Such a dressing, he says, could also be used as a diagnostic tool. “The idea is that it would have a continuous flow of, in the simplest cases, saline—it’s a dressing on a drip,” Stroock says. “That fluid comes back out and is analyzed. And part of our longer-term interest would be to develop a system in which you would do protein analysis, for example, on the outstream. Then the analysis of those results would lead to feedback, so the clinician could change the treatment as diagnosis is made.”
Preparing for a health crisis

In the event of a major emergency—be it a terrorist attack, a disease outbreak, or a natural disaster—governments, agencies, and health-care providers need to know how to respond to the inevitable medical demands. How many doses of which drugs should be distributed? Which personnel should be deployed, and where? How do you manage the flow of information? Such questions and more are the subject of an intense collaboration between Dr. Nathaniel Hupert, an assistant professor of public health and medicine at Weill Cornell, and Ithaca-based Jack Muckstadt, the Acheson Laibe Professor of Engineering in the School of Operations Research and Information Engineering.

The pair have been in daily contact for nearly two years, working to develop computer models to guide logistics planning for a variety of emergencies in the hope of optimizing patient outcomes. Although some issues translate across disasters, each type of crisis has its own demands. “If you have a hurricane, you have some time to react—but its impact plays out over a long period,” Muckstadt says. “Then you have something like 9/11 where a building comes down, or subway bombings—they happen, and they’re done. So we’re trying to comprehend the differences between these, and how you would set up resources and coordinate public officials, governmental organizations, and private companies.”

Hupert cites the example of pandemic flu, which raises myriad questions about patient needs and hospital resources: “I want to know what my predicted surge of arrivals might be,” he says. “Who is in my hospital right now? What proportion of them can I discharge safely and with what requirements for outpatient care so they don’t wind up coming back? What might individuals with influenza require during their hospital stay? How long will they be in the hospital? How many staff will be required to treat them? What’s the health of my staff and what proportion of them might be out with the flu themselves? Where might I send patients if I’m full? What’s the optimal allocation of patients given our transportation resources?”

But there’s a major challenge to the effort: data collection. Although health officials and government agencies have stepped up information-sharing protocols since 9/11, data systems are often incompatabilite. “That’s the hardest part about this: getting actual data,” Hupert says. “It’s a huge issue that’s being addressed at the national level through a number of different projects funded by the federal government. It’s also being addressed by private firms that are working with hospitals across the country to create Web-based information portals.” The process, he says, has two steps: “One is creating a model that has the right types of inputs to match the data that are out there, and the next is forming research partnerships with the folks who have that data.”

Hupert has long been interested in the field of disaster preparedness; he created simulation models for New York City’s first modern large-scale mass prophylaxis exercise in 2002. Operations researchers like Muckstadt study how systems work and try to optimize them, from airline scheduling to factory throughput. “What Jack brings to the table is an incredible breadth of expertise across different modeling and analysis fields,” Hupert says. “In supply-chain and logistics modeling, he has brought our ability to create this platform to a much higher level. We could not have done this on our own.”

First response: Researchers at Weill Cornell and the Ithaca campus have designed a model (below) for giving antibiotics or vaccines to hospital staff with the least disruption. The work will be published in Hospital Epidemiology and Infection Control.

At the Ready

In Circulation

Can plastic mimic a human vein?

For years, researchers have been trying to develop an artificial alternative to saphenous vein grafts—the procedure in which a vein from the leg is used in heart and other bypass operations. Although the procedure works “reasonably well,” says vascular surgeon Dr. K. Craig Kent, oftentimes the vein is simply unusable: “It’s already been taken for another bypass, it’s clotted, it’s small, or it’s never been well-developed.” Kent says. “In a large number of patients, there isn’t a saphenous conduit available.”

But there’s a major challenge to the effort: data collection. Although health officials and government agencies have stepped up information-sharing protocols since 9/11, data systems are often incompatabilite. “That’s the hardest part about this: getting actual data,” Hupert says. “It’s a huge issue that’s being addressed at the national level through a number of different projects funded by the federal government. It’s also being addressed by private firms that are working with hospitals across the country to create Web-based information portals.” The process, he says, has two steps: “One is creating a model that has the right types of inputs to match the data that are out there, and the next is forming research partnerships with the folks who have that data.”

Hupert has long been interested in the field of disaster preparedness; he created simulation models for New York City’s first modern large-scale mass prophylaxis exercise in 2002. Operations researchers like Muckstadt study how systems work and try to optimize them, from airline scheduling to factory throughput. “What Jack brings to the table is an incredible breadth of expertise across different modeling and analysis fields,” Hupert says. “In supply-chain and logistics modeling, he has brought our ability to create this platform to a much higher level. We could not have done this on our own.”

First response: Researchers at Weill Cornell and the Ithaca campus have designed a model (below) for giving antibiotics or vaccines to hospital staff with the least disruption. The work will be published in Hospital Epidemiology and Infection Control.

In Circulation

Can plastic mimic a human vein?

For years, researchers have been trying to develop an artificial alternative to saphenous vein grafts—the procedure in which a vein from the leg is used in heart and other bypass operations. Although the procedure works “reasonably well,” says vascular surgeon Dr. K. Craig Kent, oftentimes the vein is simply unusable: “It’s already been taken for another bypass, it’s clotted, it’s small, or it’s never been well-developed,” Kent says. “In a large number of patients, there isn’t a saphenous conduit available.”

Bypasses are performed for many reasons, such as to circumvent a kidney artery blockage, improve leg circulation to avoid amputation, or prevent a stroke due to an occlusion in the carotid artery. Unfortunately, progress in developing an artificial bypass method has been slow: Human blood vessels are made of many types of cells and have natural anti-clotting properties, which researchers have so far been unable to mimic. “Plastic grafts clot frequently and they don’t last very long,” Kent says. “Although they’re fairly easy to sew in place, they’re not very durable.”

With biomedical engineer and fiber scientist C. C. Chu and Weill Cornell cell biologist Prof. Bo Liu, Kent has been working to develop an alternative. Their artificial vessel is made from poly-esteramides, a new family of biodegradable biomaterials (synthesized mainly from amino acids) invented in Chu’s Ithaca lab in 2003. The material is sent to Weill Cornell in the form of a fabric or film, which Kent’s lab is studying in cell cultures, testing on animals is the next step. Implants made from these new biomaterials could be particularly useful in patients at risk for intimal hyperplasia, the thickening of the innermost layer of an artery that leads to reocclusion following angioplasty or a bypass. “We have a hypothesis that nitric oxide, which is a biological messenger the body produces upon stimulation, would be able to counteract the formation of intimal hyperplasia if nitric oxide could be locally delivered along with the synthetic vascular grafts,” says Chu, who is also working with surgeon Dr. Roger Yurt, director of the William Randolph Hearst Burn Center at NewYork-Presbyterian Hospital/Weill Cornell Medical Center, to develop therapeutic biodegradable artificial skin for burns patients. The fabricated vascular graft is both an implant and a nitric oxide delivery device, Chu says, “so with one stone you kill two birds.”

Ultimately, the researchers hope to develop an implant that will spur the body to make its own new blood vessels. They would like to be able to provide a scaffold for an artery made of collagen produced by the inflammatory process—stimulated by the dissolving implant. Although such advances may be many years off, Kent says, he hopes that his and Chu’s different perspectives will help them succeed in an effort that has stymied researchers for a quarter century. “It’s great to put together a bioengineer—who understands the complexities of the structure of an artery in a way that I never will—and a vascular surgeon who understands the disease process and works hands-on with arteries,” he says. “He has ideas that I had never thought of. I have different ideas and a different perspective. Blending our knowledge and expertise has the potential of leading to developments that neither of us would be able to achieve on our own.”

