A Year for Progress Despite Economic Challenges

Lehman College moved ahead with plans and programs in 2009, fully aware of the uncertain economic climate that raised many challenges for the city and state, as well as for the College and its students. At the same time, encouraging signs reinforced the institution’s long-term stability. Enrollment continued to climb, growing by more than a third since the start of the decade. The campus itself matched that pace. Construction continued in 2009 on a $270 million science building, and state-of-the-art equipment was installed in the new $16 million Multimedia Center. More than $2 million was received from external funders for research and more than $16.5 million for sponsored programs. The College moved forward in other ways as well—from the planting of an edible garden to the launch of new undergraduate and graduate programs, from one of the busiest seasons in the history of the Performing Arts Center to the College’s first honors convocation for graduating seniors. All these developments, and many more throughout the year, demonstrated Lehman’s commitment to finding new means of fulfilling and expressing its mission.
January

The Mathematics Teacher Transformation Institutes are launched to provide training and leadership development for eighty Bronx-based middle and high school math teachers. The program is funded by a $5 million grant from the National Science Foundation.

February

New exercise science major is launched to train health and nutrition professionals and help make the borough, city, and nation healthier.

March

Lehman establishes a program leading to the Master of Science in Business, with specializations in finance, marketing, and human resource management. Lehman becomes one of only two colleges in CUNY authorized to confer this degree.

April

New York Times managing editor Jill Abramson (right) delivers the fortieth annual Herbert H. Lehman Memorial Lecture on “The Importance of Quality Journalism.”

The Leonard Lief Library dedicates a permanent exhibit of artifacts (right) from the Gov. Herbert H. Lehman Ferry, which ran between Manhattan and Staten Island until its retirement in 2007.

The CUNY Institute for Health Equity opens at Lehman. Headed by Lehman Professor Marilyn Aguirre-Molina (Health Sciences), the institute is dedicated to expanding health equity throughout New York City.

May

Lehman hosts CUNY’s Fifth Annual Gen Ed Conference, with the theme “Teaching Millennial Learners.”

Two new annual recognition events are initiated. A Faculty Recognition Luncheon recognizes full-time faculty in three areas: scholarship/research/creative endeavor; teaching; and service. An Honors Convocation (right) recognizes the achievements of all students graduating with honors or with membership in an honors program or society.

New York Secretary of State Lorraine Cortés-Vázquez, the first Hispanic to hold the statewide office since its creation in 1778, delivers the keynote speech at Lehman's forty-first Commencement ceremony; 1,488 bachelor's degrees and 641 master's degrees are awarded.

Lehman holds a reunion (right) for all alumni to celebrate the College’s fortieth anniversary.

Alumnus Rubén Díaz, Jr. (‘05, B.A.) holds his inaugural ceremony as Bronx Borough President in Lehman’s Performing Arts Ceremony.

June

Dr. Timothy Alborn (right) of Lehman’s Department of History is named new dean of Arts and Humanities, and Dr. Edward L. Jarroll (far right), a biologist from Northeastern University, is named new dean of Natural and Social Sciences.

Dr. Laird W. Bergad (right), whose landmark research on slave-based plantation societies has broadened historical understanding of Puerto Rico, Cuba, and Brazil, is named a Distinguished Professor of Latin American and Puerto Rican Studies. He becomes the seventh current member of the Lehman faculty to hold this rank.

July

The Bronx Small Business Development Center (SBDC) at Lehman College, along with the Mosholu Preservation Corporation, hosts the North Bronx Economic Development Summit at Lehman to address the current and future economic profile of the North Bronx. Since starting at Lehman in 2000, the SBDC has counseled 6,919 clients, with an economic impact on the borough of $75 million.

September

Alumnus Steve Mirsky (‘83, B.A.), science editor of Scientific American, delivers the keynote address at Lehman’s Convocation to kick off the 2009-2010 academic year.
October

For the second year in a row, the Center for Sustainable Energy at Bronx Community College holds its annual Alternative Vehicle Technology Conference at Lehman. It features leaders in the transportation industry and their latest in alternative fuels and emerging technologies.

