What the Future Holds
State of the University Address
Delivered September 15, 2010 by President Samuel L. Stanley Jr., M.D.

Good afternoon. I’m delighted to welcome each of you to our annual University Convocation. This is, indeed, a special occasion for me in that it provides not only an opportunity to share with our University community where we are as an institution, but also a chance to welcome our new faculty and to wish each of you the very best as we begin a new academic year.

Having completed my first full year as president on July 1, I am prouder than ever to be affiliated with Stony Brook University and its amazing faculty, staff, and students. The fact that we have continued to raise the bar of academic quality, and the reputation of this great institution on a worldwide scale during some of the most challenging times in this University’s history, is nothing short of extraordinary.

But, keep in mind, the greatest challenge we face is that we must find ways to do more with less going forward. President Stanley on the challenges faced this past year and opportunities to do more with less going forward.

Welcoming Our New Faculty

Before I share with you the highs and lows of this past year and give you a glimpse of where we are going in the coming year, I would like to take a moment to recognize the 61 new faculty members who have joined us this year.

We want you to know we are excited about what you will contribute to our University and our community and wish you luck as you begin your careers here at Stony Brook.

Recognizing Our New Administrators

I am also delighted to introduce our new university leaders.

Margaret M. McGovern, professor and chair of the Department of Pediatrics, will be leading Stony Brook Children’s Hospital as physician-in-chief. She will continue as chair of pediatrics in the School of Medicine.

Nancy Squires was appointed dean of the College of Arts and Sciences.

Facing Challenges Together

If I were a betting man, I would say the odds are pretty good that the vast majority of my presidential colleagues across the country have resorted to taking a “good news, bad news approach” to presenting their state of the university messages these days. And, while most of us would prefer to focus on the good news and the many positive things that make us unique as institutions, we all know that it is important for you, our faculty and staff, to be apprised of the challenges that are before us so that we might face our obstacles together, with far less negative impact on our students and our academic programs.

Without question, the significant reductions in our budget over the past few years have been a hindrance to our plans for continued growth and productivity. From 2008-09 through 2010-11, real cuts to Stony Brook University tally up to nearly $59 million. Stated another way, since April 1, 2008, our State budget...
Given the cost of living in New York and of-state tuition for undergrads (Graph 5), graduate students (Graph 4), we are first lowest tuition and fees for in-state undergraduates (2009-10), Stony Brook ranks fourth for the every aspect of the University so that we our students and faculty do not experience significant decreases in the quality of our programs and services.

The Brook University

Now let’s talk about some good news. I am pleased to say that we continue to attract some of the best and brightest students in the country and around the world.

In terms of our freshman class, it is the best in the State’s history (Graph 6). Nearly 28,000 first-year students applied for a class of approximately 2,700 freshmen, and an additional 4,700 transfers applied for one of our 1,200 transfer seats. Academically, the 2010 freshman class has a higher mean high school grade point average and average combined SAT scores than last year’s outstanding freshman class (Graph 7). To give you some perspective on the increasing quality of students, 78 percent of our 1,200 transfer students Stony Brook freshmen have improved by nearly 80 points since 2007.

For the benefit of our new students, we are attending Stony Brook from the country and around the world. According to admissions records, the number of out-of-state freshmen increased from 15.5 percent SUNY was created to educate the poor and middle class, and where we stand nationally in tuition and where we rank compared with those of our AAU peers Huntington as a great, let me say that again, a great, public university…. So, we...
to do so. That being said, we are at a crossroads. To maintain the level of quality that is expected from a top tier institution, and to do what is right for our current students and faculty, we have decided to cap our undergraduate enrollment—for the time being—so we do not overburden our professors and undermine access to the courses students need to graduate.

Our Outstanding Faculty

The quality of our students represents a continued source of pride for Stony Brook. And one of the reasons they come here is because of our outstanding faculty and the national and international recognition they bring to this institution. While there is not enough time at this event to outline appropriately even a small part of the many accomplishments of our faculty during the past year, I would like to share a select few of our most recent faculty achievements so that you will know the brilliance that sits among you today.

President Barack Obama selected Elizabeth M. Boon, assistant professor of chemistry, as a recipient of the Presidential Early Career Award for Scientists and Engineers. In addition to getting an invitation to the White House to receive her award from President Obama, Dr. Boon will be awarded $200,000 per year for five years to continue her research.

Jennifer L. Anderson, assistant professor in the Department of History, received a coveted Emmy nomination in the category of Outstanding Individual Achievement in a Craft or Technique, as part of thelighting crew for “Traces of the Trade: A Story from the Deep North” that aired on the PBS series America’s Reading List.

Professor John Parise from the Department of Neurosciences was awarded a Fulbright U.S. Distinguished Scholar Award for 2009-10, which will enable him to pursue his studies on the syntheses of novel materials at high pressure while visiting the Department of Chemistry at the University of Edinburgh.

Joanna Fowler, senior chemist, director of the subzero chemistry, instrumentation, and imaging biological program at Brookhaven National Laboratory, and adjunct faculty member in Stony Brook’s Department of Chemistry, was awarded the National Medal of Science at a White House ceremony. She was one of nine researchers named by President Obama to receive the award, which is given for lifetime achievement in science.

Daria Semegen, a professor from the Department of History, received the 2009 American Association for the Advancement of Science (AAAS) fellow.

Stony Brook University Mathematics Professor Dennis Sullivan was awarded the prestigious Wolf Prize in Mathematics for his innovative contributions to algebraic topology and conformal dynamics. The National Academy of Engineering elected Eric W. Kaler, provost, senior vice president for academic affairs, and vice president of Brookhaven affairs, as one of 68 new members and nine foreign associates.

The Emerson String Quartet, Stony Brook University’s resident ensemble, won its ninth Grammy Award for Best Chamber Music Performance for its May 2009 recording of “Intimate Letters,” released by Deutsche Grammophon.

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Success in Athletics

Athletics is yet another area in which Stony Brook has been building on its success and enhancing its reputation. The increased attendance we have seen over the past decade in such sports as football, basketball, and women’s basketball, and lacrosse continues to be indicative of the growing excitement and interest our sports teams are generating across the campus and within the community. From the 2000-01 fiscal year to fiscal year 2009-10, attendance for athletics events in the four sports I just mentioned has doubled, increasing from a little more than 30,000 attenders to more than 60,000 (Graph 14). This past year, in particular, has also been a banner year for Stony Brook Athletics. Through greater accountability and the commitment to do more with less, this initiative will develop a solid platform to support the future growth of the University and strengthen Stony Brook’s role in the economic renewal of New York State.”

A New Vision for the Next Half Century

Before I conclude, I would like to mention Project 50 Forward, an exciting new vision of how we will approach the next half century and beyond.

Project 50 Forward is a comprehensive initiative designed to enhance the fundamental teaching, research, and service missions of Stony Brook University. Through greater accountability and the commitment to do more with less, this initiative will develop a solid platform to support the future growth of the University and strengthen Stony Brook’s role in the economic renewal of New York State.

I believe that Project 50 Forward will add value to the Stony Brook degree, propel us into the ranks of the top 20 private research universities, and make a positive impact on everyone associated with this great institution, but it is going to require the involvement of our entire University community. With your sugges-
tions, engagement, and support, we will look for every opportunity to provide our students and the resources they need to excel.

There are three essential elements at the core of Project 50 Forward: Operational Excellence, Academic Greatness, and Building for the Future. Operational Excellence will focus on every facet of University operations, with an eye toward reducing costs and streamlining operations. Using a generous gift from the Stony Brook Foundation, we wish to engage Bum & Company to help with this process, which is designed to help us improve our effectiveness and efficiency, while also helping us to deal with our budget situation.