Poly graft: The researchers are trying to develop an artificial graft that keeps smooth muscle cells (above) from growing and blocking veins.
Brain Power
Building a better microcatheter

It's an experiment done over and over in endovascular labs around the world: a small piece of plastic with a sphere on the end is inserted into a blood vessel in a rat's brain to cause a stroke, which can then be studied. The most common method of fabricating the tiny implement is hardly precise: research assistants melt the tip of a plastic suture over a flame to form a glob of molten plastic, then let it harden. "Of course, everybody who does that gets a different device," says William Olbricht, a professor of chemical and biomolecular engineering on the Ithaca campus. "So it's tough to compare results between experiments, and you probably use more animals than you need to because sometimes the device doesn't cause the proper blockage.

In collaboration with the lab of Dr. Pierre Gobin—Weill Cornell's Director of Interventional Neuroradiology and inventor of the MERCI Retriever, a corkscrew-like device that can remove blood clots from the brains of stroke patients—Olbricht and Conor Foley, a chemical engineering graduate student, have created a microcatheter intended to standardize the experimental protocol. The device is constructed (in both Cornell's nanofabrication facility and in Olbricht's lab) from plastic tubing bought from a company in Florida and shipped to Ithaca, the experiments are done at Weill Cornell.

The tubing, several inches long, is just 0.27 millimeters in diameter, the sphere at the end is about half a millimeter wide: "The idea is that we use animals of the same size, 260 to 300 grams, in all the experiments, and the catheters are the same size," says Dr. Walter Zink, an MD-PhD radiology resident working on the project. "There’s a narrow range of blood vessel sizes in those animals, so we can pretty much advance the same catheter into the same-sized rat every time and get similar-sized strokes. That’s very useful when we test new therapies.

In addition to inducing the strokes, the microcatheter also treats them: the tubing has holes laser-drilled into the side, each about one-twentieth of a millimeter wide, that can be used to deliver neuroprotectants. Gobin’s lab was the first in the world to selectively inject specific arteries within the rat brain, allowing researchers to study a drug’s effect on one part of the brain versus an untreated region. "The ultimate goal is to use the catheter to simultaneously occlude and then inject the same vessel," Zink says. "And in so doing, we’ll have a model for intra-arterial neuroprotection in stroke."

Although the microcatheter is not intended to treat strokes in humans, a similar device could have widespread clinical applications, such as delivery of chemotherapy directly into brain cancers or gene therapy for neurodegenerative diseases. Eventually, Olbricht says, the device could be made in different sizes so researchers could choose the appropriate one for different animals and experiments. "Another thing we want to do is make the tube more flexible, because it has to be threaded through this crowded artery—it has to bend and follow a circular route—and you have to be careful, because the artery is rather fragile," says Olbricht, who’s seeking an alternative to the plastic material they’re currently using. "If the device is too rigid it can puncture the artery, which wrecks the experiment completely."

For a decade, Yankelevitz and Reeves have been working to develop ways for computers to aid in image interpretation. Last fall, some of the results of their International Early Lung Cancer Action Project (led by Weill Cornell professor of radiology Dr. Claudia Henschke) were released, sparking extensive media coverage about their claim that long-term survival rates can be vastly improved—from 5 percent to upwards of 90 percent—via routine CT screening for at-risk patients. But that finding, while striking, was just one element of their long-term project, which has included the development of a highly efficient computerized data-gathering system—one that integrates not only images but pathology data and clinical trial results.

The data contributed by research partners at more than forty institutions around the world will help the team develop algorithms for analyzing images to identify and diagnose early signs of lung cancer. Someday, Reeves says, every scanner will come with sophisticated software that will process images and flag potential problems—not only for lung cancer but heart disease, emphysema, and other conditions. Rudimentary versions already exist for lung screening and mammography, the team’s software for measuring pulmonary nodules has been licensed to General Electric.

"Who’s the world’s best chess player?" Reeves muses. "It’s a computer. The computer was trained through all the great games that have ever been recorded, and then it played the world’s best and learned more from that. So you get the world’s best physicians, and you use them to train the computer, which is distributed as part of the scanner. Once we solve that problem, once we have the algorithm, you’ll have an expert diagnostician in the computer.

Reeves and Yankelevitz stress that the algorithms aren’t intended to be a substitute for a radiologist’s reading; rather, they would give the physician an efficient way of pinpointing areas of concern. With the advent of more complex scanners, Yankelevitz says, some images are already overwhelming to the human eye, and the use of computer aids is reaching a tipping point. "The software is really an assist to the radiologist—everything is looked at again," Yankelevitz says. "People have said that it’s going to replace the radiologist, but it’s nowhere near that. It’s a tool that we need to help sort through the enormous amount of information that is now available and ultimately to make our interpretations more accurate and meaningful."

**Breathe deep:** A CT image of the chest (above), marked where the computer has identified lung nodules that could be cancerous. Left: Advanced image processing shows the relationship between a nodule (white) and the surrounding blood vessels (red).
As the first dedicated clinical care building in the Medical College’s history, the Weill Greenberg Center raises patient services to a new level.

the height of healing

by Beth Saulnier
photographs by John Abbott

Convenient care: The Weill Greenberg Center’s lobby features water pools and a hanging glass sculpture by artist Ray King.
From the moment you walk in the door, it’s clear that this is no ordinary trip to the doctor. In fact, that’s obvious even before you step into the building, a fifteen-story tower of gauzy, undulating glass at the corner of East 70th Street and York Avenue.

A few days prior to your first visit, you’ve gotten a phone call to take a comprehensive health history. If you came by car, you’ve driven into an underground garage complete with valet service and a sixty-foot-long wall of water. The lobby floors and walls are made of travertine marble, but the focal point is a suspended sculpture designed by Ray King, consisting of some 10,000 sparkling glass elements. Beyond a series of pools is an escalator that takes you one flight up to the Myra Mahon Patient Resource Center, where you’re directed to your doctor’s floor. There, you’re greeted by a friendly receptionist and a wall of windows offering a sweeping view of Manhattan.

Weill Cornell’s new $232 million ambulatory care and medical education building is designed to revolutionize the patient experience—not only through streamlined services but by creating a serene atmosphere that’s conducive to healing. Named the Weill Greenberg Center in honor of longtime Medical College benefactors Joan and Sanford Weill and Corinne and Maurice Greenberg, the building is the centerpiece of the successful $750 million “Advancing the Clinical Mission” campaign—to which the two couples gave a combined $150 million. The Center welcomed its first patients on January 8, with a formal dedication ceremony following on January 26. About 100 physicians and 900 support staff will be housed there, including dermatologists, radiologists, neurologists, otorhinolaryngologists, cardiologists, gastroenterologists, fertility specialists, and pain management specialists. “Our ability to deliver clinical services will be enhanced dramatically by this modern, convenient facility,” says Sanford Weill, chairman of the Medical College’s Board of Overseers. “It will enable us to come closer to achieving our goal, which is providing the best possible services to our patients.”

Of the building’s fifteen floors, the top two are devoted to mechanical functions. The second floor features the Selma Ruben Conference Rooms as well as the Myra Mahon Patient Resource Center, offering coffee service, Internet access, help with billing and referrals, a librarian, and a wealth of information about health and disease. The tenth floor houses the innovative Clinical Skills Center, where medical students will be observed and recorded while examining both interactive mannequins and actors portraying patients. “The building will aid dramatically in the education of doctors,” Weill says. “Students will be learning from the best and the brightest in one of the most modern facilities in the world for clinical care.”

The building was designed by Polshek Partnership, a New York-based architecture firm that has created a number of notable medical and scientific facilities, as well as the Rose Center for Earth and Space at the Museum of Natural History in New York City and the Clinton Presidential Library. In designing the Weill Greenberg Center, the architects sought to integrate a modern facility with the existing campus structures—from the historic character of the original hospital (Polshek partner Todd Schliemann calls it “a white brick pile of Gothic arched windows and a lot of masonry”) to the sleeker look of the newer additions. “We wanted to create something that’s refined and simple,” says Schliemann, a 1979 graduate of Cornell’s College of Architecture, Art, and Planning, “as if it’s the next step in the evolution of the institution’s identity and its approach to giving care.”