The CUNY Institute of Irish-American Studies, located at Lehman, celebrates the Irish premiere of the opera *The Ghosts of Versailles*, with its composer, Distinguished Professor of Music John Corigliano, and librettist, Professor William M. Hoffman (Journalism, Communication, and Theatre). At the end of the month, Dr. David Barnwell of the Department of Spanish, National University of Ireland, Maynooth, visits Lehman for the U.S. launch of the world’s first Irish-Spanish dictionary. The project is cosponsored by the CUNY Institute of Irish-American Studies and Lehman’s Department of Languages and Literatures. Dr. Barnwell is coauthor of the publication.

For Campus Sustainability Day, one full day’s worth of trash is collected and displayed to make everyone aware of the amount the College generates every day.


A new Alumni & Friends Walkway is dedicated in support of student scholarships.

Lehman students (below, from left) Kelvin Vasquez, Yamilka Hernandez, Katherine Gómez, Amanda Savinon, Fiordaliza Acosta, and Lloyd Assan attend the iAdelante! U.S. Education Leadership conference. The annual meeting brings together students from business and liberal arts colleges and universities to assist them in acquiring the skills needed for success in the professional world.

The Lehman College Art Gallery celebrates its 25th anniversary.

The Lehman College Foundation holds its annual recognition dinner, honoring Perkins + Will, architects of the College’s new science building; CUNY Trustee Rita Di Martino, executive vice-chair of the Bronx-Lebanon Hospital Center Board; and actor and alumnus Ron Perlman (B.A., ’71).

November

The Lehman College Art Gallery launches a new Bronx Architecture website (www.lehman.edu/architecture) featuring some of the borough’s striking and varied buildings.

For the third year in a row, The High School of American Studies at Lehman College is selected by U.S. News & World Report as one of the top 100 high schools in the nation. It is ranked as #19 in the nation, #2 in both New York City and New York State, and #1 in the Bronx. The magazine looked at more than 21,000 public high schools in forty-eight states.

In testimony delivered to the New York City Council on Higher Education, Lehman President Ricardo R. Fernández says that higher education would be “out of reach” for many Lehman students without Federal and State financial aid. The hearing was held to examine how the State’s proposed budget deficit reduction plan would impact CUNY. Because most Lehman students are from the Bronx, where the poverty rate is twice the national average, President Fernández explained, their situation is more dire than for most others.

At all public four-year colleges, he said, only eleven percent of students have a family income of less than $20,000 a year—but at Lehman, a recent study of incoming students showed that thirty-eight percent have a family income of less than $20,000 a year. Similarly, he said, at all public four-year colleges, thirty-five percent of students have a family income of less than $50,000 a year—but at Lehman that percentage again is significantly higher: Seventy-three percent of incoming Lehman students have a family income of less than $50,000 a year.

December

Lehman’s Urban Male Leadership program hosts the Fourth Annual Conference of CUNY’s Black Male Initiative, examining *Health Disparities in Male Populations: Focus on the Health of Urban Males.*
The Lehman campus got a little greener last year with the debut of its own Edible Garden. Located on a section of grass between the Fine Arts Building and the Goulden Avenue gate, the garden is under the direction of Dr. Andrea Boyar, chair of the Health Sciences Department, Paul Wasserman, director of the Adult Learning Center (ALC), and Karen Griswold, ALC director of special projects. Their goal was to enrich the entire Lehman community with a small taste of fresh produce.

Over the summer, volunteers from the Lehman community brought their enthusiasm—and gardening expertise—to the project, watering and tending to the produce, which included tomatoes, cucumbers, lettuce, beans, and herbs.

By July, students in Professor Griswold’s summer nutrition class were using the garden’s fresh produce—all grown organically without fertilizers or pesticides—in the Lehman Food Lab in Gillett Hall. “The idea was to use some of the things in the garden to learn about food and nutrition,” she says.

The trio and corps of volunteers are repeating the process again this year and hope in the not-so-distant future to have enough produce to hold a farmer’s market on campus. If you would like to volunteer, contact Julissa Cruz at julissa.cruz@lehman.cuny.edu.
Revealing an unseen role of critical care nurses

The patients suffered from a range of ailments—caused by multiple gunshot wounds, hemorrhagic stroke, or emphysema complicated by drug use. What they had in common was where they all wound up: in Critical Care at St. Barnabas Hospital in the Bronx. That’s where they encountered Dr. Brigitte Cypress (Nursing).