Academic Greatness will be achieved through the implementation of a comprehen-
sive Strategic Plan, which is being devised to ensure that faculty, staff, and students are engaged in challenging work and that students have access to the best educational opportunities. The Strategic Plan will be adopted by the University community. Through its implementation, the University community and beyond.

Building for the Future, which falls under the auspices of the Facilities Master Plan, is the third essential element of Project 50 Forward.
What's New on Campus

Appointments, Announcements, Awards

New Dean for School of Medicine

After a national search, Kenneth Kaushansky, M.D., M.A.C.P., the Helen M. Ranney Distinguished Professor and Chair, Department of Medicine at University of California, San Diego, has been appointed senior vice president of the Health Sciences for Stony Brook University and dean of the School of Medicine. Kaushansky, 56, has oversight of the education, clinical, and research components of the School of Medicine and the Health Sciences, which also include the School of Dental Medicine, School of Health Technology and Management, School of Nursing, and the School of Social Welfare. He has some oversight responsibility for Stony Brook University Medical Center, and oversight for the Long Island State Veterans Home.

Kaushansky earned his B.S. and M.D. degrees from the University of California, Los Angeles, and completed an Internal Medicine Internship, Residency and Chief Medical Residency, and Fellowship in Hematology at the University of Washington. He joined the faculty at the University of Washington in 1987. Following his service as hematology section chief at the University of Washington Medical Center, Kaushansky was named Helen M. Ranney Professor and chair of the Department of Medicine at University of California, San Diego, in 2002.

A leading hematologist, Kaushansky had conducted seminal research on molecules in the molecular biology of blood cell production. He is an accomplished clinician, and he has been a champion of the need to train more physician-scientists who can bridge the gap between the laboratory and the clinical arena, translating research discoveries into improved treatments and technologies for the prevention, diagnosis, and management of disease.

“Stony Brook is an exciting place to learn, live, and work. What has been achieved here in a little more than 50 years is truly remarkable, but we can, and we will, accomplish even more.… I am absolutely convinced we have the creativity and resourcefulness… to rise above the hard times.”

SBUMC Launches Children’s Hospital

“Nothing is more important than the health and welfare of our children,” said Samuel L. Stanley Jr., M.D., president of Stony Brook University, at Stony Brook University Medical Center’s June launch of Stony Brook Long Island Children’s Hospital.

Stony Brook Children’s, the only dedicated children’s hospital east of the Nassau/Queens border, will provide patients with state-of-the-art technology and specialty physicians, nurses, and researchers, all contained in the only university-based children’s hospital on Long Island.

Simultaneous with the launch, the organization received associate membership status in the prestigious National Association of Children’s Hospitals and Related Institutions (NACHRI). NACHRI promotes the health and well-being of all children and their families through support of children’s hospitals and health systems that are committed to excellence in providing health care to children.

“We are uniquely positioned to provide this comprehensive care dedicated to the community’s youngest patients and their families while leading the way to new knowledge in children’s health,” said Steven L. Strongwater, M.D., Stony Brook University Hospital CEO.

Initially, Stony Brook Children’s will be located within Stony Brook University Medical Center as plans are developed for a free-standing facility in the future.

Leading Stony Brook Children’s as physician-in-chief is Margaret M. McGovern, M.D., Ph.D., professor and chair, Department of Pediatrics.

“With Suffolk’s high incidence of chronic childhood diseases such as asthma, and with young accident victims and low birth weight infants, there is a driving need for a children’s hospital here,” said McGovern. “[Stony Brook Children’s] is a destination for doctors, nurses, and researchers who are continually seeking new ways of treating persistent—and emerging—threats to children’s health. To learn more about Stony Brook Children’s, visit www.stonybrookchildrens.org

Marburger Leads SB Research

Former Stony Brook President John H. Marburger III has been named the University’s vice president for research. Marburger was Stony Brook’s third president (1980-1994), director of Brookhaven National Laboratory (1998-2000), science advisor to President George W. Bush, and director of the Office of Science and Technology Policy (2001-2009). Stony Brook University reached a record $201 million in total sponsored program research expenditures at the end of the fiscal year in June. In addition, SB received 1108 new awards totaling more than $56 million under the American Recovery and Reinvestment Act (ARRA) of 2009. Stony Brook accounts for over 40 percent of all ARRA funding SUNY-wide.

Marburger’s presidency at Stony Brook coincided with the opening and growth of the Hospital and the development of the biological sciences as a major strength of the University. During the 1980s, federally sponsored scientific research at SB grew to exceed that of any other public university in the northeastern U.S.

Marburger was the first president of Brookhaven Science Associates, which was established for the purpose of managing and operating Brookhaven National Laboratory. It was formed as a 50-50 partnership between Battelle Memorial Institute and The Research Foundation of the State University of New York on behalf of Stony Brook University.

PHOTO: STONEWALL KERN, STONY BROOK UNIVERSITY HOSPITAL; (LEFT) DR. KENNETH KAUHSANSKY, STONY BROOK UNIVERSITY; (RIGHT) DR. SAMUEL L. STANLEY, JR., STONY BROOK UNIVERSITY; (BELOW) HELEN M. RANNEY DH1800618; (TOP) RIVERSIDE COMMUNITY HOSPITAL.
Research Roundup

Each year, students are honored at the URECA (Undergraduate Research and Creative Activities) Research Roundup. In particular, Alex Nagler, a political science major, was honored for his work analyzing Twitter messages during the 2009 election protests in Iran.

The protests following the 2009 elections in Iran were a significant event that highlighted the impact of social media on political discourse. Alex Nagler, a political science major at Stony Brook University, conducted research on how Twitter was used during the protests. Using a database managed by the political science department, Nagler analyzed tweets and their impact on the protests.

Nagler's research focused on the use of Twitter during the protests in Iran. He found that Twitter provided a platform for citizens to communicate and organize, despite the government's efforts to suppress dissent. Nagler's work was significant because it was one of the first studies to analyze the impact of Twitter on political events.

In his research, Nagler analyzed tweets sent about the Iran elections from June 13 to June 27. He found that Twitter users used the platform to express their views and coordinate activities, even though the government was trying to block access to the platform.

Nagler's research was important because it showed how social media can be used to communicate and organize even in the face of government censorship. His work also demonstrated the potential of social media to influence political events.

In conclusion, Nagler's research on Twitter's impact on the 2009 election protests in Iran was significant because it provided a unique perspective on the role of social media in political events. His work demonstrated the power of social media to communicate and organize, even in the face of government censorship.

On the Horizon

Tony Brok is going where no university has gone before, thanks to a $1.4 million National Science Foundation grant to build “the closest thing in the world to Star Trek’s ‘holodeck.’” Known as the “Reality Deck,” the Immersive Gigapixel Display will be a 360° x 11° high room in SB’s Center of Excellence in Wireless and Information Technology (CEWIT), containing 308 LCD display screens driven by an 85-node graphics computing cluster. And while it will not be quite the simulated reality environment found on the starship Enterprise, it will fully immerse visitors in 1.25 billion pixels of information, approximating the visual acuity of the human eye, according to the project director, Arie E. Kaufman, Ph.D., distinguished professor and chair of the Department of Computer Science and chief scientist at CEWIT. The deck will be constructed in the next year.
How bright
is our
energy
future?

By Carol R. Richards

By 2020, China and India will be using all the oil the Saudis can pump and we Americans are going to have to be ready to rely on new sources of energy—fast. Stony Brook University is at the forefront of state and national efforts to find new clean, green ways to keep the juice flowing. The University has taken a leadership role in energy policy-setting; it has become a seedbed of ideas with its exciting advanced energy conferences, and its labs and classrooms are home to students, scientists, and engineers dreaming up and applying for patents in gee-whiz new energy technology.