One key design element is the fritted glass that covers the building’s north and east sides. Assembled in Minnesota, the double-paned glass is covered in a white ceramic stencil (or “frit”) that minimizes heat from the sun and offers a distinctive visual element.

Have a seat: The waiting areas (above) are designed to be stylish as well as comfortable, with plenty of natural light. Left: a close-up of the ceramic “frit” that covers the windows, offering privacy and energy savings as well as a distinctive visual element.

---

Just the Facts

Groundbreaking: May 25, 2004
Topping out: May 16, 2005
First patients seen: January 8, 2007
Cost: $232 million
Financing: Entirely by philanthropy
Height: 200 feet
Floors: 15 (13 occupied, 2 mechanical)
Square footage: 330,000
Frame: 4,000-ton steel
Estimated annual traffic: 1 million people
The Waiting Game  Replace those stale magazines: environment matters

Research has shown that a pleasant atmosphere in doctors’ waiting rooms isn’t just a matter of taste: it can have a profound effect on patient satisfaction, says Franklin Becker, chairman of design and environmental analysis on the Ithaca campus. In 2005–06, Becker and former graduate student Stephanie Jones Douglass studied six Weill Cornell medical practices—some housed in older buildings, others in newer facilities such as the Jay Monahan Center for Gastrointestinal Health and the Iris Cantor Women’s Health Center. After conducting 720 hours of direct observation and surveying 120 patients, Becker says, “we found a strong relationship between the overall attractiveness of the patient areas and perceived quality of care.” The link, he says, lies in the fact that the longer people wait to see their doctor, the less satisfied they are with their visit.

That may not sound particularly surprising. The twist is that there was no relationship between the actual amount of time patients waited and their perception of the care they received—but their opinions were heavily influenced by how long they thought they waited. And in a nice atmosphere, the researchers found, people tend to underestimate their wait times. They may have to sit there just as long, but if they have a pleasant setting—rather than, say, uncomfortable chairs, outdated magazines, and harsh fluorescent lighting—they don’t mind so much. Providing a more attractive waiting room, in other words, makes patients feel better about their treatment—an important factor in healing.

Although the study’s findings were not specifically incorporated into the Weill Greenberg Center’s design due to timing issues, Becker plans to follow up the research by studying the practices that relocated from older facilities to the new building, to see if patient satisfaction improves.

State-of-the-art space (clockwise, from left): An exam room in the Clinical Skills Center; a monitoring station where med students are observed and recorded; the first-floor reception desk; and the underground parking garage.
Weill Cornell researchers work to stop the spread of zoonotic diseases.

A dead bird in a busy Hong Kong shopping district normally attracts little attention, especially on New Year’s Eve. But this tiny scaly-breasted munia—a bird normally found only in rural regions—put Hong Kong on high alert in January 2007 when it tested positive for the HSN1 strain of avian influenza, or bird flu. Officials speculated that the bird was one of hundreds of thousands released yearly in China during Buddhist rituals to improve karma. Once a symbol of freedom, birds now hold a real threat of death, and at least one Buddhist group releases fish into the sea instead.

As of mid-January, the H5N1 virus had killed 161 people worldwide—about 60 percent of those it infected. Though there have been no reported infections in Hong Kong, the local government has slaughtered 1.3 million poultry in an effort to stem its spread. On February 4, avian influenza claimed its first victim in Africa, that same week, health authorities in the U.K. killed more than 150,000 turkeys after an outbreak of H5N1 on an east England poultry farm—the virus’s first appearance in the country. The World Bank has approved $28 million in grants to combat the disease in thirteen countries.

Avian influenza is just one of more than 540 known zoonoses—infectious diseases transmitted from vertebrate animals to people—120 of which can be fatal in humans. An estimated 50 million people contracted zoonotic diseases from 2000 to 2005, resulting in approximately 78,000 deaths. At Weill Cornell, researchers in the Program for Respiratory Virus Infections and Biodefense have been studying ways to defeat these deadly pathogens. Dr. Anne Moscona and Matteo Porotto, faculty members in the Departments of Pediatrics and Microbiology and Immunology, have made significant discoveries about Hendra and Nipah, deadly Henipaviruses that the U.S. government lists as potential bioterror agents. Their new approaches involve the use of small peptides that stop the viruses from entering cells. The initial results of this work were published in the October issue of the Journal of Virology. “This is our first paper to present these new ways of thwarting infection with Hendra and Nipah viruses, and we have some even more encouraging results coming out soon,” says Moscona. “Our next step is to develop more effective antiviral agents based on refinements of the strategies in the October paper. We’re now writing up the results of our recent experiments, showing how we have made the peptides even more active against live viruses.”

Moscona and Porotto are the core of the Program, but the laboratory environment is one of lively interactions among scientists at all levels—graduate students, postdoctoral fellows, clinical fellows, high school and college students, medical students, and faculty. For the last twenty years, the Moscona lab has focused on pediatric respiratory viruses, including parainfluenza, a major cause of croup and bronchiolitis in young children. Because of the similarities between parainfluenza and the Henipaviruses, Moscona and Porotto were able to apply their expertise to combating these newly emerging pathogens. Human immunodeficiency virus (HIV) is another zoonotic pathogen, one that crossed over from chimps to humans about seventy years ago. Moscona and Porotto are now interacting with Weill Cornell HIV researchers, including microbiology and immunology professor John Moore, to share advanced techniques and learn from each other’s experiences.

The stereotypical image of researchers battling zoonotic diseases brings to mind scientists in HAZMAT suits handling lethal virus strains or studying diseased animals. But the Program’s laboratories look little different from many others within the Medical College—no spacesuits are needed here. And the atmosphere, although intense, is far from frightening. Nestled between brightly colored offices on the Department of Pediatrics’s research floor—the Friedman Family Pediatric Research Laboratories—the research space contains tissue culture hoods, gel systems, power supplies, flasks, small centrifuges, and microscopes, all lined up neatly on counters, surrounded by journals, notebooks, and calculators. The scientists wear casual clothes under their lab coats and

animal magnetism

by Neeraja Viswanathan
As is often the case in science, teamwork was crucial. “Matteo and I bring complementary skills to the table,” Moscona says. “There’s a great synergy when someone like me, who has been deeply immersed in the field of molecular biology and a dream of applying it to curing childhood infections, meets someone like Matteo, whose abilities to curing childhood infections are rooted in fundamental molecular and cell biology techniques. He’s intensely creative and dedicated, and has encyclopedic knowledge and tremendous scientific ability. It’s ideal when scientists can work together as we do, initially approaching a problem from different angles and bringing our individual strengths to bear on an important medical and scientific problem.”

Although she seems very much at home in her Manhattan laboratory, Moscona is equally comfortable in the jungle village clinic in Belm, where she recently worked as a volunteer, or when delivering a plenary talk to an audience of thousands at an international conference. Years of obtaining grant funding from the National Institutes of Health have taught her the value of making her research accessible, its impact immediate. As a clinician, she is on the front lines in dealing with infectious threats to children and families and has also been called upon by international agencies for advice on infectious diseases, including avian influenza. “We’re letting go of the old idea that we can find ‘silver bullets’ for each and every disease out there,” she says Moscona. “The trick is to turn emerging diseases into an enemy we know and understand, finding solutions that apply to groups of pathogens and that are flexible enough to deal with rapidly changing situations.” Indeed, because new zoonotic diseases are constantly being discovered, attacking each one with a unique strategy would be a daunting, if not impossible, task.

