Neurodegenerative diseases, such as Alzheimer’s, Huntington’s, and Parkinson’s, and injuries to the brain and spinal cord from trauma or stroke are among the most feared of the disorders that afflict humankind. The economic impact of these diseases is massive, and their toll in human suffering is incalculable. According to the National Institute on Aging, the direct and indirect costs of caring for patients with Alzheimer’s disease alone are at least $100 billion per year. With a rapidly aging population, the challenges that neurodegenerative diseases pose for our society will only increase.

Decades of research in molecular and cellular biology and neurobiology have revealed a myriad of potential drug targets to slow or prevent these disorders. In an effort to aggressively translate these findings into effective therapies, the School of Medicine has formed a new interdepartmental program in Cellular Neuroscience, Neurodegeneration and Repair (CNRR) that will accelerate the pace of Yale’s research on neurodegenerative diseases and nerve injury.

The co-directors of the new program, Pietro De Camilli, M.D., Eugene Higgins Professor of Cell Biology, and Stephen M. Strittmatter, M.D., Ph.D., Vincent Coates Professor of Neurology and of neurobiology, both members of Yale’s Kavli Institute for Neuroscience, will recruit as many as seven new scientists in a variety of disciplines to join them at CNRR and create a core to interconnect the more than 100 neuroscientists.

Banner year for Yale as six on faculty join Institute of Medicine

Six Yale researchers, five with appointments at the School of Medicine and one from the School of Nursing, were among the 64 scientists elected in late October to the Institute of Medicine (IOM). The IOM was formed in 1970 by the National Academy of Sciences to honor professional achievement in the health sciences and to serve as a national resource for independent analysis and policy recommendations on issues related to medicine, biomedical sciences and health.

“This is unprecedented,” says Dean and Ensign Professor of Medicine Robert J. Alpern, M.D., noting that, since its founding, no more than three Yale scientists have been elected to the IOM in a single year.

The 2005 elections bring the number of Yale faculty members in the IOM to 37, including three at the School of Nursing, two at the School of Management, two in the Law School and one at Yale-New Haven Hospital, which gives Yale one of the highest concentrations of IOM members of any institution in the nation, Alpern says.

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Neuroscientists target disorders of the brain and spinal cord

Gilles de la Tourette (below) recognized that the tic disorder he identified is heritable. (Right) The break in a fluorescent probe (lower box), not seen in a normal chromosome (upper box), shows the precise location of an abnormality that led researchers to a gene associated with Tourette’s syndrome.

Making a major impact in Science

Tourette’s discovery hailed as breakthrough

When French neurologist Gilles de la Tourette first cataloged the persistent muscle tics and involuntary vocal outbursts characteristic of the syndrome that now bears his name, he recognized that the condition ran in families. Now, 120 years later, Yale researchers led by Matthew W. State, M.D., Ph.D., Harris Assistant Professor of Child Psychiatry, have identified the first genetic mutation associated with Tourette’s syndrome (TS).

Along with a Yale study of dyslexia (story at right), the work was cited in a list of the top 10 scientific breakthroughs of 2005 in the December 23 issue of the journal Science.

The gene, which contributes to neuronal development and communication between neurons, accounts for only a small percentage of cases of Tourette’s syndrome, but its discovery after years of searching offers the best chance yet to penetrate this socially debilitating condition.

Dyslexia gene also cited among journal’s top 10

Long before a child enters school, brain cells are on the move, lining up into carefully wired circuits in preparation for the demanding task of learning to read. Mistakes in this circuit architecture are thought to underlie dyslexia, a reading disability that affects as many as 15 percent of children and runs strongly in families.

In a finding that received worldwide recognition, Yale

Dyslexia, page 6

Pietro De Camilli
Stephen Strittmatter

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They accepted positions at Brown University, both began their professional careers as cancer pharmacologists at Yale. Chu, who grew up near Providence, R.I., graduated from Brown with undergraduate and medical degrees but landed back at Yale, where he continues a family tradition of developing novel treatments for cancer.