Just as our lives have been affected in almost every way by information technology, or IT for short, another transforming upheaval is in the works: energy technology. “ET is the next great Industrial Revolution,” says visionary, Pulitzer Prize-winning author Thomas Friedman. Goaded by interlocking desires to curb global warming and stop the deluge of oil prices, the world is moving to join the IT revolution. Developing countries are growing so fast that we’re going to need all the energy we can get our hands on. If we don’t have electric vehicles, we are not going to have enough fuel.”

And the fossil fuels that are powering this growth are pumping tons of carbon dioxide into the atmosphere, accelerating climate change. Yacov Shamash, Stony Brook’s vice president of economic development and dean of the College of Engineering and Applied Sciences, says New York State is “actually ahead of the game” in the area of clean technology and clean jobs. New York’s new Smart Grid Consortium is an example of national leadership. Shamash says it got started when he and former Keyspan President Robert B. Catell and Con Edison President and Chief Operating Officer Louis L. Rana brought together utilities and utility regulators—forces often at odds—to figure out how to introduce smart grid technology to New York. Involved are software companies, solar advocates, wind power promoters, communication execs, and others. But the big deal is having the utilities and the regulatory body—the Public Service Commission (PSC)—working hand in hand.

As a rule, government regulators like to see utilities spend their R&D. In some states, they just say no. “State utility commissions don’t allow utilities to make investments in smart grids,” says Marc Cummings of Battelle & Pacific Northwest National Laboratory. He was speaking at a federal energy conference in March, where former CIA Director James Woolsey used humor to make the same point: “Take the electricity grid—please.”

Naysaying is less of a problem in New York. Shamash reels off a utility R&D proposal made this spring that was approved by the PSC in about a week instead of the usual months. The Smart Grid Consortium put all the players in one room. “Other states are calling us to see how we did it,” he says.

There are other major energy organizations in which Stony Brook plays a key part. There’s the New York Energy Policy Institute, which also involves Brookhaven National Laboratory (BNL) and 18 universities. Membership puts Stony Brook in a place to play a big part in determining New York State’s energy policy from here on out. And there’s the Long Island High Technology Incubator Inc., which also involves BNL and the private sector, and which will be financing a clean-energy business incubator on campus. Just consider the playbook for the game-changing energy drama unfolding in New York: retired utility big shot Catell stars as chairman of Stony Brook’s new Advanced Energy Research and Technology Center; SI alumn Kevin Law, former president of the Long Island Power Authority, the No. 1 utility on the East Coast for using solar panels, and current Long Island Association president, is cast as chairman of the Stony Brook Council. Don’t forget New York-based companies that are involved in clean, green technology, such as GE, IBM, and CA. Put them on stage with Shamash and the researchers of Stony Brook University and BNL, and you have a stellar cast working with a highly ambitious script. The basic plot: Act I. Make more power; use less. Act II. Create U.S. jobs; rely less on imported fuel. Act III. Pump less carbon dioxide into the atmosphere; save the planet.

Specifically, create more and cheaper electricity from nonpolluting sources, such as the sun and the wind, and make that power more reliable. Manufacture more fuel for cars and trucks from things that grow, rather than use fossil fuels. Build batteries that can store excess wind and solar power for use when it’s dark and still. Boost batteries so electric cars don’t have to recharge so often. Curb wasted power by making computers, cars, you name it, more efficient. Boost carbon pollution from coal-fired power plants.

Some of the ideas are wild, but who knows what will work until it is tried? In New Hampshire, Stony Brook alumn Kedar Gupta is growing “sideways sunflowers,” whose use sharply cuts the cost of making...
LED light bulbs (see story, p. 18). On campus, Charles Fortmann is using chlorophyll to make solar cells work more efficiently (page 20). And Distinguished Professor of Materials Science Miriam Rajalaloo put together a team that includes a graduate student, a high school senior, and a science teacher that has turned a dangerous chemical manufacturing process into “tabletop chemistry” and is the subject of a patent application (page 19). The project helped make the high school student a finalist in the 2010 Intel Science and Talent Search.

The federal government is helping to pay for research as part of its plan to end the Great Recession. The $787 billion American Recovery and Reinvestment Act provides $4 billion to upgrade the national grid. It also gives $400 million to the Energy Department’s ARPA-E to fund high-risk, high-reward technical research. Much of the research at Stony Brook is underwritten by Rafailovich for the graphene made by her prize-winning project to create gas from Long Island landfills and wastewater treatment plants (page 20).

Batteries. House batteries so they’ll keep your car running for 600 miles and can store the power from wind and solar sources for use when the wind dies and the sun goes down. Or make miniscule batteries that can be wirelessly recharged and will last out current ones that now power heart pacemakers. That’s the science behind the graphene for the graphite made by her prize-winning crew of collaborators (page 19).

Reliable renewables. How about stringing together so many wind turbines along the East Coast that there is almost always wind blowing somewhere? The science behind the idea has been affirmed by a team that includes Associate Professor Brian Colle of Stony Brook’s School of Marine and Atmospheric Sciences (page 19).

Smart buildings. A lot of money is spent air conditioning computer rooms, so find ways to make them give off less heat. That’s a project of Associate Professor Erez Zadok of Stony Brook’s Department of Computer Science (page 18). And why not make buildings clean themselves and the air around them? It’s doable. Alexander Oreos, assistant professor, Department of Materials Science and Engineering, collaborates with a firm that coats entire buildings with self-cleaning paint that also removes nitrogen dioxide from the air. One of the ingredients? Titanium dioxide, which is also found in toothpaste.

These new technologies may be just as disruptive to the status quo as the discovery of oil in Titusville, Pennsylvania, was to life in lamp-lit, wood-fire-heated America in 1859. The world runs on energy, but there is not a single commercial source without some drawback. Consider:

Oil is the bad guy in all this. It is the fuel that powers our cars and makes much of our electricity. America uses 20 million barrels a day. But acquiring what we need makes us vulnerable, since more than half of our oil is imported. (Our No. 1 supplier is friendly Canada, but a good deal of our oil comes from nations that are unfriendly, unstable, or both.) And using what we need imperils us, because burning it produces carbon dioxide, a greenhouse gas that is imperiling us, since burning it produces carbon dioxide, a greenhouse gas that is imperiling us, since burning it produces carbon dioxide, a greenhouse gas that is imperiling us, since burning it produces carbon dioxide, a greenhouse gas that is imperiling us. That will get the public’s attention.

Coal, which America has in abundance, is worse than oil as an emitter of carbon dioxide, to say nothing of the damage the extraction process does to the environment and the danger the work poses to miners. More than 48 percent of the nation’s electric power comes from coal.

Natural gas emits only half as much carbon dioxide as oil. Although it’s still a greenhouse gas, it is considered a desirable option, and one that could bring wealth to the Eastern states that overlie the massive Marcellus Shale field, which covers New York’s Southern Tier and extends down to Tennessee. Now that science has figured out how to extract gas from the shale by a process called hydraulic fracturing, “we are the Saudi Arabia of shale gas production,” according to Daniel Poneman, U.S. deputy secretary of energy. Hydropower is clean, but it requires too much land to be practical as a new source of energy. (Has anyone built a Hoover Dam lately?) Nuclear power is clean but public opposition has prevented utilities from starting any new plants for decades. (Remember Three Mile Island?)

Smart grids. Replace the current skein of wires and cables that carry America’s power with an electric grid that wastes less juice and transmits power both ways—from the utility to the home or business, and from personal generators, such as solar panels, back to the utility (page 16).