Hendra virus emerged only recently, in 1994, when a mare suffering from a frothy nasal discharge infected and killed twelve horses on a ranch in Queensland, Australia. The trainer and his stable hand nursing the mare fell sick within a week, the trainer dying of respiratory and renal failure. The deaths of another horse and owner near Brisbane were linked to the same Hendra strain. Hendra and Nipah cause respiratory infections, hemorrhages in the lungs or brain, and central nervous system disease. Most alarmingly, Nipah can cause what is known as relapse encephalitis—the onset of brain hemorrhaging up to four years after an initial infection. “One virus jumped into humans from horses, and the other infected humans via contact with pigs, and they have different symptoms,” says Moscona. “But because we now know they infect cells in much the same way, we can try to counter the two viruses using a similar strategy.”

Deadly pathogens: There are currently no vaccines or drugs to combat Hendra viruses such as the Hendra virus (above). Five years later, another, similar Henipavirus called Nipah emerged in Malaysia, killing 105 people. The most likely primary factor behind this emergence was the housing of millions of imported pigs in confined quarters. Local fruit bats took up residence with the pigs, infecting them with Nipah.

Both Hendra and Nipah cause respiratory infections, hemorrhages in the lungs or brain, and central nervous system disease. Most alarmingly, Nipah can cause what is known as relapse encephalitis—the onset of brain hemorrhaging up to four years after an initial infection. “One virus jumped into humans from horses, and the other infected humans via contact with pigs, and they have different symptoms,” says Moscona. “But because we now know they infect cells in much the same way, we can try to counter the two viruses using a similar strategy.”

There are currently no vaccines or drugs to combat the Henipaviruses, the best chance for preventing deaths in an outbreak would be a drug that could be administered either just before, or soon after, infection. Hence the researchers are targeting an early step in the life cycle of the viruses. Both the Henipaviruses, as well as para-influenza and other paramyxoviruses, go through similar steps to infect a host. In the binding stage, a viral receptor-binding protein (“G protein” in the case of Hendra and Nipah) attaches to receptors on target cells (in this case, molecules called ephrin B2 that are found on cells that line blood vessels). Once bound to a receptor, the G protein activates the fusion protein (called “F”), allowing the virus to fuse with the cell’s membrane and enter the interior, where it can replicate. The researchers have been concentrating on strategies to prevent this fusion process. “There are three main ways we could do this,” says Moscona. “We can block the G protein from binding to cells; we can prevent it from triggering and activating the F protein, or we can stop F from undergoing the shape change, after triggering, that allows it to fuse the virus with the cell.” The researchers are focusing on all three strategies, and they expect each to generate useful leads. Their first success has been finding a way to paralyze the function of F protein with a blocking compound, a small peptide that they now hope to turn into an effective drug. While developing ways to prevent disease, the team is also trying to understand the process of pathogenesis: how these viruses and their interaction with the various cells in the body actually cause disease.

We’re letting go of the old idea that we can find “silver bullets” for each and every disease out there,” says Moscona. “The trick is to turn emerging diseases into an enemy we know and understand, finding solutions that apply to groups of pathogens and that are flexible enough to deal with rapidly changing situations.”
Handling dangerous pathogens such as Hendra and Nipah viruses requires a Biosafety Level 4 lab, complete with HAZMAT suits, filtered air and water, and specialized safety equipment—as well as facilities to house, feed, and treat the animals used in experimentation. Since the researchers at Weill Cornell’s Program for Respiratory Viruses and Epidemics and Biodense have a Biosafety Level 2 lab with none of those facilities, how are they able to study such lethal pathogens? Answer: by using the latest research techniques and some creative thinking.

“We knew that some of the key mechanisms involved in transmission of human paramyxoviruses were also used by Hendra and Nipah,” says assistant professor of microbiology in pediatrics Matteo Porotto. “And these mechanisms were similar in important ways to how another, non-lethal cow virus works.” Porotto and Program director Dr. Anne Moscona used this knowledge to engineer a version of the harmless cow virus so that its surface bears spikes from the Hendra virus instead of its own. To do this, they took DNA copies of the genes of the two Hendra virus protein spikes, G (the protein that binds to the eptin E2 receptor and activates the F protein) and F (the fusion protein that allows the virus to fuse with the human cell), and combined them with the other genes of the cow virus. The new, hybrid virus, with the Hendra G and F proteins on its surface acted exactly like its more lethal cousins when fuson with a cell. But the hybrid, known as a “pseudotype” of Hendra, is not capable of sustaining an infection, even in cell cultures—it is not dangerous to work with and can be studied in a Biosafety Level 2 lab. The scientists further engineered the pseudotype virus so that when it enters a cell it makes a fluorescent protein; the infected cells turn bright red under the microscope. The researchers made a similar pseudotyped virus based on Nipah, allowing them to study the mechanics of both Hendra and Nipah infection without risk to themselves or their colleagues.

Other Weill Cornell researchers are using pseudotyping to study lethal pathogens under normal lab conditions. Microbiology and immunology professor Dr. John Moore has been studying HIV with a similar goal—to prevent it from fuson with, and entering, the host cell. Like Hendra and Nipah, HIV is an enveloped virus, although it is a member of a different family, the retroviruses. The molecular details may be different, but the basic strategy is much the same: making assays that are simpler and safer to use.

Such cutting-edge lab techniques allow Porotto and Moscona to study lethal viruses in a deceptively simple facility. All the cells and viruses used in the Program’s research are stored in two freezers. The coldest, filled with liquid nitrogen at -150 degrees Celsius, stores master stocks of viruses and backup supplies of the cells used in the culture systems. The other, at -20 degrees Celsius, contains bacteria used for cloning and engineering DNA as well as ready-to-use stocks of viruses that can be rapidly thawed and used in experiments. Scientists working with living cells and viruses that are growing in culture (in plastic sterile flasks) do so with their gloved hands under a laminar-flow hood, which sterilizes and circulates the air via filters. The process, Porotto says, is much more cost-effective and efficient than experimenting directly on lethal viruses in Biosafety Level 4 labs, which are enormously expensive to build and maintain. (There are only a few in the country; Weill Cornell does have a Biosafety Level 3 lab used for research on tuberculosis and malaria.) “We don’t need anything other than the safety conditions built into the lab when it was constructed,” says Porotto, “yet our results can be applied to some of the most lethal viruses on the planet.”

Colin Parrish, who studies parvoviruses that infect mainly dogs and cats but are potential zoonotic threats to humans, and Edward Dubovi, director of the Virology Section in the University’s Animal Health Diagnostic Center, has been investigating suspected outbreaks of canine influenza in dogs. Since Moscona and Porotto contend that common themes in viral entry mechanisms are key to developing new drugs to prevent or treat viral infections, they set up a collaboration with Parrish to study how parvoviruses enter cells. Moscona and Porotto also expect to collaborate with Dubovi and other Ithaca-based researchers to analyze newly emergent zoonotic viruses.

Dubovi’s research into canine influenza has disturbing implications for the future transmission of zoonotic diseases. The first significant natural canine influenza virus outbreak was diagnosed in 2004 at greyhound racetracks. Generally the infection results in mild clinical signs that mimic kennel cough, but the mortality rate can be as high as 60 percent in stressed infected dogs. Canine influenza virus is not currently considered dangerous to humans. However, when sequencing the flu genome, the research team realized that all the segments of the genome were from equine influenza—a horse that has been studied for fifty years. “The idea that a virus can ‘jump’ species depends not just on whether it’s actually transmitted from one to the other,” says Dubovi, “but also whether it adapts to the human host in a way that it can spread.” This jump from horses to dogs clearly shows the adaptability of influenza virus, as does the infection of Asian dogs and cats with the H5N1 virus.