Chu’s Section of Medical Oncology is one of more than a hundred academic units in the School of Medicine that conduct research and provide cancer care under the umbrella of the VCC, which was established in 1974, shortly after President Nixon declared the “war on cancer.” Modern chemotherapy was developed and first administered to patients at Yale in 1942, and the VCC was one of the first facilities in the nation to receive the NCI’s Comprehensive Cancer Center designation.

By capitalizing on Yale’s long-standing tradition in cancer pharmacology, and its well-established strengths in immunobiology and diagnostic imaging, Chu plans to make Yale a center of translational research.

“Everyone uses the term ‘translation’ these days, but it’s extremely difficult to carry off effectively,” Chu says. “Our goal is to have really close crosstalk between basic scientists and clinical investigators, and to take findings from the clinic to gain better insight into how various treatments work.”

A research area that holds particular personal fascination for Chu is the blending of traditional Chinese medicine with modern cancer therapies.

Along with Henry Bronson Professor of Pharmacology Yung-Chi “Tommy” Cheng, Ph.D., Chu and his team are conducting rigorous clinical studies to see whether 2000-year-old remedies can enhance chemotherapy’s effectiveness against cancer cells and/or protect healthy normal cells against the side effects experienced during cancer treatment.

Now that the new group of clinical investigators is settling in at Yale, Chu says, it’s time to bring all the pieces together. “We’ve got tremendous basic science; we’ve got great core resources. We now have a critical mass of key experts in developing clinical trials,” he says. “It won’t take very long for Yale to be viewed not just as one of the premier preclinical basic research programs, but one of the premier clinical and translational programs in this country.”

New collaboration with museum aims to improve science literacy

Amid concern about the effectiveness of science education, epidemiologists at the School of Medicine, educators at Yale’s Peabody Museum of Natural History and researchers at the Connecticut Agricultural Experiment Station (CAES) are collaborating on a project to increase science literacy and encourage careers in science.

The initiative, led by Leonard E. Munstermann, Ph.D., senior research scientist in epidemiology, has received a five-year, $1.3 million Science Education Partnership Award (SEPA) from the National Institutes of Health (NIH) to stimulate students’ interest in science. The program, to be housed at the Peabody Museum and coordinated by project manager Laura L. Fawcett, M.S.P.H., and science education specialist Terri Stern, researchers and educators will design curricula for grades 5 through 10 that create a deeper understanding of biological science.

“The curricula will feature Lyme disease and West Nile encephalitis because of their public health significance, and because they point to a broader biological relationships,” says Munstermann, also curator of entomology at the Peabody. Students will explore tick and mosquito life cycles using preserved ticks and the skins and skulls of mammal and bird hosts for Lyme disease and West Nile virus.

In springtime, students will capture and examine mosquito larvae from vernal pools. If you have a change of address or do not wish to receive future issues of Medicine@Yale, please let us know.

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Medical school welcomes first Gilliam Fellows

Imran Babar

by O’Kane and Babar, both of the department of cell biology at the Howard Hughes Medical Institute (HHMI).

An important role in brain development

When the team analyzed their results, they found that the three cells with mutations in SLITRK1 were the only cells that showed evidence of normal protein expression. The researchers then applied this strategy to a cell line that was not affected by TS and found that the protein was still expressed in these cells.

To summarize, the study revealed that TS patients have a genetic mutation in the SLITRK1 gene that leads to abnormal protein expression. This protein is important for proper brain development, and its absence in the TS cells suggests that further research is needed to understand the underlying mechanisms of TS.

Take sleep apnea seriously, says study

It can be trying to share a bed with a person affected by obstructive sleep apnea, a common condition in which breathing stops repeatedly during sleep, causing a person to wake up gasping for breath. A study of the Yale Center for Sleep Medicine (YCSM) provides new evidence that sleep apnea is more than an annoyance.

Since 1993, YCSM researchers have diagnosed sleep apnea in 647 patients using polysomnography, a technique that measures heart rate, breathing and other physiological variables during sleep. A follow-up study begun in 2002 revealed that 9 percent of these individuals suffered strokes or died, compared to only 1.6 percent of a control group.