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A Primer on Power: the Good, the Bad, and the Ugly

Carol B. Richards, former deputy editor of Newsday’s editorial pages, is a Maryland-based freelance writer and editor-at-large for The Brook

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Smart buildings. A lot of money is spent air conditioning computer rooms, so find ways to make them give off less heat. That’s the science behind the graphene for the graphite made by her prize-winning crew of collaborators (page 19).
But take a step back. In this country, electricity has traditionally been provided by stockholder-owned companies, which produce power at large, centrally located power plants and distribute it to homes and businesses over wires they own, at rates set by state agencies. That worked tolerably well under conditions, providing reliable service at a cost. In exchange for guaranteeing the lights would go on, utilities were encouraged to build (or overbuild) substantial central power stations, and were allowed to charge the public for them. That model has broken down some in recent years, with the advent of electricity competition, offering some consumers the choice of power suppliers. Meanwhile, many early power plants have become outdated, or emit excessive pollution, and growing demand for electricity has stressed the capacity of Thomas Edison’s old grid of cables and wires to carry it. The Smart Grid would address that situation in several ways. But the fundamental change would come from pairing the grid with an Internet-like means of communication that would enable power to move both to and from customers. This would allow a variety of new efficiencies. One example:

On very hot days, when air conditioners everywhere are blasting away, the demand for electricity soars. So utilities have to maintain enough power plants to meet that demand, even though those plants are seldom needed and must burn extra fuel to keep everyone cool. But with a Smart Grid, that demand could be offset in other ways:

By using “smart” electric meters to alert consumers to times of high demand, they would be encouraged to cut back on nonessential uses of power (pool pumps, for example), back off a bit on the AC, or shift use of other equipment (dishwashers, perhaps) to night time, when demand for power—and its cost—is lower.

Or consumers who sought to meet their own power needs by installing solar panels on their roofs could put any excess electricity they created back into the grid, in effect, selling power back to the utility company. The Long Island Power Authority (LIPA) is undertaking a $25 million pilot project, half federally funded, to explore those options:

The electric grid along a four-mile stretch of Long Island’s Route 110—a densely built-up area of office complexes, homes, and SUNY Farmingdale—will be wired for smart meters that would enable such transactions. LIPA in the public agency that works with National Grid to provide electricity to Long Islanders.

As former LIPA president and current president of the Long Island Association, Kevin Law explains that Smart Grid Corridor is a start at bringing Long Island’s 70-year-old electric grid into the 21st century. It’s also a potential test bed for technology to be developed at Stony Brook, which is helping to fund the project.

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The Smart Grid would have other advantages, as well. Blackouts generally occur when part of the tightly linked electric system collapses, and other parts that can’t adjust quickly fail in turn, one after another, until everything shuts down. It has happened five times in various parts of the country since the first major blackout in 1965. Smarten the grid and information can flow more quickly throughout the system, so a failure of one unit can be isolated and other units can be adjusted before the whole thing collapses. The goal is a system that’s self-healing.

Traditional power plants produce carbon dioxide and pollution. Wind generators and solar panels produce none. But they depend on wind blowing and the sun shining, since electricity generally can’t be stored economically. But a smart enough electrical grid could both better predict when such renewable unconventional power would be available and deftly adjust the system to make use of it when that was the way the operation of fossil-fuel plants might be avoided and the need for new ones reduced. That’s not to say that making the grid smart will be easy. Catell estimates it could take ten to 20 years to achieve on a large scale. The industry’s Electric Power Research Institute puts the 20-year price tag of updating the grid nationally at $165 billion, and there are institutional and technical hurdles to be confronted. Utility companies and state utility regulators all must be brought on board. Catell has taken a key step with creation of the New York Smart Grid Consortium, bringing together key players from all sectors of the power industry to help ensure the whole thing must be developed and tested and widely accepted for so interrelated a system to work. That’s where Stony Brook’s Advanced Energy Research and Technology Center and Brookhaven National Laboratory could play major roles.

And ways to cover the costs must be found. A more efficient system could eventually save money, but electricity users reasonably expect to be billed for the power they use, not for potential savings tomorrow. “At the end of the day, it’s consumers who will pay,” for the Smart Grid, Catell says. “But we must show them that they will benefit from the investment—and not burden consumers who already pay a high price.”

Can it all be done? Catell is optimistic, as well he might be: New York has a long history of utility leadership—after all, Edison built America’s very first power plant on Pearl Street in Manhattan—and of enlightened utility regulation. And Stony Brook has a well-earned reputation for technological innovation. What better place to find the smart in creating the Smart Grid?
Kedar Gupta came to the United States from India in 1968 with only a few dollars in his pocket and headed to Stony Brook for his Ph.D. There, he studied with the late Franklin Wang, a scholar of solar power technology. Their work together paved the way for GT Solar, the startup that Gupta and his wife, Remu, founded in New Hampshire to make solar panels 15 years ago. By the time that company went public in 2008, it was a global market leader in photovoltaic equipment and technology with annual revenue of more than $60 million.

"The concept of GT Solar came from Professor Wang," says Gupta. "In fact, the whole solar revolution came from his technology. Stony Brook should be very proud."

Now Gupta has another start-up, ARC Energy, in Nashua, N.H., which aims to replace standard household light bulbs, which emit too much heat while inefficiently converting energy to light, with long-lasting low-cost bulbs using light-emitting diodes (LEDs).

It costs $89.95 to replace a 60-watt bulb in a table lamp with a 9-watt LED bulb. Even if that bulb is ten times as efficient as an incandescent bulb, even if it’s twice as efficient as those spiral compact fluorescent bulbs and those plug-in fluorescent lamps, that pays off quickly.

Gupta is working on a way to manufacture LED light bulbs more economically. The new bulbs will use only 10 percent of the power of standard 100-watt incandescent bulbs and will last a lifetime. His company is not even 3 years old and Gupta has almost $30 million in orders for his bulbs. The technology in brief: Most of the world’s LEDs are built using silicon wafers that are sliced from sapphires. Using a $500,000 furnace, ARC is finding a way to make LEDs using silicon carbide and produces them in columns instead of wafers.

"The concept of GT Solar came from Professor Wang," says Gupta. "In fact, the whole solar revolution came from his technology. Stony Brook should be very proud."

If you owned an early home computer or worked on an early terminal at the office, you know how much they’ve changed: They’ve gotten smaller, and they’ve gotten richer—loaded with software capability. Gupta and Wang are now thinking about the same thing, but with what we used to call “bells and whistles.” The problem with all these cool capabilities is that they’re piled on layers of software that was laid down long ago, and the result is very inefficient use of energy.

Erez Zadok, associate professor in the Department of Computer Science at Stony Brook, explains that 1 percent of the power consumed in the Internet is devoted to data centers, those air-conditioned rooms where big companies store their computers, blinking and humming and drawing up electricity day and night. If you add the power consumption of desktop and laptop computers, that accounts for another 1 percent to 2 percent of U.S. power. “That’s a lot, and mostly while computers are just idling,” he says.

Because all of the software developed over the years has been built by succeeding generations of engineers, often on top of glitches and flaws, “no one has looked at the big picture, how it all fit together,” Zadok says. That’s what he’s doing now—looking at software to see where the inefficiencies are, and he has found that with simple tweaks, it can be done.

Obviously, that would be good for big companies spending big bucks on their data centers. With a billion dollar increase in efficiency, you can save on power to run the computers and on air-conditioning as well, because the machines would run cooler. But it would also be good for students, businessespeople, and other ordinary folks. Imagine having your laptop battery last twice as long because your software is dramatically more efficient.

Zadok’s three-year research project in his File System and Storage Laboratory is funded by the National Science Foundation, to the tune of $720,463. Year One was devoted to measuring the power draw of various university programs and he began Year Two, devoted to writing more optimal software.

"Because then at any one time, a high- or low-pressure system is likely producing wind (and thus power) somewhere along the coast."