An interdisciplinary approach to studying zoonotic viruses could be the key to combating infection, Porotto says. “The veterinary community knows a lot about these diseases, but may not realize what that knowledge means to humans,” he says. “And we specialists in human viruses often don’t learn enough about their research.” Moscona stresses that researchers need to continue studying the common themes that these viruses share on a molecular level as well as the ways in which they differ, she sees these basic studies as key to understanding which features are more likely to make certain viruses pathogenic in humans. And since the spread of zoonotic diseases is directly linked to increased human-animal contact, she advises increased surveillance of wildlife and stray animals. Dubovi agrees, but thinks that we might need to do more. “We require vaccinations for domestic ani- mals,” he says, “but we may need to seriously start thinking about vaccinations for wildlife as well.”

Then there’s the issue of pets. A 2001 study in the Postgraduate Medical Journal noted that while domestic pets can carry more than 100 zoonotic diseases, only twenty occur regularly in humans and are rarely fatal. However, the increase in exotic pets concerns Moscona. Exotic birds can harbor microbes that infect people, and snakes can carry salmonellosis—a zoonotic disease transmitted by reptiles.

Moscona and Porotto try to temper their eagerness for new breakthroughs with patience. Although they’re intensely focused on studying viral entry, Porotto says, they’re well aware that it can take years of experiments to uncover new mechanisms. “To forge ahead,” they depend on funding, support has come from grants from the National Institutes of Health, the Northeast Biodense Center (an NIH-funded Regional Center of Excellence in Biodense), the March of Dimes, and the American Lung Association. Meanwhile, the threat of zoonoses to human health remains pressing—and the pathogens themselves continue to evolve. “Zoonotic diseases occur because of relatively isolated, unconnected, and unplanned events,” says Dubovi. “That makes them extremely unpredictable.”
Dear fellow alumni:

This is the first of several columns I will have the pleasure to offer as president of the Alumni Association. It was an honor to be elected at the biennial Business Meeting in October, held as part of Reunion 2006 (more on that shortly). I hope these next two years are marked by as much growth, progress, and excitement in our association as is evident at the Medical College itself.

Our organization has more than 1,300 members, distributed around the U.S. and several foreign countries; they represent about 25 percent of living alumni of the Medical College. It’s a good number, but we can do better. As you read this, I hope you will think of alumni whom you can actively encourage to join. In Spring 2008, we will welcome members from the Qatar branch.

As was written here by my predecessor, Ken Swan, MD ’60, a devoted and tireless ambassador for our college, the students in Qatar are just as diverse, talented, inquisitive, and successful as our New York students. It will be exciting to welcome them.

The graduates of the Medical College are vibrant and engaged, and those who take the opportunity to reconnect with the College bring that energy to our interactions. I was fortunate to meet quite a few who live and work in the Pacific Northwest at an outreach program in Seattle in October. The range of attendees included Elizabeth Welty, MD ’41, whose eyes twinkled with curiosity and who wanted to see more of her classmates at Cornell events, and Drs. Philippa Ribbink and Carolyn Paris from the Class of 1991, who were attending their first such function.

Ken Swan’s last column noted Reunion 2006, which was then approaching. I am delighted to report it was a smashing success, with record attendance during the talks and panel discussion as well as at the gala at Chelsea Piers. We entertained more than 600 alumni and guests in true New York style. There were two 50th Anniversary classes, and four other classes celebrated anniversaries of more than fifty years.

I see the mission for the leadership of the Alumni Association to be focused in three main areas. First, we will continue to engage alumni as we attempt to provide an easy, user-friendly, helpful conduit for information and interchange. We will immediately engage new graduates, in the hope of building life-long relationships. Second, we will continue to support student programs and events that augment the students’ quality of life and access to career information. Our mentor program is a wonderful example: alumni host students during residency interviews or other regional travel, and provide local knowledge about hospitals, training programs, and lifestyle. And finally, the Association will continue its fund-raising efforts to support student education and scholarship relief. Ideally, we want alumni generosity to reflect gratitude for the education that has given us the professional credentials and training that have formed our lives. Alumni gave more than $3.4 million to the Medical College through the Association in the last fiscal year—an impressive number, but one that I know we can surpass.

You will, in this column, suffer my musing from time to time on matters germane to Medical College alumni. I welcome your ideas, input, questions, and comments, and look forward to serving you and meeting many of you in these next two years.

With my very warmest regards,

Gene Resnick, MD ’74
President, CUWMC Alumni Association
gene.resnick@alumni.med.cornell.edu
1940s Sherwin Kaufman, MD ’43. After retiring from a medical career in interracial 15 years ago, Sherwin became an award-winning ASCAP composer and lyricist. His songs—pop, country, inspirational, and children’s—have been recorded on several albums in New York and Nashville. He says that piano playing remains a lifetime hobby. He recently composed “Introducing Children to Classical Music,” playing familiar children’s songs in the styles of the great composers. Some of his poems and short stories have also been published. Sherwin is a grandson of the admiral (Alden B. Elder on the Roof). His wife, Claire, a real estate broker, is senior vice president of the Corcoran Group in New York. They have three children, one of whom is a physician.

Morton A. Beers, MD ’41. I have now been completely retired for the past eight years. Fortunately, I have lost all contact with my classmates. I continue to try to play golf two to three times a week. Nevertheless, to score the fewest, are high and normal. I expect the winter conditions will soon appear. The driveway and the rest of the year in Morristown, NJ, we are surrounded by our children and grandchildren. Not a bad life. My winter address is in Boca Raton and the phone number is in the directory. I am always good for a lunch and maybe, the Lord willing, a round of golf.

Andrew L. Morgan, MD ’45. “I practiced urology in Honolulu for 35 years, retiring in 1987. I was clinical professor of urology at the John Burns School of Medicine. I served as chief of surgery at the Queen’s Hospital, as president of the Hawaiian Medical Library, and as a member of the renal transplantation team at St. Francis Hospital. I joined the ALOHA Medical Missions and worked in the Philippines for three separate years, and I was a surgeon on Mount Fuji.”

Carol Branch Hyman, MD ’44, MD ’47. “My answer to those who told us in 1944 that they did not allow to admit women to the medical school as their education would be wasted by dropping out for family obligations: I was married for more than 50 years until my husband’s death. I have three daughters and two grandchildren. I am continuing to practice pediatric hematology part-time 59 years after graduation. And I am enjoying a full life of family, friends, and travel.”

Ted Thomas, MD ’48. “Ruth and Ed Knights, MD ’48, stopped by in August. We were able to spend the evening together, remembering old times at Cornell and an extemporization in Pavstuket, RI, where I delivered my first baby. We shared histories of our careers and families. My five children are scattered from Maine to California. I have two grandchildren, two in Maine, 12 and 15, and two in Newood, MA, 9, and 11. And, of course, my husband, Olaf, has most of his family nearby, and we are able to care for a great-grandchild occasionally, a typical three-year-old boy. He still lake and hike, and belong to the Thramp and Trail Club of Utica, which has a hike every weekend since 1921. We have climbed the entire Adirondack 46 and the Catskill 35. Barb has beaten me by climbing all the peaks over 4,000 feet in the Northeast. We especially remember our Katathadin and the Knife Edge in Baxter State Park in Maine. We attend classes in the Mohawk Valley Institute for Learning in Retirement at SUNYIT, facilitated by retired teachers and other learned persons. Ruth is devoted to exercise more than I am, but we both wonder why time goes by so fast. I attend grand rounds once a week and do some journal reading. I serve on the IRB Review Board in Faxton Hospital, but otherwise am retired from medical practice.”