Over the course of almost six months in 2008, Professor Cypress (’04, M.S.) painstakingly interviewed the critical care nurses who looked after them, the patients’ families and—when they were well enough—the patients themselves.

The results of her interviews—a paper called “The Meaning of Intensive Care Unit Experience as Perceived by the Nurses, Patients, and Family Members”—provides intriguing insights into the bedside dynamic of the nurses, the critically ill, and their families and has made quite a splash in the world of critical care nursing.

Dr. Cypress presented her work at last year’s Roy Adaptation Association research workshop and conference in Boston, where she was awarded the New Scholar Award, and in February at the annual International Research Conference in Nursing and Midwifery, sponsored by the venerable Royal College of Surgeons in Dublin.

In March, she presented the paper again at the Eastern Nursing Research Society in Providence, R.I. And in May her peers at the American Association of Critical-Care Nurses Exposition in Washington, D.C., heard her findings. In fact, the group awarded her its $10,000 Phillips Medical Outcomes Excellent Research Grant last year.

Dr. Cypress grew up in the Philippines and earned her bachelor’s in nursing there before coming to the United States in 1991. For her, the study, which she categorizes as a qualitative—rather than quantitative—look at critical care issues, contained some surprises. When she broke down her questions into various categories, touching on subjects like physical care, psychological states, and the transformational possibilities of such a traumatic experience, she found that “patients, family members, nurses—they all said the same things.”

So similar were the responses that she was able to limit her sample, thanks to what’s called “data saturation”—the happy tipping point where a researcher realizes that further effort will simply duplicate what’s already been done. “For instance,” she says, “patients uniformly referred to their brush with death as ‘a wakeup call,’ or ‘the longest day of my life.’ And all of them said, in one way or another: ‘I’m just so thankful to be alive.’”

Dr. Cypress found, too, that each and every nurse saw himself or herself first of all as an advocate for the ailing patient and the worried family.

Perhaps, most surprising, however, when Dr. Cypress interviewed family members, she found that, in the time their loved one spent in Critical Care, they very quickly ceased to look at the nurse as a detached giver of care. Instead, in their eyes, the nurse became, however briefly, one of them, a member of the family.

— Michael Neill

Educating the public about nutrient supplements

Sales of nutritional supplements in the United States total $23.7 billion. But often the consumers making those purchases are not really informed about what they’re buying.

Dr. Andrea P. Boyar, chair of Health Sciences at Lehman and director of its Dietetics, Food, and Nutrition program, coauthored a national position paper last year about both the effectiveness of these supplements and their potential dangers if used to excess. Written with fellow registered dietitian Melissa V. Marra, the article was published in the December issue of the American Dietetic Association Journal and represents the ADA’s newly updated position on the subject.

According to the authors, while additional nutrients from supplements can help some people meet their nutrient needs, the best nutrition-based strategy for supporting optimal health and reducing the risk of chronic disease is to eat a wide variety of nutrient-rich foods.

Purchase of supplements, they said, is driven by “the aging of the population and consumer desire to maintain good health and prevent disease,” and can be helpful to some in filling dietary gaps. They remind the public, however, that registered dietitians are the ones with “the knowledge and experience to educate consumers on safe and appropriate selection and use of supplements.”

— Christina Dumitrescu

Shattering accepted thinking about the ancient Maya

Dr. Cameron L. McNeil (Anthropology) shattered accepted scientific thinking last December when she argued in Proceedings of the National Academy of Sciences that large-scale deforestation did not cause the collapse of the ancient Maya city of Copan in Honduras, as many had believed.

Copan has been widely used and promoted as the archeological “type site”—or model—for the deforestation hypothesis. After analyzing a longer sediment core than the one used to support that...
theory, Dr. McNeil and the two co-authors of her article concluded that the area’s forest cover actually increased during the years when the society was collapsing.

The Classic Maya civilization was highly advanced and encompassed major portions of Mexico and Central America from about A.D. 200 until A.D. 900, when it collapsed and many of its cities were abandoned. Anthropologists have advanced various theories about that collapse, including war and drought, but until now deforestation has been viewed as an important factor. This hypothesis has been held up in both archaeological and high school textbooks, as well as in film and literature, as a lesson of the dangers of our own environmental abuses.