One major roadblock is that the wind turbines do not point at the local wind. "I think the future [of wind power] is great," says Colle. "We need a battery that's compact, lightweight, safe, and with a long life, that's also inexpensive. Any one of those attributes alone is tough to achieve. All at once is really difficult," Graetz says. Lithium, for example, is lightweight and has a high energy density. It’s great for cell phones but it is very expensive. His group of researchers is focusing on the development and synthesis of new materials, using an electron microscope with nanometer resolution. They can see at the most fundamental level how the materials behave, "We need a battery that's compact, lightweight, safe, and with a long life, that's also inexpensive. Any one of those attributes alone is tough to achieve. All at once is really difficult," Graetz says. Lithium, for example, is lightweight and has a high energy density. It’s great for cell phones but it is very expensive. His group of researchers is focusing on the development and synthesis of new materials, using an electron microscope with nanometer resolution. They can see at the most fundamental level how the materials behave, but they need a battery that's compact, lightweight, safe, and with a long life, that's also inexpensive. Any one of those attributes alone is tough to achieve. All at once is really difficult.”

The trick is not to find the windiest locations to site the turbines. The trick is to find the data centers that need a battery to store the power they make.

"I think the future [of wind power] is great," says Colle. "We just have to take some baby steps."
Garbage In, Fuel Out

Given all of the hungry people in the world, there’s something unsettling about diverting a food source, such as corn, and using it to produce corn-based ethanol in our cars’ gas tanks. Can’t we make fuel out of something less wholesome? Like, say, garbage?

That’s a project for Devinder Mahajan, who holds a joint appointment at Brookhaven National Laboratory and Stony Brook University, and has an international reputation for his work on clean fuels and biomass, a renewable energy source derived from living or recently living organisms.

What can be used in our gas tanks and oil heaters in place of fossil fuels?

Fuels? Same problem. Waste grease from McDonald’s and other big restaurant chains? It’s a good thing, but in the overall picture it’s not going to make much of a difference. Algae? It’s “very moody,” meaning that it’s actually hard to grow, and then it must be dewatered before you can extract oil from it.

Well, what about garbage?

Mahajan is studying the potential for capturing biogas—the byproduct of decomposing organic matter—using methane from landfills and wastewater treatment plants on Long Island. He’s also looking into catalytic conversion of biomass—grass clippings, for example—to make energy. It’s a long way from the Fiji Islands, but Fortmann is still finding ways to make solar work.

It’s Easy Being Green

In Charles Fortmann’s laboratory on the Stony Brook campus, an array of “green, gooey, ugly pieces of glass”—his words—held a place of pride last spring. These pieces of “glass with green stuff sandwiched between them” may hold the secret of converting sunshine to electricity dependably and cheaply by harnessing the power of photosynthesis. The green stuff? Chlorella.

Fortmann, associate professor of material sciences, and his cadre of graduate students have been working to copy nature instead of fighting it. The gooey green stuff in his lab is a major absorber of light. Its use makes it possible for electrons to be moved around a very different way. How does nature shove electrons here and there? Fortmann has a nifty metaphor. “If you give away pizzas and undergraduates are around, the undergraduates will rush in and push you out the door.” In a regular solar cell, we’d put the pizzas where we wanted people to be, and they’d come in. But nature... works more like the first example, where the people in the room are crowded out. In other words, let the electrons go where they want rather than expending energy to force them elsewhere.

Fortmann has been playing with solar power since he was a Peace Corps volunteer in the Fiji Islands from 1976-1977. He and his students figured out a way to make a solar hot water heater out of parts on band. When he returned to the States, he earned his master’s and Ph.D. at Stanford, focusing on solar science, then taught all over the world. He came to Stony Brook in 1985. Much of his work since then has been done with the support of Gov. Clinton and head of the Energy Policy Task Force John Coleman. Another valued contributor is Eric Lauder, whose family made possible Stony Brook’s Lauder Center for Computational Biology and Genome Sciences. Lauder, now a New York energy entrepreneur who heads the Lauder Wind Group and founded a solar startup to commercialize technology developed in Fortmann’s lab.

Solar electric power provides less than 1 percent of the world’s energy. Its expansion is cramped by its high cost. The challenge of solar power, Fortmann says, is price. “We can do it with expensive semiconductors, but can we do it at one-tenth the cost?” Doing things another way may be more practical; and Fortmann himself set up their experiment using ordinary equipment found in the lab, along with water, chlorophyll, and other chemicals. “It’s a lot easier,” he says. “I told my graduate students, don’t be disappointed if it doesn’t work. It’s a long shot.” But, this spring, it worked. And Phase II is to be a more focused effort, using lab equipment made to the team’s specifications. Meanwhile Fortmann is pursuing a patent on his gradient solar cells.

It’s a long way from the Fiji Islands to selling solar to the U.S. Market.

Selling Solar to the U.S. Market

It distresses Joseph Laia to admit it, but it’s true: Utility companies in the U.S. are behind the curve in using solar and other renewable power. Our country consumes 25% of the energy on the planet, so “it’s just wrong” that we’re not embracing renewable energy as quickly as Europe, says Laia. “The reason this is happening,” he says, is because “politically, Europe can do it.”

Countries such as Spain and Germany have tariffs that guarantee renewable energy producers a certain price over a set number of years for their product—and that price is much higher than the price they get in the U.S. So Laia and his team at MiaSolé tapped into the one resource America has an abundance of—ingenuity—to help solve that competitive disadvantage.

MiaSolé is a venture-backed solar photovoltaic California company that offers a combination of CIGS thin films and proprietary manufacturing processes to produce solar products in volumes and at cost points that may finally make the U.S. market sit up and take notice. At the company’s Santa Clara factory, a roll of steel miles long and yet only about half the thickness of a strand of hair is fed into a 75 foot long machine and emerges 30 minutes later as a finished multilayer solar panel. This process is much faster and requires much lower capital equipment and labor costs than other methods.

The company was founded in 2002, but it was still in the research and development weeds when Laia arrived in 2007. By October 2009 the company began shipping its products to half a dozen customers around the world. The factory is now ramping up capacity, and Laia is searching for sites for a second factory.

“Year this ship was pealoned to Chevron, our first commercial customer in California, and we will continue to ship products to customers here in the U.S.,” says Laia.

Laia joined MiaSolé from KLA-Tencor Corporation, the world’s leading supplier of process control and yield management solutions for the semiconductor and related microelectronics industry. He was the company’s group vice president of metrology responsible for all of KLA’s eight water metrology businesses. He also spent 11 years in technical and program leadership roles at Los Alamos National Laboratory. After working in the private and public sectors as well as academia, Laia has enthusiastically thrown his hat into the private sector. “All these fancy degrees shouldn’t be a burden; it should be an enabler to do whatever you want to do.”

Another interest of Laia’s is “being a good alumnus” of Stony Brook. (He earned his B.S. in chemistry in 1980, his M.S. in materials science in 1983, and his Ph.D. in materials science in 1986.) To that end, MiaSolé is donating 30KW of solar panels for Stony Brook’s Advanced Energy Center. —Betsy Cruz

If history has taught us anything, it’s that we should never underestimate the power of innovation.

“The Telephone has too many shortcomings to be seriously considered as a means of communication.”

—Western Union internal memo, 1876

“There is no reason for any individuals to have a computer in their home.”

—Ken Olson, president and co-founder of Digital Equipment Corporation, 1977

“Airplanes are interesting toys but of no military value.”

—Mansfield Fordham Rodd, professor of strategy, École Supérieure de Guerre, 1911

“Innovation Summit held last March.”