1950s Anne B. Johnson, MD ’51. “I am enjoying being retired with my husband, Jack. I am fortunate in that the group I worked with in our studies on Alexander disease is still active, and I’m included in some of their current work. Alexander disease is most commonly a devastating and fatal, but rare, childhood leuko- dysplasia. Pathologists usually report the patient’s history and partic- ularly the one main to have contact with affected families. This disorder is genetic and caused by a dominant mutation in one of the child’s genes for GFAP (glial fibrillary acidic protein). But it is not rare, except in a few rare adult cases, in which case the family generally neither parent has the mutation present in their affected child. I had suggested that since it was probably caused by a parental germ cell mutation, we should determine whether or not it was more common from the ovum or the sperm of the parent. I provided a number of parental blood samples for DNA analysis. Thus my colleagues were able to find the source of the affected child’s mutation was six times more common in the allele from the father than the mother Yet parental age had no influ- ence. The paper on this finding was published in Human Genetics (119:187), and I am an author.”

Jay B. Skelton, MD ’51. “I was introduced to Montclair, NJ, by our classmate Roger Loedheonth. After finishing my five-year resi- dency at the Cornell New York Hospital Lying-in Hospital in 1959, I started practice in Montclair/Glen Ridge. After 47 years of a very happy practice, I retired on August 15, 2006. They were wonderful years and now great memories.”

Russell Haske, MD ’52. “Retirement since 1997 has been good to me. Mary Ann and I still live year round on Menemsha Pond on Martha’s Vineyard. We hung out during the history weeks in December through March and love to see the seasons change, which is a big thing on the Vineyard. Two of our boys, Chris and Russ Jr., have remained on island, and Steve and Debby are in Portland, ME, and Woburn, Massachusetts. We enjoy six grandchildren. Except for attending Friday medical conferences on occasion and reading the summaries in the New England Journal and its Perspective section, I am pretty well retired from the medical world, but still keep incredibly busy. Dick Lennihan, MD ’52, sends me frequent reminders to keep in touch with important issues. I received the 2006 Creative Living Award from the Permanent Endowment Fund of Martha’s Vineyard.”

John Lannan, MD ’48, MD ’52, and his wife, Nancy, shared a wonderful cruise to the Baja Peninsula of Mexico with Roy, MD ’52, and Allyn Hollingshead Lucas ’52. We missed the rest of the class. We are still well enough to get around. I volunteer at the local free clinic once a week. It’s fun, although not as exciting as internal medi- cine used to be in my private practice.”

Wendy Goffen, Jr., MD ’53. “Harlan B. Root ’50, MD ’53, and his wife, Jill (Friedrich) ’49, MD ’53, have left San Antonio where they lived for 40 years and gone to live near Brainerd, NY, in Dave’s boyhood farmhouse. Dave is still working, although not as much as he used to. Meanwhile, my wife, Pudge, and I live in retirement here in beautiful northern Michigan. The summers are busy with visits from our children, their spouses, friends, and grandchildren (19 at last count).”

Peter Mahnke, MD ’53. “Still teaching half-time as professor of radiology at USC.”

Bernard Yablun, MD ’54, MD ’53, has been elected president of the Residents’ Council of the Jewish Home of Rochester, where he resides. He has also served as a member of the chaplaincy search committee and helps provide residents with Reform/Liberal Sabbath services. Daughter Adrian (11th grade) plays clarinet in the high school band, and in the summer of 2007 she will visit Australia, New Zealand, and Fiji as part of the People to People Program. Her 13-year-old sister, Dorian, plays the baritone horn and participated in the Holiday Tuba Choir performance at Midtown Plaza.

William H. Howen Jr., MD ’57. “Have spoken or written to class- mates Jim Beatle, Don Latrop, Wally Campbell, Herb Oestreich, Don Taylor, Bill Black, Jack Madaras, Pat Barry, John Gerda, and Ray Higgins—a total pleasure. Just a great group. Will be looking forward to seeing them at our 50th.”

NOTEBOOK

Making an entrance: The street-level facade of the new Weill Greenberg Center at East 70th Street and York Avenue.
When I graduated Cornell my mother wanted to know when I would 'hang out a shingle' like a real doctor. She eventually gave up asking when she realized that I did not want to leave the hospital setting.

Rachel Remen '58, MD '62, is one of the pioneers of integrative medicine. She is clinical professor of family and community medicine at the UCSF School of Medicine and director of the UCSF program for patients with HIV/AIDS. She began fellowship training at UCSF in 1987, left to serve as president of a healthcare company, then returned to practice medicine and to develop innovative healthcare programs. Her latest entrepreneurial venture is a new integrative medical residency program that will train physicians in both allopathic and holistic medicine.

I am now president (2006–08) of the Transplantation Society, a large international organization dedicated to the art and science of organ and tissue transplantation. My research program has focused on the development of new immunosuppressive agents and the use of in vitro expansion for the treatment of organ transplantation.

I have been a member of the Institute of Medicine since 2000, and have served as a member of the Board on Health Care Institutions. I have also served on the Board of Directors of the American Society for Transplantation, and have served as a member of the National Institutes of Health's Pathology Research Program.

I have been involved in research on the role of the immune system in the development of transplant rejection, and have served on the Board of Directors of the American Society for Transplantation. I have also served on the Board of Directors of the American Society for Transplantation.

I have been involved in research on the role of the immune system in the development of transplant rejection, and have served on the Board of Directors of the American Society for Transplantation. I have also served on the Board of Directors of the American Society for Transplantation.

I have been involved in research on the role of the immune system in the development of transplant rejection, and have served on the Board of Directors of the American Society for Transplantation. I have also served on the Board of Directors of the American Society for Transplantation.

I have been involved in research on the role of the immune system in the development of transplant rejection, and have served on the Board of Directors of the American Society for Transplantation. I have also served on the Board of Directors of the American Society for Transplantation.
laughing out loud. The whole production was kind of a video vignetture/SNLCornell show simile. Great fun.

1980s

Steven Karja, MD '80: After hours I manage my son’s soccer teams, create websites or try to exercise three times weekly. I have been involved with a number of nonprofit organizations. I videotape my son’s soccer games for his coaches and teammates. It helps that his high school team was recently ranked ninth in the Washington Post. I love teaching and miss the George Washington University medical students and house staff who used to rotate through my hospital. I most remember going to Camp Kiao-I-Dang as one of the first medical students to rotate through that Cambodian refugee camp. The gunfire sounds at night, and the tales of malnutrition and deadly measles will stay with me forever. I would like to hear from Andy Shadid, my roommate for two years, who moved to California and has not been heard from in a while.

Ken P. Kelly, MD '80: A few years ago, after a couple of decades of private practice in psychiatry with a smattering of voluntary academic activity on the side, I had an unplanned mid-life career change. In the aftermath of 9/11, I began volunteering psychiatry care to members of the FDNY. Some months later my volunteer job morphed into a salaried position, and I am now a medical officer with the rank of battalion chief. I have a uniform, badge, and parking placard, but [fortunately for all concerned] they don’t let me fight fires. I still have a part-time private practice and do a few academic things. I enjoy the package, and I enjoy knowing that I’m not yet too old to learn some new tricks.

John A. Wernimont, MD '81: “I am well and happy and living in Fort Collins, CO, working as a pediatrician for Children’s Hospital Denver, covering peds practices in Colorado and Wyoming, and traveling abroad for international surgery trips. The last trip was to El Salvador last March with Rotaplast of San Francisco. I’m divorced, no children, two cats, great garden, love to ski, volunteer every winter at Copper Mountain. All classmates should also consider a ski tour.”

Douglas S. Butten, MD '82: “I continue solo private practice and am attending surgeon in ophthalmology at New York Eye & Ear Infirmary. Married redhead Diana Margaret Butler in March 2005. Hoping for more happy news one day.”

Andrew M. Casden, MD '83: “I am a continuous care specialist in psychiatry. I am attending the associate director of the Spine Institute at Beth Israel Medical Center in New York. Andrew is also the director of the Spine Institute at Albert Einstein College of Medicine. He has three boys, 19, 18, and 16. He has his wife, Jeri, celebrated their 25th anniversary last August. They live in Scarsdale, NY.”