Dr. McNeil’s finding refutes this popular view. Instead of responding to their growing population and larger urban centers by exhausting their natural resources, she suggests that these new data may signal that the Maya were implementing effective techniques of sustainable land use—even as serious problems were undermining the successful governance of Copan and the lives of its people.

Addressing Vitamin A deficiency around the world

Vitamin A deficiency is the cause of eye disease in millions of children and places hundreds of millions at risk for other disorders. Maize is the most common crop grown in much of sub-Saharan Africa and the Americas, where substantial numbers are affected by this deficiency. Dr. Eleanore Wurtzel (Biological Sciences) received funding last year from the National Institutes of Health through the American Recovery and Reinvestment Act (ARRA) for her research on improving provitamin A carotenoid levels in food staples like corn.

Dr. Wurtzel heads a team of researchers that includes undergraduates, graduate students in the CUNY biology and biochemistry Ph.D. programs, postdoctoral students, and other visiting scientists. They work together to conduct research on corn grown on the Lehman campus to better understand the basis of the natural diversity found in this plant and how carotenoid content and composition are controlled.

“ARRA funding has created new jobs and is contributing to the translation of basic research into solutions for combating vitamin A deficiency around the globe,” Dr. Wurtzel said. Last year, she and two members of her team, Dr. Yu Chen and Dr. Faqiang Li, published their discovery that revises the biosynthetic pathway to provitamin A carotenoids.

Finding a link between stress and certain ailments

Studies show that chronic stress is a possible culprit in ailments ranging from cancer to heart conditions. New research by Dr. Luisa N. Borrell (Health Sciences) indicates that Americans with high levels of stress are 55 percent more likely to suffer from periodontitis—a gum disease that weakens the bone supporting the teeth. Mexican Americans are the most susceptible, almost five times more likely to have this condition.

In addition to Mexican Americans, striking differences emerged in the study among men, blacks, those with fewer than twelve years of schooling, those who never visited a dentist, and current smokers. According to Dr. Borrell, who was the report’s lead coauthor, racial/ethnic minorities and low socioeconomic groups are more likely to be exposed to stress, which may explain their higher prevalence of periodontitis.

“Strong associations between stress and periodontitis were observed for Mexican Americans, who normally have a lower incidence of this disease,” she notes. “This may mean they have not adopted coping responses to process chronic stressors that other groups may have historically been conditioned to handle.” Mexican Americans constitute the largest Hispanic subgroup in the U.S.

Dr. Borrell conducted the study with her colleague, Professor Natalie D. Crawford of the Columbia University School of Public Health. It was published as an Online First in the December 2009 issue of the Journal of Epidemiology and Community Health.

Learning more about the causes of mental retardation

Research by Professor Manfred Philipp (Chemistry) is shedding new light on the functioning of the gene historically associated with mental retardation.

The research was conducted by Dr. Philipp and colleagues at the New York State Institute for Basic Research in Developmental Disabilities on Staten Island. They found that mutations in this gene disrupt its ability to maintain the correct balance of steroids, dooming the brain to neurological problems later in life. Until now, it has not been clear exactly how or why this gene is required for normal brain development.

The research was published in Proceedings of the National Academy of Sciences.
Developing revolutionary computational tools

Dr. Nancy Griffeth (Mathematics and Computer Science) is part of a national team of mathematicians and computer scientists working on a $10 million project that promises to advance science on many fronts, from developing new cancer treatments to designing safer aircraft.

She is working with colleagues from Carnegie Mellon University, Cornell University, New York University, and NASA's Jet Propulsion Laboratory to develop revolutionary computational tools to help scientists and engineers. The five-year project was funded last August by the National Science Foundation and is expected to be far-reaching in its impact.

The researchers plan to combine “Model Checking” and “Abstract Interpretation,” two independently developed techniques that have found errors in systems used to control satellites, railway systems, and other computer circuitry and software. In related research, Dr. Griffeth has studied how to test and manage computer networks. For the new project, she will examine how computers can learn to create models of a system from observations of its behavior. The computer-generated models can then be used to help scientists determine the properties of the system.

The project team believes that combining the techniques of Model Checking and Abstract Interpretation can provide insights into other complex systems, regardless of whether they are biological or electronic. The team’s findings could benefit pancreatic-cancer modeling, atrial-fibrillation detection, distributed automotive control, and aerospace control software, among other areas.