Cited by Vinod Khosla, founding chief executive officer of Sun Microsystems, during his presentation at the ARPA-E Energy Innovation Summit held and March

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Selling Solar to the U.S. Market

If history has taught us anything, it’s that we should never underestimate the power of innovation.
Thanks to the success of James Cameron’s epic “Avatar,” 3-D is coming at you in a big way in movie theaters these days. DreamWorks has been flying high with the 3-D animated success “How to Train Your Dragon,” the in-your-face adventure “Clash of the Titans” flexed its box-office muscle this spring, and summer movies took on a new dimension with “Toy Story 3” and M. Night Shyamalan’s “The Last Airbender.”

IMAX Chief Executive Looks to the Future Through 3-D Glasses

By Daniel Bubbeo

Pioneering the 3-D movement has been IMAX, which took in more than $200 million with its 3-D release of “Avatar.” When Stony Brook 1976 alumnus Richard Gelfond purchased IMAX in 1994 with his business partner Bradley Wechsler, their goal was to turn the company that had been used mostly as a motion picture projection system for museums, institutes, and theme parks into a commercial entertainment leader with a chain of theaters that would show Hollywood blockbusters on a grand scale. Gelfond, now the CEO of IMAX, recently talked about how 3-D is revolutionizing movies, television, and even sporting events.

How has “Avatar” changed the way movies will be shown in theaters in the future? For the right kind of story, 3-D enhances it tremendously. For the wrong kind of story, 3-D doesn’t add anything and on occasion may even detract. “Avatar” was a perfect meshing of story and technology, so what [director] Jim Cameron was able to do was really enhance the experience and take people where they otherwise couldn’t have gone, in this case, the planet Pandora. Very few people are proficient both on the technology side and the creative side, and I think that (“Avatar”) was an example of everything coming together properly because Jim’s vision provided a unity of the technical experience and the story.

There already are more 3-D projects in development and in production because people will see 3-D as a way to bring in new audiences. I think part of that is correct, but the unfortunate side of it is some people will fall into a trap and say you can take something bad and turn it into 3-D and automatically it will make a lot of money, and I just don’t think that’s true.

How has 3-D helped IMAX improve its fortunes? I’ll answer in two ways. First, I’ll tell you how we helped 3-D. At IMAX we did a film called “The Polar Express,” which was released to the world in 2-D and released in 3-D only in IMAX. And it did phenomenological numbers on a per screen basis. I think it did about $750,000 per theater which is very, very high. And I think that was a wake-up call to Hollywood.

It was the first time people said, “Wow, if you release a film in 3-D, you may be able to bring in a disproportionately large share of the box office.” So then what you got was a lot more 3-D production. Hollywood started making more 3-D movies.

Simultaneously, there was a technology developed that enabled theaters to convert to 3-D—not quite the IMAX 3-D experience, but still better than the red-green glasses of years ago. So there started to be more production by filmmakers. They said if 3-D were to be released in theaters, they wanted to release it on the premium platform. They wanted to just not create a 3-D movie, but a mind-blowing experience, and the way to do that is to release it in IMAX.

So the increased production of 3-D movies provided a lot more 3-D content, and that really boosted our box-office results. It also increased the inquiries for IMAX theaters around the world. Our network for commercial films will roughly triple over a three-year period of time. Our biggest grossing 3-D film before “Avatar” was the “The Dark Knight,” where we did about $65 million in IMAX. And for “Avatar,” we did $323 million. The advent of successful 3-D really was a tipping point for us in terms of bringing in new audiences.

How soon will we see 3-D television? We’ve started a 3-D channel. Our partners are Discovery and Sony Communications. I think for the right kinds of experiences, 3-D in the home will definitely emerge as a viable alternative. A big reason for that is the technology has been greatly improved for 3-D in the home. 3-D TVs, which are just hitting the market now, provide very compelling images. Certain sports will look fantastic in 3-D.

The biggest example I give will surprise you. Golf is one sport that benefits tremendously from 3-D because when you watch it in 2-D everything looks flat, whereas in 3-D you can really see the slope of the hills, you can see the greens. It’s a way different experience. Baseball in 3-D—I don’t think it adds that much. On the other hand, basketball in 3-D, because people are coming to a finite point behind the basket, it looks really great.

What sort of programming will you have? Initially, it’s going to be Discovery programming and IMAX programming, and then as it develops we’ll start to have more live-action programming.

Will you need to buy a new TV to see the programs? You’ll have to buy a new one. Current TVs are not compatible.

Are 3-D sets still really kind of cost-prohibitive? Not really. I think [manufacturers have] listed the sets as less than $2,500.

How soon will it be before 3-D TV really gains a foothold in the market? Remember that the products were only launched in the past four or five months, and they probably much have been selling out.

They can’t meet demand at the moment. With that said, I think it’s going to take three or four years before there’s a decent size install base.

3-D has been attempted as far back as the 1950s. Why didn’t it really take off until now?

Technical changes. In the old versions of 3-D, you couldn’t really create first-class experiences and there was no way to project them. Now there are new tools for film makers, whether they are computer-animated tools or live-action cameras that previously didn’t exist. On the projection side, digital technology enables you to create a far superior 3-D experience to the one that existed in the past.

The second reason is that the creative talent using the 3-D tools is really top of the profession, whereas in the old days, it was used more as a gimmick. So you have Tim Burton, you have James Cameron, you have Robert Zemeckis, you have DreamWorks Animation under Jeffrey Katzenberg, you have Stephen Spielberg, you have Michael Bay. Whenever you have the top creative people, they come up with a very compelling solution, and that wasn’t the case in the past.

Are people still going to be stuck wearing those glasses, or at least, will there be a better grade of glasses?

They will for the foreseeable future, which I think will be about five years. I do think the glasses will continue to evolve, so they get lighter and more comfortable.

What upcoming 3-D films are in the pipeline?

We released one that we filmed recently called “Hubble 3-D,” where we actually flew 3-D cameras on the space shuttle and we filmed the repair of the Hubble, and then we took images from the Hubble throughout the universe and converted them to 3-D. That opened in August. And then we’ve got “Toy Story 3,” which also was released this summer.

And we’ve got “Tron” later in the year, which is a Disney movie. It’s a remake of the old “Tron.”

Is 3-D going to impact ticket prices?

We don’t set ticket prices, but I think as the cost of making the movies goes up, either because of the cost of the glasses or the 3-D production, it will reflect itself to some extent in ticket prices.

It makes me wonder if once the novelty of 3-D wears off, moviegoers might not want to pay $15 or $20 to see a movie just because it’s in 3-D.

I think the market will inflate. So for certain types of 3-D movies that really capture people’s imaginations, they’ll be able to get a higher price point. ■

DreamWorks Animation under Jeffrey Katzenberg, you have Stephen Spielberg, you have Michael Bay. Whenever you have the top creative people, they come up with a very compelling solution, and that wasn’t the case in the past.
Seawolves—Football—Gridiron Greatness Comes to Stony Brook

I looked at the spectacular 2009 season for Seawolves football was going to come up just a little short. In only its second year in the Big South Conference, Stony Brook had amassed a 4-1 conference record and were about to face perennial football powerhouse Liberty University in the final game of the season at LaValle Stadium. The game would decide who would end the season in first place.

The Liberty Flames, ranked 16th in the nation, had ridden roughshod over the Big South for three years, winning 16 conference games in a row. In fact, the last game they lost to a Big South opponent was in October 2006—and they were prohibitive favorites to three-peat as Conference champions.

The scrappy Seawolves, under third-year coach Chuck Price, took a 14-11 halftime lead behind a fierce ground attack spearheaded by running backs Edwin Gowins and Conte Cuttisi. The Flames fought back to take a 33-29 lead with 1:20 left on the clock, Coulter found Gush again, this time in the end zone, giving the Seawolves the win and the Conference title, our first in football.

