

Our search for knowledge to alleviate human suffering continues with the unabated passion that has distinguished this medical center for more than a century. Today, we intensify our search with this further determination: to bring the brilliance of

re:search

our scientists and clinicians together in a culture of excellence and collaborative investigation that will not only spark new ideas and discoveries, but more swiftly translate into new ways to treat patients and prevent disease in our community and the world.



JOAN AND JOEL SMILOW RESEARCH CENTER



Tisch
Hospital

Vision For World-Class Excellence

NYU Langone Medical Center has been home to scientists whose discoveries have changed medical history. Giants like Walter Reed, Albert Sabin and Jonas Salk are among our alumni. Nobel Prize winners such as Severo Ochoa, Julius Axelrod and Baruj Benacerraf have served on our faculty. Saul Krugman unraveled the mysteries of infectious hepatitis. The first departments of rehabilitative medicine and forensic medicine in the U.S. were established here. Bellevue Hospital, the nation's oldest public hospital and our long-time partner, has been the training ground for generations of leaders and the site of countless breakthroughs. Today, the passion that produced these discoveries is once again propelling us to new heights.

Our goals are bold: building on the great legacy of this institution, we aim to set the standard for world-class medicine in the 21st century. To accomplish this, we must do more than burnish each facet of our three-fold mission: medical education, patient care, and scientific research. We must bring all three together so that the brilliance of each makes the others shine more brightly.

Working closely with the faculty and our Scientific External Advisory Board, we are developing strategies to identify areas of growth and opportunity; to recruit, foster, and retain the best scientists; to enhance the research environment, and to facilitate the conduct of research. Below are several key components of our plan.

The Strategic Plan for Research

As scientific methodology and expertise become increasingly complex and sub-specialized, group and interdisciplinary collaboration has become an important dimension of research. We support team science, but we also recognize and value the individualistic nature of much research. As a leading academic medical center with an exceptionally broad base of scientific and clinical expertise, we are well positioned to build bridges and create synergies that accelerate and advance discovery.

Building Collaborative Hubs Through Centers of Excellence

In this spirit, this year we are launching six new Centers of Excellence that bring together some of our most distinguished scientists—researchers and clinicians—who share a deep passion and a common cause: to improve and extend the lives of patients who suffer from Alzheimer’s disease and other dementias; addiction; multiple sclerosis; skin cancer; urological diseases; and musculoskeletal diseases. For example, researchers in the Center of Excellence on Brain Aging and Dementia study the fundamental processes of Alzheimer’s disease in animal models and humans, develop new diagnostic tools and therapies, and explore new psychosocial interventions for patients and caregivers. Research conducted in the centers is informed by first-hand experiences with patients and, in turn, the results of our research provide new opportunities and hope to patients and their families. In these new Centers of Excellence, our three missions converge, bringing together world-class research, advanced diagnostics and treatments for patients, and a rich environment for educating the next generation of researchers and physicians.

Accomplishment > *Launched six Centers of Excellence (see pages 52-57). These centers will receive \$15 million in collective support from the Medical Center over the next 3 years.*

Advancing Scientific Discovery

Our basic scientists are intrepid explorers whose discoveries—sometimes serendipitous, often transformative—help us to understand the why and how of diseases. We aim to build on our strengths by attracting leaders and rising stars, and by providing a fertile intellectual environment and a strong infrastructure of resources and technology to retain the best and the brightest.

In the vibrant academic medical community of NYU Langone and through their interactions with patients and trainees, our clinical faculty raise and explore many of the provocative questions that drive scientific inquiry. Our Clinical and Translational Science