As reported in The New England Journal of Medicine on November 10, after eliminating smoking, alcohol use and hypertension as factors, the scientists found that sleep apnea doubled the risk of stroke or death.

“Sleep apnea is a common and serious problem, but it is also highly treatable,” says H. Klar Yaggi, M.D., assistant professor of medicine and lead author. “If you or someone you know has symptoms of sleep apnea, it is important to discuss this with a doctor.”

Mad cow’s small impact explained?

A recent study by neuro-pathologist Laura Manuelidis, M.D., professor of surgery and endocrinology at Yale, and colleagues in Japan may offer the beginnings of a solution to an epidemiological puzzle.

In 1996, dairies embargoed bovine spongiform encephalopathy (BSE), or mad cow disease, in British cattle, some epidemiologists predicted that up to 100,000 people could contract variant Creutzfeldt-Jakob disease (vCJD), a rapidly progressing, invariably fatal neurodegenerative condition, from BSE-infected beef.

But that nightmarish scenario hasn’t yet come to pass: almost 10 years later only 17 cases of vCJD have been verified.

Manuelidis and her team reported in the October 21 issue of Science that when neural cell cultures were infected with either a weak or sporadic form of CJD or with agents that cause sleep sickness, a disease similar to CJD, the cultures resisted infection by a more virulent strain of CJD agent.

The team suggests that exposure to less virulent strains of CJD may protect people against the newly evolved bovine agent.
For Shoreline heart specialist, prevention is attainable goal

To speak with cardiologist L. Veronica Lee, M.D., assistant professor of medicine, is to stop worrying for a moment about the diet/exercise/motivation conundrum of modern life, especially if you’re a middle-aged person who drives everywhere, eats on the go and tends to relax in front of the television. A 10-minute conversation with Lee leaves the reassuring impression that maybe things aren’t so complicated after all.

In 15 years as a physician, Lee has seen failed diets come and go, but good health, she believes, depends on balance. And while the low-carbohydrate trend of the past few years may have helped many people to lose weight, it seems to Lee that most of them gain it back over time.

“The reality is we need to have a well-balanced diet. You can go for short-term gains, but if you’re threatening your system out of whack, the results are probably going to be short-lived as well,” says Lee, who sees results are probably going to be short-lived as well, “says Lee, who sees ’

According to the American Heart Association, more women than men have died of cardiovascular disease—a category that includes coronary heart disease, congestive heart failure, high blood pressure, stroke and diabetes—every year since 1984.

In her practice, Lee helps patients set nutritional goals and works out customized diet and exercise plans to lower the risk of illness. “For every-one, there are different ways of getting themselves off the couch and eating the right things,” she says. “I try to assess the approach that’s going to work for a particular person.”

Lee is part of a new influx of Yale physicians to the Shoreline center, an 80,000-square-foot facility near Interstate 95 that opened in July 2004. YMG, the medical school’s 700-member faculty practice, staffs the center’s emergency department and its anesthesiology, diagnostic imaging, pathology, laboratory medicine and radiation oncology services. Now specialists in cardiovascular medicine, pediatric cardiology and surgical specialties—including urology, cardiothoracic, hand and cosmetic and reconstructive surgery—are spending one or more days a week in Guilford as a convenience to patients who live east of New Haven.

Lee, whose exam room window looks out on a grove of oak trees, the Shoreline center provides a perfect setting to convey her message of prevention. “Environment is a key point,” she says. “If it’s a beautiful location and it’s soothing, then it creates a warmer and more nurturing environment that goes along with the whole notion of prevention.”

Lee’s hopeful outlook would also be soothing to any patient casting aside entrenched old habits on the sometimes difficult road to a healthy lifestyle. “There’s no such thing as failure,” she says. “If you slip, you just get back up and keep trying.”