Next Stop—The Pros

Of course, you don’t win championships with an exception to the rule. Four Seawolves were good enough to make it to the next level. Chris Richards, a standout cornerback, signed a free agent contract with the NFL Seattle Seahawks. Lineman Lawrence Lovell and receiver/re petitioner Dwayne Eley signed with teams in the Canadian Football League. Lovell with the Hamilton Tiger-Cats and Eley with the Saskatchewan RoughRiders.

A historic: 2009 championship season, the Seawolves started the 2010 campaign with the program’s first-ever game against a Division I Football Bowl Subdivision (FBS) opponent. On September 4, the Big South champions squared off against the University of South Florida Bulls in front of more than 40,000 fans at Raymond James Stadium in Tampa, Florida. The Seawolves took a 14-7 first quarter on the strength of vocal reception and future success.”

The facility is being designed by the architectural firm Populous, which recently designed the new Yankee Stadium and Citi Field. Scheduled to open in fall 2011, the new facility will be located in the Indoor Sports Complex at Kenneth P. LaValle Stadium. It will be equipped with weightlifting racks, dumbbell sets, Olympic platforms, a cardio fitness area, space for plyometric exercises, and office space.

Dubin, who stays involved with his alma mater, has attended football games in the past and came to Homecoming to watch the 2010 Seawolves win in the home stadium.

“Athletics has had an important influence on me, teaching me values I’ve used throughout my life—discipline and teamwork,” Dubin said. “My family and I are delighted to support the student-athletes at Stony Brook, and hope that this facility will add to their athletic experience and future success.”

“The Dubin Family Athletic Performance Center will provide a world-class venue to support and train Stony Brook student-athletes for success in both athletic competition and in life,” said Stony Brook University President Samuel L. Stanley, Jr., M.D.

Dubin, who grew up in the Washington Heights section of Manhattan, graduated from Stony Brook with a Bachelor of Arts degree in Economics in 1978. While at SB, he played the position of linebacker on the football team and was also a member of the lacrosse team.

Dubin is the co-founder and chief executive officer of Highbridge Capital Management, a global alternative asset management company headquartered in Manhattan with offices in London, Tokyo, and Hong Kong. He is a founding board member of the former board chair of the Robin Hood Foundation, which fights poverty in New York City by applying investment principles to charitable giving, and a trustee of Mount Sinai Medical Center, where he and his wife Eva have funded the Dubin Breast Center.

Dubin donated $1 million to Stony Brook in 2005 to create the Glenn Dubin Endowed Scholarship Fund, which offers scholarships to students from Washington Heights, particularly to students from P.S. 132, where he attended elementary school.

Seawolves Games

Football games are held in LaValle Stadium.

Home basketball games are held at Pritchard Gym, Sports Complex.

Seawolves—Basketball

Another freshman in stride, allowing Gush to Jordan Gush alone at midfield. His pass hit Coulter dropped back and saw receiver. In the Seawolves’ season and the ball on Flames fought back to take a 33-29 lead with 1:20 left on the clock, Coulter found Gush again, this time in the end zone, giving the Seawolves the win and the Conference title, our first in football.

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Class Notes

1960s

James Betts '67 (B.A.) and Grace Kesler Betts '67 (B.A.) have retired after working many years in the field of education, she as a school teacher and he as a school teacher and administrator.

Freddie Pratice '88 (B.A.) is a part-time faculty member at Brooklyn College/CUNY and a docent at the Brooklyn College Art Galleries.

1970s

Leslie Cohen '70 (B.A.) was named Companion Executive of the year by the Oregon State Chamber of Commerce.

Nora Braverman '71 (B.A.) opened Back To Basics Physical Therapy in Manhattan in 2009. She is a physical therapist with more than 30 years of teaching yoga. She is also an adjunct faculty member of Brooklyn College in New York City.

A Message From Our Alumni Association President

Dear Fellow Alumni and Friends,

It is my honor to serve as your newly elected president of the Stony Brook Alumni Association. As we celebrate our 50th anniversary, I want to express my gratitude to all of you for your continued support and involvement.

My goal for the next year is to encourage more of you to engage with Stony Brook, whether it’s through alumni clubs and affinity groups, by becoming a career mentor to students or fellow alumni, or as an alumni ambassador for admissions, or through donations to the annual fund. I also encourage you to visit the new Stony Brook Alumni Association Website, which was launched recently. It serves as a “virtual” reunion with the campus community. We’ve made it easier than ever, on the Web site, for you to reconnect with former classmates, dorm mates, teammates, and other special people from your years at Stony Brook.

This has been a very exciting time for your Alumni Association. Mark your calendar for the Saturday, February 12 Basketball Alumni Day and game, when the Seawolves take on the Maine Black Bears in the Suffolk County Veterans Memorial Arena.

Don’t hesitate to contact us with any comments or ideas that can help your Alumni Association. Which will be at Pier Sixty in Manhattan.

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For more information on the Association’s board members, visit www.stonybrook.edu/alumni.
Alumni Spotlight: Chris Vivas

Fragility and Strength: Profile of a Ceramic Artist

Chris Vivas, B.A. Studio Arts, English, ’03

In the Japanese concept of wabi-sabi, the beauty in imperfection is celebrated. Chris Vivas, who has a master’s degree in ceramics, is a man who embraces imperfection. His work often features clay that has been left to warp in the kiln or wood that has been allowed to crack and split. This rawness is a reflection of his own artistic journey, which has been marked by experimentation and a willingness to accept the unexpected.

Since receiving his degree from SUNY New Paltz, where he had access to a wood fire kiln, Vivas has been working to explore the fragility of ceramic material. “It’s about the beauty in that which has no beauty,” he says. “The crack in the clay, the wear on the wood, the imperfections that are inherent in the process.”

Vivas was recently featured in Long Island Pulse magazine, and he was also selected to be an adjunct faculty member at Penn State University. “I’m very proud of my students and the work they are doing,” he says. “They are pushing the boundaries of what is possible in ceramics.”

What’s next? “I’m thinking more of installations—utilizing space within a room. But I never say, ‘I never say.’”

Shannon Duffy ‘07 (Cert.) has a new addition to the family. Amelia Anne Rhéb, born on June 18, 2009.

In Memoriam

Cliff Swift

Stony Brook mourns the passing of Cliff Swift, one of the first faculty to join the Department of Physics in 1957. Swift started his academic career in experimental high energy physics, first at the University of Rochester (where he earned his Ph.D.) and later at the Brookhaven National Laboratory (BNL). At BNL, he helped to build the Cosmotron and used it for research during the 1950s. One fall when the Cosmotron was down for repairs, he agreed to teach for one semester at a college that was just starting in temporary quarters in Oyster Bay, which later moved and became Stony Brook University. Swift divided time between teaching and doing research at BNL until teaching became a greater passion. He had been editor of the magazine The Physics Teacher for most of its existence. In 1967, he won the Omedal Medal of the American Association of Physics Teachers. Although he retired from BNL in 1985, he maintained his involvement with the Department of Physics until recently.

Obituary:

An author of more than 30 books, Swartz was beloved in his field and a greater passion. He had been editor of the magazine The Physics Teacher for most of its existence. In 1967, he won the Omedal Medal of the American Association of Physics Teachers. Although he retired from BNL in 1985, he maintained his involvement with the Department of Physics until recently.

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Brookmarks

Bar Book: Poems and Otherwise
by Jade Sweeten, Assistant Professor, MF in Writing and Literature Program
2010, W.W. Norton & Company
An unusual collection of poetry about divorce and parenthood, Bar Book reveals basic human emotions—loneliness, hope, resilience—through the voices of a hard-bitten, bar patrons, and even the cocktails. Sweeten innovatively combines different genres of poetry, dialogue, footnotes, recipes, and even monthly budget sheets to tell her story. After reading Bar Book, you’ll never think of poetry—or a drink—the same way again.