As part of the grant, Dr. Griffeth is organizing a yearly undergraduate workshop on modeling complex systems.

Locating acres of unused land that could make our region greener

Even in densely populated New York City and its surrounding area, there are thousands of acres of vacant land that could be saved for conservation, according to a report by Dr. Yuri Gorokhovich (Environmental, Geographic, and Geological Sciences). He studied the counties bordering Long Island Sound for two years and published his findings in the December 2009 issue of The Journal of Coastal Conservation.

Dr. Gorokhovich identified 744 individual parcels of vacant land, at least five acres in size, that could be set aside for conservation. In addition, he mapped out 122 contiguous clusters of vacant land—some 14,661 acres in total—in five counties: Westchester (246 acres), the Bronx (247 acres), Queens (1,246 acres), Nassau (2,036 acres), and Suffolk (10,885). Each land cluster, he says, could be used to make New York City and Long Island greener.

The report has been submitted to both the New York State Department of Environmental Conservation and the Long Island Sound Study, a cooperative effort created by the U.S. Environmental Protection Agency and the states of Connecticut and New York to protect and improve the health of the Sound.
Winning awards for their math research

They’re working on important research that could, for instance, help scientists select the optimal evolutionary history for a set of organisms, but Lehman computer science majors Diquan Moore and Alan Joseph Cáceres took time out to ace the math poster competition at the Florida–Georgia Louis Stokes Alliance for Minority Participation Expo held at the University of South Florida in Tampa. Moore took first prize; Cáceres came in second.

Both presented work they have done with Math and Computer Science Professor Katherine St. John’s phylogenetic tree project. Working with a National Science Foundation grant (and twelve of her undergraduates), including Moore and Cáceres, she is developing mathematical and computational tools to help scientists create phylogenetic trees. [Phylogenetic trees are branching diagrams or “trees” that plot evolutionary relationships that are inferred among biological species or other entities.]

Moore, a 24-year-old senior and lifelong South Bronx resident, plans to go on for a Ph.D. in the field of artificial intelligence. “Opening my own lab some day is my dream,” he says. What does he think earned him first prize? “I believe my research is interesting, and it helped that I was able to explain it in a comfortable manner.”

Cáceres, also 24, who grew up in the Bronx and graduated from DeWitt Clinton High School, is very aware of the real-life possibilities of the research he and the other members of Professor St. John’s team are pursuing. “I’m enthusiastic about what will come about in the near future,” he says.

Using math to grapple with real-world problems

How are your summer plans shaping up? Lehman junior Michael Hintze has his all mapped out; he’ll be spending nine weeks at UCLA, participating in the prestigious RIPS program.

RIPS (it stands for Research in Industrial Projects for Students) is a hard-to-get-into program run by UCLA’s Institute for Pure and Applied Mathematics—with the emphasis on the “applied” part.

Sponsored by industry groups, RIPS allows teams of selected students, supervised by an academic mentor, to grapple with real-world problems while absorbing the analytical techniques needed to solve them. It’s a great way for students to move beyond the purely academic—and for companies to pick some of the country’s brightest young brains.

Hintze, 20, a member of the Macaulay Honors College at Lehman, certainly fits that description. A lifelong New Yorker, he graduated from Francis Lewis High School in Queens—where he was on the school’s city champion track team. “My favorite subject in high school was history,” he says, “but when I entered college I took part in a robotics competition—and immediately fell in love with engineering.”

He decided to stay at Lehman (which doesn’t have an engineering program) for a year and transfer. But, then, he says, he discovered something new. “I enjoyed the problem-solving aspect of mathematics. So I decided to take more math classes. One thing has led to another, and I am now a mathematics major.”

Investigating soil pollution in Colombia

Lehman senior Samsiya Ona spent last summer in the sweltering heat of Cartagena, on Colombia’s Caribbean coast, pursuing the kind of unglamorous research that science sometimes demands. The title of her poster presentation at the Peach State LSAMP conference in Georgia last November tells it all: “The Effect of Septic Tanks on Soil Quality in Tierra Baja and Puerto Rey.”

It was good enough to win first place in the environmental and life sciences category.