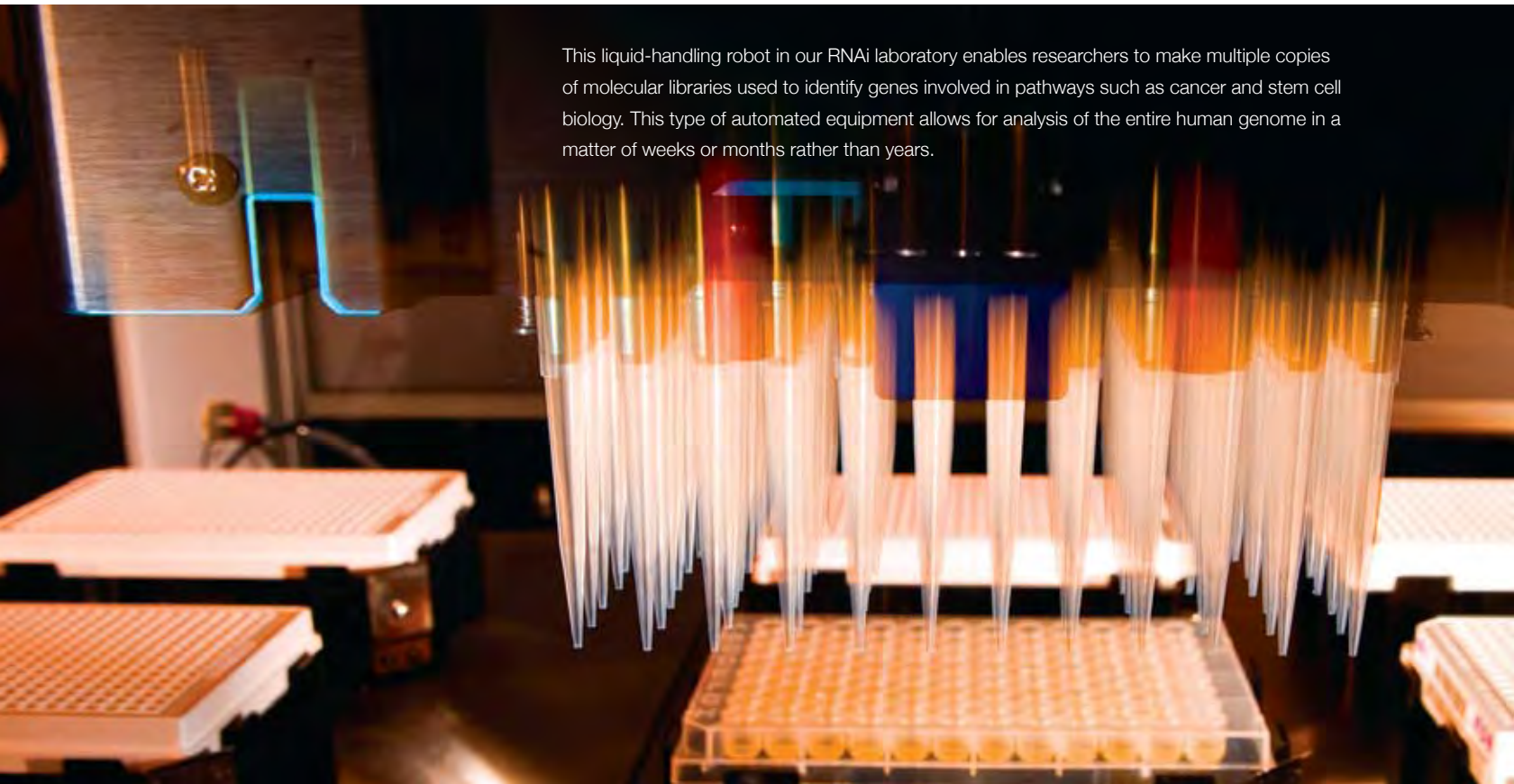
Institute—through a unique partnership with New York City’s Health and Hospitals Corporation, the largest municipal healthcare provider in the U.S., and its flagship Bellevue Hospital—ensures that large and diverse groups of New Yorkers participate in and benefit from the breadth of discoveries in medicine.

Accomplishment > *Initiated the NYU Langone-Health and Hospitals Corporation Clinical and Translational Science Institute.* > *Launched focus on four strategic areas of basic science research: integrated neurosciences research, inflammation and immunology, genetics and stem cell research.*

Enriching Core Facilities and Shared Resources

More than ever, technology underpins and accelerates scientific investigation and, by orders of magnitude, the research process itself. At NYU Langone, we want to make sure our scientists are equipped to do the best science by having the best tools. Over the past year, we have developed plans for enhancing a number of our research technologies, including genomics, proteomics, microscopy and imaging, and shared resources, such as bioinformatics, statistical consultation, and biorepositories. We recently built a state-of-the-art core facility for RNAi screening, a powerful tool that can rapidly analyze not just a single gene, but whole genomes involved in specific biological processes, such as cancer.

Accomplishment > *Established RNAi laboratory and high throughput sequencing core facility.*
> *Created \$15 million fund to enhance existing facilities and establish new ones, including microscopy, proteomics, and a mouse behavioral facility.*
> *Formed a new Center for Health Informatics and Bioinformatics and recruited its leadership.* > *Opened state-of-the-art Smilow animal facility.*



This liquid-handling robot in our RNAi laboratory enables researchers to make multiple copies of molecular libraries used to identify genes involved in pathways such as cancer and stem cell biology. This type of automated equipment allows for analysis of the entire human genome in a matter of weeks or months rather than years.

*Supporting Research through
Effective Administration*

The mission of the Office for Science and Research is to support and enhance the productivity and quality of research at NYU Langone through administrative structures, facilities, and programs. We want our scientists to be able to focus on their research, so we continuously seek to enhance services and efficiently coordinate functions. These are provided under our umbrella by the Office of Clinical Trials, Institutional Review Board, Sponsored Program Administration, Office of Industrial Liaison, Institutional Animal Care and Use Committee, Division of Laboratory and Animal Resources, and Institutional Biosafety Committee. We also work with the Office of Legal Counsel to review institutional policies, provide education about responsible conduct, and ensure the integrity of research.