Out & about

September 21: During the visit of Dikembe Mutombo, the All-Star NBA center and philanthropist met with medical students and joined Shirley Neighbors’ students from Hill Regional Career High School in New Haven for an anatomy lesson at the School of Medicine. Mutombo stands behind (from left) Mariliam Padilla, Monica Daniels, Neighbors and Shaylice Bragg during a lecture in the anatomy lab by medical student Jason Knight (back to camera). 2. Medical students (from left) Anup Patel, Tracy Wright, Luis Kolb, Ninani Kombo, Chike Brandon, Tejaswini More, Aaron Remenschenider, Emlyn Jones, Sarah Frasure and Sara Whetstine with Mutombo.

October 1: At the Harvey Cushing Family Gathering, Cushing’s descendants and family members celebrated the eminent neurosurgeon’s life and planned for a permanent home at the School of Medicine for his famed collection of brain specimens, photographs, drawings and memorabilia.

Yale, VA supporting troops on the home front

More than 1.2 million Americans have gone to war in Iraq and Afghanistan since September 2001, over a quarter of whom have served more than one tour of duty. This state of affairs has created a heightened sense of urgency among Yale researchers and clinicians who study and treat post-traumatic stress disorder (PTSD) in collaboration with the Veterans Administration (VA).

Yale investigators at the Clinical Neuroscience Division of the VA National Center for PTSD (CND-NCPTSD), located at the VA Connecticut Healthcare System campus in West Haven, Conn., have established a new partnership with psychiatrists at Fort Drum in upstate New York to work together to combat experiences.

Meanwhile, clinicians at the VA West Haven campus have expanded their staff to care for an expected influx of veterans requiring treatment for anxiety and PTSD.

John H. Krystal, M.D., Robert L. McNeil Jr., Professor of Clinical Pharmacology, deputy chair of the department of psychiatry, and director of the CND-NCPTSD, notes that about 196,000 veterans have a diagnosis of PTSD, which costs the VA $274 million per year—13 percent of its total medical costs. With our troops now engaged in two wars, he says, these numbers will only increase.

"Recent survey data suggest that 10 to 20 percent of soldiers participating in combat in Iraq meet criteria for PTSD," says Krystal.

Neuroscience continued from page 1

The creation of a program focused both on the cell biology of the nervous system and on its diseases recognizes that innovative research on pathogenetic mechanisms can best be thrived in an environment where basic science research is very strong," says De Camilli, who is also a Howard Hughes Medical Institute investigator. "I am delighted to start this new initiative with Dr. Steve Strittmatter, who has already been very successful in bridging fundamental neuroscience with clinically important problems."

Five years ago, Strittmatter identified Nogo, a protein that blocks the regeneration of axons, his laboratory's research on this important regenerator (see Advances, top left) has suggested potential therapies for brain and spinal cord injuries, stroke and neurodegenerative disorders such as Alzheimer's disease, amyotrophic lateral sclerosis (Lou Gehrig's disease) and multiple sclerosis.

"Establishing a hub for cellular and molecular studies in neuroscience with interdisciplinary and interdepartmental connection holds great promise for many major research advances by Yale neuroscience," Strittmatter says. "This program will illuminate our understanding of how nerve cells function and communicate in the brain, especially as they relate to the development of novel therapies, such as neural repair, that will alleviate diseases." Strittmatter's work is supported by The Amyotrophic Lateral Sclerosis Association, the Dr. Ralph and Jeanne de Nigris Foundation, and the Dr. Ralph and Velda De Camilli's Research Committee.

As reported in the October 13 issue of The New England Journal of Medicine, the researchers placed baby rats with their nests covered with a small, semi-permeable blanket that lowered their body temperature to 93.2 degrees within 6 hours after birth. Only 44 percent of the infants who received the cooling treatment developed disabilities, or died, compared to 62 percent of a control group.

The cooling therapy "slowd down the injury process caused by birth asphyxia," says Ehrenkranz. "Less injury means a better outcome for these cases of cerebral palsy and other complications."
Dyslexia continued from page 1

researchers have discovered a gene that may cause many cases of dyslexia by interfering with early brain development. The gene, **dcdc2**, is required for neurons to migrate normally and is disrupted in up to 20 percent of people with dyslexia.