“The project consisted basically of going into the communities, surveying the residents in terms of household size, type of sewage system, and the bacterial diseases they most commonly suffer from,” says Ona. “The samples were then taken to the lab where we measured their fecal coliforms and iron concentrations as well as their pH.”

Ona, 22, came to New York in 2006 from Togo, where she graduated from College Protestant in Lomé, the capital of that West African nation. She started at Lehman in 2007, pursuing a dual degree in anthropology/biology/chemistry and biology and plans to go on for her M.D./Ph.D.

About her work in Colombia last summer, she says, “The best part of the experience was being in a different country, where such research has just begun—and most important, it was lab-based and community-based.”
Exploring the use of plants to clean up contaminated sites

Here’s a catchy title: “Phytotolerance to Toxic Heavy Metals by American and International Rice Oryza Sativa Cultivars L. in vitro: Implications on Remediation of Contaminated Sites.”

Here’s another: Mayor of New York City.

Francisca Villar was running for the second title (on the Party for Socialism and Liberation line) last year, around the same time she was presenting the first one—at the Peach State LSAMP Symposium and Research Conference. Her presentation was good enough to win second place in both poster and oral presentation in the life sciences and environmental biology category.

In non-scientist terms, her project examined the devastating effect that heavy metals like cadmium can have on rice—and the people who eat it—when they leach into the water in which the grain is grown. Specifically, her area of research is phytoremediation or the use of plants to clean these metals from the environment.

Villar, 26, grew up in both Geneva, N.Y., between Syracuse and Rochester, and Washington Heights. In 2000, after earning her GED, she enrolled in LaGuardia Community College—took time off for the birth of her children, Justin, 6, and Jana, 5—and returned to school in 2006. Now a junior at Lehman, majoring in anthropology/biology/chemistry, she has her sights set on med school or grad school.

“It’s been tough,” she says of her roundabout academic career, “but there are thousands of women out there like me who don’t ever get to leave and start their lives again.”

She also has no problem reconciling her political passions and her scientific ambitions. “I am a hard-core activist,” she says, “but science is my life.”

Finding new uses for horseradish

Biochemistry major Doreen Aboagye has found an unusual use for an enzyme (Horseradish Peroxidase) extracted from horseradish. She used it to fabricate a biosensor that can detect contaminants in the environment in very small amounts, even down to traces.

Aboagye’s poster detailing her research won second place at the New Mexico Alliance for Minority Participation Student Research Conference in October. The annual conference draws students and faculty from the state’s colleges and universities, as well as students from the National Science Foundation’s Louis Stokes Alliance for Minority Participation (LSAMP) programs.

Aboagye, an LSAMP student, worked on this project while interning last summer at Purdue University. There, she joined a team that was developing enzyme-based biosensors.

“The project was about fabricating biosensors to determine the presence of pesticides and toxic substances in places like clinics, homes, restaurants, and basically everywhere,” she explains. Biosensors detect the contaminants based on a biochemical reaction, and the horseradish enzyme has natural properties that help the process along. Based on the results obtained, an article was submitted for publication in the Journal of Materials Chemistry edited by the Royal Society of Chemistry (UK).

Aboagye was encouraged by her professor and mentor, Dr. Andrei Jitianu of the Lehman Department of Chemistry, to pursue the Purdue internship. He has had a long collaboration with a colleague at the School of Materials Engineering, where Doreen studied and worked. That internship, in turn, has opened the door to new avenues of collaboration between the two institutions in coming years.

A native of Ghana, Aboagye was attracted to biochemistry because of its study of human body systems and its ability to broaden her overall understanding of the chemistry discipline. She plans to enter an M.D./Ph.D. program after graduation and pursue a career in medicine and biomedical research.

Charting Enrollment Growth

Enrollment grew at Lehman by thirty-nine percent in the last decade.
Lehman students agree that May is a great time for a fair. Organized by the Office of Campus Life on the South Field, the traditional Spring Club Fair offers students a last burst of fun before finals. Organizations encourage the wearing of traditional dress, like those modeled by members of the Caribbean Club, and host a variety of events. They jump and fall on a trampoline, strap themselves into a bungee swing to fly through the air, and even try scaling the heights with rock-climbing. There’s always time for a quick game of volleyball—or a swirly stick of cotton candy.

Spring Means Fairtime at Lehman

Photos by Joshua Bright