Accomplishment > Accredited by the Association for the Accreditation of Human Research Protection Program (AAHRPP), NYU Langone was the first academic medical center in New York state to receive this accreditation. > Initiated grantsmanship workshop series with video recording available online. > Launched InfoEd Proposal Development for electronic submission of NIH grant proposals.

Building Momentum

To support the research mission, our diversified portfolio of funding is serving us well. By virtually every measure, the momentum at NYU Langone is building.

*Technology Transfer:
Ranked in the Top Three*

Technology transfer, the ability to translate discoveries from the laboratory to diagnostics and therapeutics, allows patients everywhere to benefit from our inventions and also provides important revenue for supporting research. With licensing income of \$400 million from 2004-2006, NYU Langone Medical Center ranked in the top three universities and medical centers in licensee income during that period, according to the Association of University Technology Managers.

Inventions by faculty have risen steadily over the past five years: we have 13 products now in clinical trials and 24 products brought to market. Products range from vascular stents, MRI equipment and hip prosthesis to HIV diagnostics and drugs such as Zinecard to reduce chemotherapy side effects and Sutent for kidney and stomach cancer. Perhaps no product better exemplifies the impact of therapeutic discovery than the monoclonal antibody developed in the Department of Microbiology by Junming Le, Ph.D. and Jan T. Vilcek, M.D., Ph.D. As the blockbuster medication called Remicade, this antibody has proven to be a life-changing anti-inflammatory agent for the treatment of rheumatoid arthritis, Crohn's disease, ankylosing spondylitis, psoriatic arthritis, Behçet's disease, and other inflammatory diseases.

Accomplishment > Renewed the Applied Research Support Fund to support new inventions and innovations with grants of up to \$75,000. > Impacted the lives of over a million people worldwide. Remicade annual sales exceeded \$4 billion, with significant financial benefit to the Medical Center, further enhanced by Dr. Vilcek's generous pledge of a \$105 million gift from royalties earned on the drug.

NIH Funding for Research: Strong and Growing Despite increasing competition for limited federal funds, NYU Langone's NIH funding remained strong, totaling \$121,835,760 in 2007. Approximately 30.6 percent of our NIH applications were funded, compared to a 22.5 percent success rate for all medical schools. In the challenging climate of NIH funding, we are expanding our research portfolio and aggressively developing strategies to enhance our competitiveness through many of the initiatives described above.

Philanthropic Support: Reaching Unprecedented Levels Renamed to acknowledge our board chair and his wife, NYU Langone Medical Center raised an unprecedented \$506 million last year, led by an exceptional gift from Elaine A. and Kenneth G. Langone. Our philanthropic partners understand that the scope of our transformation requires extraordinary support from individuals as well as corporations and foundations and have launched an unsurpassed effort in response to our call.

This monumental support was exemplified this year by gifts from Trustees Fiona Druckenmiller and Tom Murphy and their spouses, which provided seed funding to our new Centers of Excellence and Core Facilities programs. Meanwhile our research enterprises have been transformed through several other notable gifts, including one from the Litwin Foundation, establishing the Litwin Alzheimer Research and Treatment Group, another from the Gary Saltz Foundation, establishing the Anita Saltz Institute for Anxiety and Mood Disorders, and an estate gift from alumnus Stanley Allan Isenberg, M.D., '43, establishing a fund for cardiovascular research.

This microarray slide contains hundreds of stained prostate tissue specimens. By enabling researchers to analyze hundreds of samples from different patients in one place, the arrays enable NYU researchers to quickly identify potential molecular markers. Such information could help speed the development of new tests for prostate cancer that would help doctors better predict the aggressiveness of a tumor.



Accomplishment > Opened the Joan and Joel Smilow Research Center recently. The 13-story facility, completed in 2006, brought an additional 230,000 square feet of laboratory space equipped with some of the finest and latest technology available in biomedical research. > Strengthened our basic sciences through the gifts of Helen L. and Martin S. Kimmel for the Helen L. and Martin S. Kimmel Center for Biology and Medicine at the Skirball Institute for Biomolecular Medicine, and the Helen L. and Martin S. Kimmel Center for Stem Cell Biology.

Our commitments are clear: to foster a highly collaborative model of multidisciplinary scientific investigation, to build programmatically, to invest in our future through training and career development, to stay at the cutting edge of enabling technologies, and to facilitate research through effective administration. In this report, we highlight just some of the exciting science and scientists at NYU Langone, and report on initial steps we have taken to translate our vision into reality.



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