“Our results validate and confirm the fact that dyslexia is genetic,” says senior researcher Jeffrey R. Gruen, M.D., associate professor of pediatrics and an investigator at the Yale Child Health Research Center. “Based on brain imaging data, we know that dyslexics seem to have a disrupted brain reading circuit, and we think that variants of **dcdc2** could be responsible for disrupting circuit formation during development.”

Besides illuminating the cause of dyslexia, the identification of **dcdc2** could lead to genetic tests to identify at-risk children early on, when educational interventions are most effective, Gruen says.

The work, presented at the October meeting of the American Society for Human Genetics, was published in the November 22 issue of the Proceedings of the National Academy of Sciences.

Dyslexia is defined as an impairment in reading ability in people with normal intelligence and adequate educational opportunities. For the last 15 years, researchers have been on the trail of a gene for dyslexia they had traced to human chromosome 6. In 2002, Gruen and colleagues narrowed the search to a stretch of 1.5 million DNA base pairs containing 19 candidate genes, all of which were known to be active in the brain. To get a closer look at those 19 genes in normal readers and dyslexics, Gruen and his team analyzed 536 parents and children from 153 families, correlating DNA sequences with the children’s scores on a battery of reading and comprehension tests. They quickly saw that in children with low reading scores, sequence variations clustered most often in the area of **dcdc2**. The researchers hit pay dirt when they noticed that in some dyslexic subjects, one copy of the **dcdc2** gene was missing nearly 2,500 “letters” of DNA code. This deletion is uncommon in the general U.S. population, but it was seen in nearly 20 percent of the study participants with dyslexia.

The **dcdc2** deletion does not affect the structure or function of the gene’s protein product, but Gruen and his colleagues believe it reduces the overall amount of messenger RNA, and hence protein, in nerve cells. They then demonstrated that neurons did not migrate properly in the developing brains of fetal rats in which **dcdc2** expression was experimentally suppressed (see photos above).

While the team hasn’t yet confirmed that **dcdc2** protein levels are lower in dyslexic people, they did establish that in normal adult humans the gene is most active in brain regions involved in reading. The newly found gene has no relation to IQ, Gruen is quick to point out. And thanks to the flexibility of the brain’s circuitry early in life, he says that, with early intervention, dyslexic children may be able to compensate for their disability by training neural circuits other than those affected by the gene when they learn to read.

“If children with dyslexia can get the right education program early on, they will be successful,” Gruen says. “We’re hoping that someday we can use genetic information to match kids to their ideal intervention as early as possible.”

Unlikely allies, common goals in fight against obesity

The sharply rising rate of obesity in America over the past two decades has engendered a fierce public debate, pitting those who hold the food industry responsible for making and promoting unhealthy foods against those who believe that obesity results from a failure of personal responsibility and self-control.

Enter Leslie Rudd, who made his fortune in the food and beverage industry but who also struggled with his weight, and with the resulting stigma, for much of his life. It is Rudd’s hope that Yale’s new Rudd Center for Food Policy and Obesity, established with his $7.5 million, five-year gift, will represent a fresh start in the fight against obesity and against the discrimination faced by overweight and obese individuals.

The new center’s director, Kelly D. Brownell, Ph.D., professor and chair of psychology at Yale and pro-
Grants and contracts awarded to Yale School of Medicine, July/August 2005

**Federal**

 Scrap Alayu, xiiii, Trypanosome Gene Expression in Tsetse Flies: Matthew Benfield, Robert Alpen, xiiii, Regulation of Recombinant Bacterial and Chloride Absorption, 5 years, $204,790.70

 John Baim, xx, Postnatal Subventricular Zone: Agne Ruggeri, Ph.d., $1,000,000.00

 John Baim, xxii, Partial Deletion of an Inositol 1,4,5-Trisphosphate Type II 2 Diabetes in Youth, 5 years, $204,790.70

 R. Todd Constable, xvi, Endothelial Cells: Technology Development: Anil Karihaloo, Ph.d., $200,000.00

 Manel Mireny, xxi, Creig, and Binging Eating, and Obesity, 5 years, $473,071.00

 John Wysomerski, xxii, Expression of the Calcium Sensing Receptor in the Brain, 5 years, $1,873,875.