G. Steven Bova, MD '84: “I was asked to give a talk to my niece’s Loyola College medical school class in March 2006, and this spurred me to see what our class had to say about their first 25 years. I was interested, Lisa and I have ‘retired’ to Nevada, where I will again partner and assume a position as solo medical director/principal owner of four start-up imaging centers, two in Las Vegas and two in Phoenix. For my 50th, Lisa threw me a surprise ‘casino night’ at the Naples Grande Hotel. Paul Watkins 75, MD ‘79, sent a video of his monologue to the roast, which was typically brilliant, and kept the guests mesmerized when they weren’t just five open-ended questions, please contact me at gsb@teleman.com.”

David A. Haughton, MD ‘84: “Greetings to all from the Purple House in New Westminster, BC. Lyne and I visited Greece last Spring. I reconnected to family [my sister, Anna, and cousins from my mother’s family] and old friends. Lyne sampled Greek island living on the Cycladic islands of Forogandros and Santorini. We hiked most days, starting very early to avoid the heat, and thus saw owls and beautiful sunrises. We did lots of painting in watercolor and acrylics during the rest of the day. As Alexis Plakhtopolos, the director of College Year in Athens, offered me a chance to exhibit my new works from Greece at the Ismene Gallery on the Platea Stadion near the Acropolis in central Athens. The show will open in June 2007, and I will return to Greece for the opening. The final set of these works can be seen on my website: www.haughton-art.ca. I attended College Year in Athens right after high school in 1974–75. I studied modern Greek language, ancient Greek history, sculpture and archeology, history of religion, and philosophy from some of the brightest and most articulate teachers I have ever had. On the personal side, I am no less delighted in love with Lyne. We had a wonderful time together in Greece.”

Lawrence W. Robinson, MD ‘84: “I joined the Endocrine Group in Albany, NY, as the only surgeon for a ten-man endocrinology practice in July 2005. Really a great practice. My e-mail is lwrobins@theendocrinegroup.com.”

John R. Brierley, MD ‘86: “Objects in the rearview mirror appear closer than they are. After another four years in New York City and a two-year fellowship at UCSF, I managed to settle into a universi- ty job as a cornea specialist at UK for seven years. The prospect of spending three boys to college made me come to my senses, and I am now in private practice in Chattanooga, TN. The practice is booming. We have built a surgery center, and we are getting ready to build a second. After my retirement, I will, of course, take on the male species tendency with age to grow hair on all parts of his body except the top of his head, I am pretty good at one thing. If I can grow hair on all parts of his body except the top of his head, I am faring reasonably well. No hair transplants or laser treatments yet.”

Montgomery B. Douglas, MD ‘86: “On July 1 I was appointed acting chairman of the Department of Family Medicine at the Washington University Medical College. I continue to practice as chairman and program director of the Family Practice Department of St. Vincent Catholic Medical Centers.”

Robert J. Connell, MD ‘86, has returned to the Boston area after spending four years as the vice chair of medicine at Allegheny General Hospital in Pittsburgh, PA. He and his wife, Mary, live in Hingham, MA, and consider their children—Kathleen, 20, Eim, 19, Walt, 18, Mary Claire, 16, and Robert, 14—to be their greatest achievements since graduation. After an early career in clinical research, Walter now works in general pulmonary medi- cine at the VA Oregon Health Care System. He teaches medical students, residents, and fellows. He is the clinical director of the Pulmonary and Critical Care Division at Massachusetts General Hospital and assistant professor of medicine, Harvard Medical School.”

Walter A. Klein, MD ‘87: “I am well and happy and living in Fort Collins, CO, working as a pediatrician for Children’s Hospital Denver, covering peds practices in Colorado and Wyoming, and traveling abroad for international surgery trips. The last trip was to El Salvador last March with Rotaplast of San Francisco. I’m divorced, no children, two cats, great garden, love to ski, volunteer every winter at Copper Mountain. All classmates should also consider a ski tour.”

The Weill Cornellian - Spring 2007 45
great time, but is also impressed by the amount of homework that
already due. I guess we can look forward to many fun trips up
Route 17 to visit gorgeous Ithaca."

Stuart Rubin, MD ’87: "I am currently a partner at Windsong
Radiology, a 13-member outpatient imaging practice with offices
in Williamsville, Lancaster, and Amherst, NY. My wife, Lisa, just
completed a two-year stint as president of the Transit Middle
School PTA. We have two boys, Matthew, 13, and Daniel, 11."

1990s
Carolyn S. Eisen, MD ’91, is on staff at NewYork-
Presbyterian/Weill Cornell Medical Center in the Dept.
of Radiology, where she specializes in breast imaging and interven-
tion. She lives in Manhattan with her husband, Mark Schwartz, MD
’84, a plastic surgeon, and their two daughters, Rebecca and Alexa.
Brian A. Aslam, MD ’93: "I practice psychiatry and psychoanaly-
sis at my office on the Upper East Side of Manhattan. I enjoy
the voluntary faculty of Well Cornell, especially my work
supervising psychiatry residents who are learning to do long-term
psychotherapy. I also enjoy teaching a class at the New York
Psychoanalytic Institute."
Eric S. Koreman, MD ’94, who practiced radiology in Pittsfield,
MA, now practices with Advanced Berkshire Imaging P.C.,
the radiology team that serves Berkshire Medical Center and Fairview
Hospital. Eva M. Aagaard, MD ’95, was named associate chairman
for education at the University of Colorado.
Kanita Aggarwal, MD ’96: "After medical school, I stayed on for
residency in internal medicine at New York Hospital and then
took a faculty position at Memorial Sloan-Kettering. My husband,
fellow alum Manj Abrahams, MD ’97, and I later moved to Los
Angeles for his fellowship in facial plastics and are now back in
Scarsdale, NY, where Michael is director of plastic and reconstruc-
tive surgery at the Westchester Medical Group, a large multi-spe-
cialty group practice in Westchester County. He continues his
Cornell affiliation on the clinical faculty."
Cheryn Wongtrakool, MD ’97, and her husband, Vin Tangpricha,
welcome Lucas Narong Tangpricha on April 28, 2006. Big sister
Natalie is extremely proud of her new brother. Chery says, "We
remain on faculty at Emory University School of Medicine and
enjoy living in Hotlanta."

Manisha Juthani-Mehta, MD ’98, was appointed assistant profes-
sor in the Section of Infectious Diseases at Yale School of
Medicine in July 2006. She dedicates most of her time to clinical
research in the area of infections in older adults, particularly UTI
and pneumonia in nursing home residents. In addition, she
attends on the HIV inpatient medical and ID consultation serv-
tices and teaches medical students, PA students, residents, and ID
fellows. Manisha lives in Fairfield, CT, with her husband, Raj
Mehta, daughter Shani, 6, and son Saan, 3. She would love to hear
from any classmates at manisha.juthani-mehta@gmail.com.
Tim Dutta, MD ’99, has finished training and is practicing
endocrinology at Weill Cornell.

Patricia Kowach, MD ’99, joined the Division of Gastroenterology
and Hepatology at Thomas Jefferson University Hospital. She is a
specialist in inflammatory bowel diseases, including Crohn’s disease
and ulcerative colitis. Kowach worked at the University of Chicago Hospitals
where she completed an ID advanced fellowship. She also
completed a research assistant at the National Institutes of
Health and Johns Hopkins School of Medicine and held a
fellowship in gastroenterology at Montefiore Medical Center.