Andean Cocaine
by Paul Gootenberg, Ph.D., Professor, Department of History
2009, University of North Carolina Press
Andean Cocaine chronicles the rise of the export of illegal Latin American cocaine, tracing its history from its origins in the 19th century to its reemergence during the early 20th century and its reemergence as an illicit good after World War II. Gootenberg’s work is key to understanding one of the most vexing social dilemmas of late 20th-century America: the Andean cocaine epidemic of the 1980s and the subsequent U.S. drug war in the Andes.

Leading the Virtual Workforce
by Karen Sobel Lojeski, Ph.D., Assistant Professor, Department of Technology and Society
2009, W. W. Norton
This timely book examines the fact that although the modern U.S. mobile workforce is exploding, there are no generally accepted methods and models that were created almost a century ago. Sobel Lojeski introduces the concept of Virtual Distance, a combination of physical separation, technology mediation, and disconnections. Taking a thematic approach, he presents a new business model of work that is designed to mitigate these negatives and develop a successful virtual workforce.

Demystifying Dissertation Writing
by Peg Boyte Single, Ph.D., Class of ‘76
The E.T.F. Handbook: How to Value and Trade Exchange Traded Funds
by David J. Nieren, Class of ‘82
The Fifth Servant (novel)
by Rhonda Wyrick, M.D., Class of ‘95
Practice Diary
by Stephen J. Stein, Ph.D., Class of ‘12
Cardiac Intensive Care
edited by Allen Jennings, M.D., M.Sc., and David L. Brown, M.D., Division of Cardiovascular Medicine
Yucatan Women and the Rights of Paternity in Yucatan
by Stephanie J. Stein, Ph.D., Class of ‘12
Reflections on Spain’s St. James
by Robert Holman, Class of ‘84
Rico Flores Book + Geometricalization
of 3-Manifolds
by John M. Morgan, Director, Simons Center for Geometry and Physics, and Frederick Tsz-Ho Fong

Epicenter
by David L. Brown, M.D., Division of Cardiovascular Medicine
Ricci Flow and Geometrization of 3-Manifolds
by John M. Morgan, Director, Simons Center for Geometry and Physics, and Frederick Tsz-Ho Fong

This past June, the Stony Brook Alumni Association hosted its annual Scholarship Golf Classic at the Hamlet at Copake, and the funds raised will be entirely dedicated to scholarships! Alumni who were honored at a reception on November 4, 2010 included:_funeral_2010 DISTINGUISHED ALUMNI_Hyun-Soon Lee, M.S ’79, Ph.D ’81

Vice Chairman, R&D Division, Hyundai Motor Co.
who were honored at a reception on November 4, 2010. To learn more about this year’s Award recipients, visit stonybrook.edu/alumni for updates.

New & Noteworthy

Class Definitions: On the Lives and Writings of Muslim King长长的Kings, tandra Casino, and Dorothy Allison
by Melissa S. Stavisky, Class of ’85
Seeking the Words! A Guide
by Nancy Helfand, Ph.D., Class of ’93

The Brooke
This month, the Brooke welcomes submissions of books recently written by alumni, faculty, and staff. Send a review copy and relevant press materials to: Susan Schiek, Editor, “Brooke,” Office of University Communications, Administration Building, Room 314, Stony Brook University, Stony Brook, NY 11794-6005. Please note: to purchase a copy of any of these featured titles, contact the University Bookstore at (631) 632-9747. www.stonybrookbookstore.com/Brooke for a calendar of events, including a series of faculty author readings sponsored by the Friends of the Library and the University Bookstore.

Events Calendar

November
Saturday, November 13 • 6:00 pm
Kennedy Ends in Gateway: Wa vs. Groove
Charles B. Wang Center Theater
The Wang Center celebrates 35 years of drumming by legendary drummer Kenny Endo. Tickets: $35 for priority seating, $25 for general. $15 for seniors. For details, visit stonybrook.edu/wang

Saturday, November 13 • 6:00 pm
Suzanne Vega
Staller Center Recital Hall
Suzanne Vega created a sensation with her poetic stories and exquisite melody in her hit songs, such as “Luka,” but is also as the singer classics and new tunes. Tickets: $38. For details, visit www.stallercenter.com

November 20 • 6:00 pm
Ken Pepelwaski’s Welcome to the Club
Staller Center Recital Hall
An evening of jazz and comedy with host of ceremonies Ken Pepelwaski, on clarinet and saxophone, the Derek Smith trio; comedian Pete Barbutti; and jazz vocalist Charlie. Sponsored by Renaissance Technologies. Tickets: $38. For details, visit www.stallercenter.com

November, Sunday, November 21 • 4:00 pm
Gullah/Gee: Not Just for Kids
Staller Center Main Stage
A human jungle gym in action! A one-hour show recommended for ages 7 and up. Presented by Bank of America. Tickets: $12. For details, visit www.stallercenter.com

Tuesday, November 30 • 6:00 pm
Emerson String Quartet
Staller Center Recital Hall
Stony Brook has been privileged to have the Emerson String Quartet, named “America’s greatest quartet” by Time magazine, as an ensemble ensemble since 2002. Eugene Drucker and Philip Setzer, violins; Lawrence Dutton, viola; and David Finckel, cello, make up the Quartet. Tickets: $40. For details, visit www.stallercenter.com

November 2010 DISTINGUISHED ALUMNI
Scott Abrams, B.E., ’80
President, The Orionian Group Inc.
Diane Brisk, B.S., ’80
Vice President, Marketing and Strategy, Global Technology Services, IBM Corp.
Christine Sonneke, B.A., ’84
Grammar Award-Winning Alumna
Kevin Law, B.A., ’82
President and CEO, Long Island Association Inc.
Hyun-Soon Lee, M.S., ’79, Ph.D., ’81
Vice Chairman, R&D Division, Hyundai Motor Co.
David Wait, Ph.D., ’79
Robinson Professor of Chemistry, Howard Hughes Medical Institute Professor; Tufts University Department of Chemistry

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2010 Distinguished Alumni

Alumni Gout Outing Benefits Student Scholarships

To learn more about this year’s Award recipients, who were honored at a reception on November 4, 2010, visit www.stonybrook.edu/alumni.
Flashback: C.N. Yang Puts SB on the Map

In 1965, Stony Brook had only just begun to realize New York Governor Nelson Rockefeller’s vision to make the University “the MIT of New York.” To fulfill that vision, then President John Toll made it his priority to recruit elite scholars and researchers. Chen Ning “Frank” Yang more than fit the bill. At the Institute for Advanced Study in Princeton, and during summer visits to Brookhaven National Lab, Yang, with Robert Mills, made a series of discoveries that laid the foundation of contemporary particle physics. In 1957, he and Tsung-Dao Lee shared the Nobel Prize for Physics for the startling suggestion, quickly confirmed by experiment, that the laws of nature distinguish between mirror images.

“[Yang signed] a letter saying that if we got an Einstein professorship [at Stony Brook] he would accept it. It was a state wide competition—Columbia, Syracuse, Cornell, and other institutions expected to win. But when we submitted the name of C.N. Yang, with his letter, we got the first Einstein professorship,” said Toll. And the first Nobel laureate to join the faculty. By doing so, Yang transformed a fledgling institution into a world-class university.

Yang was the founding director of Stony Brook’s Institute for Theoretical Physics, renamed in his honor in 1999. Through a series of influential joint seminars at Stony Brook, organized with then Department of Mathematics Chair Jim Simons, Yang helped initiate a new chapter in the cross-fertilization of physics and mathematics. Yang was honored last spring at the Stays of Stony Brook Gala and was on hand for the dedication of what will become the University’s first LEED-certified residence hall—named for him and part of, appropriately enough, SB’s Nobel Halls.