 **Non-Federal**

 Patrick Allen, National Alliance for Research on Schizophrenia and Depression, 2 years, $80,000

 George Annis, 2 years, $60,000

 Thomas Gill, A. David Paltiel, Cortical Maturation and Regulation of Renal Bicarbonate Absorption, 5 years, $220,000

 Jordan Pober, Kenneth Pugh, Daniel Goldstein, 5 years, $597,597

 Joao Cabral, Richard Flavell, Steven Yung-Chi Li, 5 years, $198,000

 William Sledge, Anthony Flaherty, 3 years, $198,000

 Robert Perlmutter, National Alliance for Research on Schizophrenia and Depression, 5 years, $179,000

 Patrick Periasy, University of Texas Southwestern Medical Center at Dallas, The Formulaion of a Rational Therapy of Nephrolithiasis, 3 years, $123,703

 Timothy Quan, Astrotechnical Foundation, Effector Mechanism of Epstein-Barr Virus in Systemic Lupus Erythematosus, 2 years, $150,000

 Gary Rudnick, National Alliance for Research on Schizophrenia and Depression, 2 years, $120,275

 Raymond Russell, Dr. Robert C. Atkins Foundation, Effector Mechanism of Epstein-Barr Virus in Systemic Lupus Erythematosus, 2 years, $150,000

 Kristo Sacco, National Alliance for Research on Schizophrenia and Depression, 2 years, $125,219

 Arthur Simon, National Alliance for Research on Schizophrenia and Depression, 5 years, $238,580

 With support from the G. Harold and Leila Y. Mathers Charitable Foundation, Professor of Cell Biology Pietro De Camilli studies syphilis. Inhibitors of this marine sponge enzyme involved in the synthesis of sialidase, a lipid that is crucial to vesicle formation, is labeled in green.

 Degeneration, 4 years, $200,000

 Akiko Iwasaki, Burroughs Wellcome Fund, Stomal Cell Contributions to the Sensory Signaling Response to Dialysate Sodium Individualization, 2 years, $40,000

 Jeffrey Kahn, American Heart Association, The Role of a Novel Human Cremoris in Kawasaki Disease, 5 years, $388,000

 Anil Karihaloo, National Parkinson Foundation, Inc., Montification of the Molecular Mechanisms of Dopaminergic Signaling, 1 year, $200,000

 John Cheng, Kagoshima University, Novel Neutrophil Reverse Transcriptase Inhibitors Active Against Multi-Drug Resistance 1-21, 2 years, $155,736

 Jong Mok Hong, National Parkinson Foundation, Inc., The Role of N-methyl-D-aspartate Receptor Gene Deficiency in Parkinsonian Patients, 2 years, $125,000

 David Curren, National Academies of Emergency Disposal, Con 200, Converse Scars & Wound Care, $300,000

 Vladimir Gor, National Alliance for Research on Schizophrenia and Depression, 3 years, $299,370

 Robert Perlmutter, National Alliance for Research on Schizophrenia and Depression, 5 years, $198,000

 Dhruv Patel, National Institute of Mental Health, Education, The Role of Indoleamine 2,3-Dioxygenase (IDO) on Immune Responses in Influenza, 3 years, $299,000

 Jan Cryzick, American Cancer Society, Inc., Alternative Effects of Ral c-p82 in Anti-HIV Infection, 2 years, $299,000

 Robert Laskey, National Institute of Neurological Disorders and Stroke, Foundation, The Role of Borelli Fungsi daofen Naive Ymphocyte in Lymphoma, 2 years, $299,000