2000s
Natalie Igel, MD ’02: "I am finishing my radiology
residency at NYU/Weill Cornell and staying on here as a fellow
in Women’s Imaging/BodyMRE for the next year."
Francine Samuels, MD ’02: "I am in my second year of fellow-
ship at Morgan Stanley Children’s Hospital of NY-Presbyterian/
Columbia University Medical Center. My fellowship is in pediatric
gastroenterology, hepatology, and nutrition. I graduated from Yale’s
pediatric residency and have decided to return to New York, as my
brother and sister are both physicians in the city. It has been great
to be back with family and friends, and I would love to be in touch
with anyone else who wants to contact me."
Jonathan Lee-Melk, MD ’03: "I am thrilled to have finished my
residency training in pediatrics at Phoenix Children’s Hospital. I am
excited to relocate to southeastern Arizona, where I will work with
a nonprofit health organization (as the region’s only pediat-
rian) to provide preventive and curative care along a remote stretch
of the US–Mexico border."
Douglas M. Weine, MD ’04: "Romy Park and I were married
last June in New York City. Thanks to my medical school class-
mate Lilly Wang, MD ’04, for setting us up. Romy is working toward
her master of fine arts in graphic design at Yale, and I am in my
final year of internal medicine residency at Cornell, where I will be
staying for a gastroenterology fellowship."
Rafael Vazquez, MD ’06: "I managed to compete in two amateur
bodybuilding competitions during my intern year. I won the men’s
overall at the INBF Long Island Bodybuilding Competition and
recently placed first at the men’s middle-weight class INBF NYS
Bodybuilding Championships."

IN MEMORIAM

39 MD—Francis G. Casey Jr. of Maplewood, NJ, October 7,
2006, surgeon and anesthesiologist, St. Peter’s Hospital, New
Brunswick, NJ, veteran, active in professional and religious affairs.

43 BA, 46 MD—Stanley G. Gilchrest of Palm Beach Gardens, FL,
June 29, 2006, pediatrician, inventor, musician. Tai Epsilon Phi.

46 MD—Lyma Maass of Palm Desert and Sacramento, CA,
September 26, 2006, neurosurgeon, chief of Neurological Surgery
Section, U.S. Army General, ass’t clinical professor, University of California-Davis School of Medicine, veteran, active
in professional affairs.

46 MD—Robert Shera of Scarsdale, NY, June 21, 2006,
orthopaedic surgeon, White Plains Hospital, veteran, worked for
NY’s Compensation Board, also worked for Riverfront Associates, active in community, professional, and religious affairs.

46 MD—Robert W. Wams of Sun City, City, FL, October 11,
urologist, veteran, pilot, active in community, professional, and religious affairs.

46 MD—Lynn Puncher Thompson (Mrs. David D. ’43). 43 MD
of Cumberland Foresee, MI, June 24, 2006, physician, cancer
researcher, chair, hospital auxiliary, Cornell Medical Center, where she founded the “Art Cart” program, artist, active in community,
professional, and alumni affairs.

49 MD—Melville B. Goodman of Houston, TX, July 15, 2006,
psychiatrist, forensic psychiatrist, worked at Vernon State Hospital
and Rusk State Hospital in Texas, director of mental health, Westchester County, NY, director, Day Care Hospital at NYU School of
Medicine, veteran, author, active in profes-
sional affairs.

49 MD—John G. Rogers of Amelia Island, FL, November 14,
2006, cardiologist, chief of medicine, Zurburrg Memorial Hospital, Riverside, NJ, veteran, active in community and profes-
sional affairs.

50 MD—Frank Reda of New York City, July 4, 2006, chief of
pediatric surgery and professor emeritus of surgery, NY-
Cornell Hospital—Cornell Medical Center [1960–95].

51 MD—David S. Burgos of Phoenix, AZ, July 8, 2006, psy-
chiatrist, chief of staff, Phoenix Cambacke Hospital, veteran, for-
er president of the Arizona Psychiatric Society and the Phoenix
Psychiatric Council, active in professional affairs.

52 MD—John B. Branche of Orlando, FL, August 13, 2006,
pediatrician, chief of pediatrics, Mercy Hospital, officer with the
Tuskegee Airmen, worked with the NAACP, active in comic,
community, professional, and religious affairs.

54 MD—Richard T. Furr of Ocean Springs, MS, October 19,
2006, family practice and internal medicine physician, operated the
Furr Clinic, associate professor of medicine at the University of Mississippi Medical School and Tulane University School of
Medicine, president, Howard Memorial medical staff, chief of
medicine, Biloxi Regional Medical Center, host of radio program
“House Call with Dr. Furr”, veteran, musician, active in commu-
nity, professional, and religious affairs.

54 MD—Richard T. Furr of Ocean Springs, MS, October 19,
2006, family practice and internal medicine physician, operated the
Furr Clinic, associate professor of medicine at the University of Mississippi Medical School and Tulane University School of
Medicine, president, Howard Memorial medical staff, chief of
medicine, Biloxi Regional Medical Center, host of radio program
“House Call with Dr. Furr”, veteran, musician, active in commu-
nity, professional, and religious affairs.
The patient came into the burn unit with severe injuries: her estranged husband had set her on fire. A pair of NYPD detectives interviewed her at the bedside, the victim gasping for breath and in extreme pain. Dr. Roger Yurt looked on—not to treat her, but to make sure her fake burns looked realistic.

Yurt, a surgery professor at the Medical College and director of the William Randolph Hearst Burn Center at NewYork-Presbyterian Hospital/Weill Cornell Medical Center, spent a day last fall as a consultant on the New Jersey set of "Law & Order: Special Victims Unit." After reviewing the script in advance, he sat beside the episode’s director and offered advice on two scenes: one when the patient is first brought in, and another when she’s being treated in the tank room. “It’s important for the public to get the right perspective on medical care,” he says. “I wanted to assist in any way I could to make sure it was accurate.”

Still, medical realities sometimes give way to dramatic license. When Yurt read that the script included the use of maggots for debridement, he noted that they’re not standard treatment; the producers opted to leave them in anyway. And during the six-hour gap between the first and second scenes, Yurt pointed out, the patient would become markedly swollen with fluid—but approximating that with make-up was impractical. However, he did successfully lobby to change a cardiac arrest to a respiratory arrest, since the former would have made it all but impossible for the patient to speak to detectives just six hours later. “It can still be dramatic,” he says, “but you could reasonably interview her.”

Yurt’s other responsibilities on the three-to-midnight shoot included deciding when it was appropriate for TV cop Mariska Hargitay to remove her surgical mask and devising realistic ways for the nurses to clean the patient without drowning out the dialogue. He also gave the actress playing the victim some perspective on what her character would be going through. “I told her that every time they touched her it would be excruciating. She’d ask for pain medication, and she’d have trouble breathing because of inhalation injury.”

Before shooting the episode, which aired in mid-January, show representatives visited the burn unit to take notes. “The sets were remarkably accurate,” Yurt says. “Their tank room was perfect.” He was joined on the set by four nurses from the unit, who had background roles.

Yurt had his own dressing room and was “treated like royalty.” But he learned that the wheels of drama grind slowly: each scene was shot ten to fifteen times. “I felt like I was at work, but I wasn’t,” Yurt muses about his brush with Hollywood. “I was doing what I do, but there were no patients.”
INTRODUCING DISCOVERIES THAT MAKE A DIFFERENCE
a $1.3 billion campaign for Weill Cornell Medical College

strengthening our unique capabilities in:
+ cancer
+ cardiovascular medicine
+ diabetes and metabolic disorders
+ neurodegenerative disorders and aging
+ stem cells, developmental biology and reproductive medicine
+ global health and infectious diseases
+ children’s health
+ education programs

to learn more,
contact the Weill Cornell Medical College Office of Institutional Advancement at...

525 East 68th Street, Box 123
New York, NY 10021

Phone: (212) 821-0500
Fax: (212) 821-0554

Weill Cornell Medical College
Help us update our records, so that we can communicate with you online in real time.

Please send your email address to:
alumni@med.cornell.edu

Your email address will be kept on file for the express use of campus correspondence from the Dean and the Office of Alumni Relations.