 Yi-Hua Liu, American Heart Association (Heritage Affiliate), 2 years, $299,000

 Anthony Flaherty, Department of Psychology, Psychophysics, 1 year, $276,799

 Fadi Lakkis, National Institute of Health, Pharmacodynamics, 2 years, $276,799

 Leslie Yeh, National Heart, Lung, and Blood Institute, 2 years, $276,799

 Louise McHenry, National Institute of Neurological Disorders and Stroke, Pathology, 2 years, $276,799

 Mark Gerstein, Rutgers University, Structural Genomics of Enzymatic Domain Families, 5 years, $350,000

 Jonathan Grauer, Mdtor, Inc., New Zealand White Rabbit Purification Study Evaluating Vaccines and Vaccine Products, 5 years, $100,000

 Handan Gunduz-Bruce, National Alliance for Research on Schizophrenia and Depression, 3 years, $250,000

 Patricia Periasy, University of Texas Southwestern Medical Center; TheFabrication of a Rational Therapy of Nephrolithiasis, 3 years, $123,703

 Timothy Quan, Astrotechnical Foundation, Effector Mechanism of Epstein-Barr Virus in Systemic Lupus Erythematosus, 2 years, $150,000

 Gary Rudnick, National Alliance for Research on Schizophrenia and Depression, 2 years, $120,275

 Raymond Russell, Dr. Robert C. Atkins Foundation, Effector Mechanism of Epstein-Barr Virus in Systemic Lupus Erythematosus, 2 years, $150,000

 Eli Lilly and Company, Patrick and Catherine Weldon Donoghue Medical Research Foundation, Neuromodulatory Approach to the Treatment of Schizophrenia, 8 years, $1,988,339

 Joyce Biehl, National Alliance for Research on Schizophrenia and Depression, 5 years, $1,000,000

 Susan Biehl, National Alliance for Research on Schizophrenia and Depression, 5 years, $1,000,000

 Steven Yung-Chi Li, 5 years, $1,000,000

 Marney White, 3 years, $1,000,000

 Robert Perlmutter, National Alliance for Research on Schizophrenia and Depression, 5 years, $1,000,000

 Douglas Fields, Rockefeller University, Imaging of Matrix Metalloproteinase Activity in Tissue Engineering—Effect of Tissue Plasticity, 1 year, $20,000

 Correction: The listing in Volume 1, Issue 5 for Brian Leamer’s 5 year grant, Indoor and Outdoor N-1 Deletion, Effects of Childhood, was incorrect. The correct grant amount is $6,349,454.
Cell biologist
Mellman elected to European academy
Ira Mellman, Ph.D., chair and Sterling Professor of Cell Biology, is one of three American scientists elected as foreign members of the European Molecular Biology Organization (EMBO) at the organization’s annual meeting in Warsaw in October.

Membership in EMBO is a life-long honor and scientists are elected on the basis of proven excellence in research. Among the organization’s members are some of Europe’s leading researchers, including 38 Nobel Prize winners.

EMBO was established in 1962 to create a central molecular biology laboratory and build a network that would enhance interactions among European laboratories. Currently there are more than 1,200 EMBO members in Europe, and only 60 investigators outside Europe have been named as associate members.

Mellman uses a combination of biochemical, genetic and imaging methods to understand complex functions of cell biology, especially in the immune system. Another area of his research involves the molecular mechanisms that sort, target and transport cell membrane components to appropriate locations in different types of cells.

After receiving his undergraduate degree at Oberlin College, Mellman earned his doctorate in genetics from the University and then joined the Yale faculty in 1981.

From 1997 to 2001 Mellman served as founding director of Yale’s Combined Program in Biological and Biomedical Sciences, which united all the disparate department-based graduate programs at the School of Medicine and the main Yale campus.

Mellman, who holds a joint appointment in the Department of Immunobiology, is editor-in-chief of The Journal of Cell Biology and is on the editorial boards of Cell and The Journal of Experimental Medicine. He is an affiliate member of the Ludwig Institute for Cancer Research and was named scientific director of the Yale Cancer Center in 2003.

He holds a senior fellowship at Lincoln College, University of Oxford, where he served as a Newton-Abraham Professor. Mellman is also a fellow of the American Academy of Arts and Sciences; a member of numerous advisory boards in the public and private sectors in the U.S., Europe and Australia; the recipient of an NIH Merit Award and the Yale Science and Engineering Society Medal. Mellman has delivered endowed lectures throughout the world, including the NIH Director’s Lecture.

Alumnus receives Yale Medal for his decades of service
At the end of World War II, Nicholas P.R. Spinelli, M.D., took leave from his Army unit in Germany and hitched a ride on a cargo plane to Rome. From there he traveled to Faeto, a village in southern Italy overlooking the Adriatic Sea that his parents had left 30 years earlier, and where the villagers celebrated the arrival of their native son. “I was there for three nights,” says Spinelli, a 1941 alumnus of Yale College and 1944 alumnus of the School of Medicine. “I had to make rounds and visit every sick person in the village.”

His triumphant return to his family’s ancestral community was the result of his parents’ belief in education and Spinelli’s own belief in the value of his education at Yale. Had they stayed in Italy, Spinelli said, his parents would never have been able to educate their yet unborn children, Nicholas and his sister, Viola. “Education was a passion with both my parents,” he says. “That was why they were working so hard.”

Throughout his career, Spinelli has shown his loyalty to Yale by raising money for the medical school, joining with his classmates to establish a scholarship fund, serving as the medical school’s director of alumni affairs and sponsoring the first White Coat ceremony, in which newly admitted medical students receive white physician’s coats from leaders of the School of Medicine, in 1992.

In November the Association of Yale Alumni awarded Spinelli the Yale Medal, which, since 1953, has honored outstanding service to the university. In this recognition, Spinelli joins such other medical school graduates and faculty members as pediatrician Grover F. Powers, M.D.; Russell B. Scobie, M.D.; William L. Kissick, M.D., M.P.H., Dr.P.H.; Muriel DaBrow Wolf, M.D.; and former Dean Milton C. Winternitz, M.D.

Spinelli’s path to Yale began in Stratford, Conn., where his parents had settled. His father ran several businesses, including a gas station and a restaurant on the Boston Post Road, then the main thoroughfare between New York and Boston.

In 1937 Spinelli entered Yale College, planning to become a writer. At the end of his freshman year, however, he took a job in a biology laboratory, where a professor encouraged him to study medicine, and in the fall of 1941 he entered the School of Medicine.

A few months later, while preparing for an anatomy exam, he heard President Roosevelt announce on the radio that the nation was at war. Spinelli and his 43 classmates were inducted into the Army, and their medical education was accelerated to meet wartime needs. Upon his discharge Spinelli returned to Stratford to practice internal medicine. A heart attack forced his retirement in 1958, but he began a second career as director of medical education at Bridgeport Hospital. In the 1980s his second career gave way to a third, as director of alumni affairs at the medical school. His main concern there was on what he called “incubating alumni,” strengthening relations with students and bringing them into the fold by including them in alumni events. At that time he helped create the Committee on the Well-being of Students, which makes a report each year on issues of concern to students.

Perhaps his greatest gift to the medical school was at his 40th reunion in 1984, when he asked his classmates to contribute to a scholarship fund over the next decade. By then, he said, the fund would be large enough to offer its first scholarship. In 1994, with 100 percent participation from the class, the fund helped to support a first-year student; it can now assist up to three students through their first year. “I have gotten letters from students who have been given the scholarship, saying how important it was and how they couldn’t have gone to medical school without it,” Spinelli says.

For his service to Yale, Spinelli received the Distinguished Service Award from the Association of Yale Alumni in Medicine in 1987 and the Peter Parker Medal in 1994. In recognition of his contributions to the medical school, two rooms were dedicated in Spinelli’s honor in 2000, one at the PVA/EPVA Neuroscience and Regeneration Research Center at the VA Connecticut Healthcare System in West Haven and the other at the medical school’s Office of Alumni Affairs.

But no honor, he says, surpasses one he received when he was 16 years old: “The greatest gift I got was the letter saying I was accepted to Yale.”