As we advance toward the end of the academic year, let me take this opportunity to update you on the progress of the CUNY Advanced Science Research Center (ASRC), and new programs to further develop the flagship research areas that will be the foundation of the research conducted in this state-of-the-art facility.

Construction of the ASRC and the new CCNY Science Building continues on schedule with both buildings fully framed (see below). As a means of enhancing faculty communication and research efforts in the flagship areas of the ASRC (Photonics, Environmental Sciences, Structural Biology, and Neuroscience), the CUNY Research Office has begun a series of thematic workshops dedicated to each of these areas. In January 2010, the first of these workshops brought together CUNY photonics faculty and graduate students. A result of this first workshop has been the submission of collaborative NSF proposals by CUNY
Research is a cornerstone of CUNY’s mission. To accomplish this mission, the Office of the Vice Chancellor for Research provides a wide range of resources to CUNY faculty to assist them in their research efforts. As a new initiative, our office is compiling a comprehensive online database of core scientific equipment facilities across CUNY colleges. The goal of this database is to aid CUNY researchers in identifying specific research equipment and services within the University.

The Core Facility database can be found under the Faculty Resources tab of the CUNY Research website www.cuny.edu/research. At present, our database contains information on over 40 facilities located at Brooklyn College, City College, Hunter College, John Jay College, Queens College, College of Staten Island, and York College. This database will continue to grow as information on core facilities from our other colleges is incorporated.

CUNY faculty members and core facilities managers are welcome to submit details about core facilities that are not presently in the database or provide updates and corrections to current entries. Please email this information to our office at oaresearch@mail.cuny.edu with the Subject line: Core Facilities Database.

NYCSEF Finalists Head to CA for ISEF 2011

Each year, high school students from throughout the five boroughs of New York City compete in the New York City Science and Engineering Fair (NYCSEF). CUNY College Now and New York Department of Education organize NYCSEF, the city's only research competition for the high school students from the 290+ public high schools.

This year, 420 students, representing 312 projects, were selected from across NYC to participate in the Preliminary Round held on Sunday, March 6 at City College’s Shepard Hall. The top 25% of student researchers from each subject category, a total of 148 projects (191 students), were selected to participate in the Finals Round on March 29 in the Milstein Hall of Ocean Life at the American Museum of Natural History. Students and judges at this year's Final Round were treated with a visit from a VIP guest, President Barack Obama, who provided some brief words of enthusiasm and encouragement regarding science literacy before listening attentively to four lucky students as they each presented their projects alongside their posters.

This year, 15 projects (19 students) were selected to represent NYC at the Intel International Science and Engineering Fair (ISEF) to be held in Los Angeles on May 8-13. Of these, two individual student scientists (Helen Yao, Staten Island Technical HS and Kevin Most, Townsend Harris HS) and one team (Indroneil Roy, Sunny Aggarwal, and Tanmai Shah, all from Francis Lewis HS) were mentored by CUNY faculty (Dr. Frank Burbrink of CSI and Dr. Vinod Menon of Queens College). In addition, another finalist, Zohar Bachiry, of Yeshiva University HS for Girls, was mentored by CUNY alumna, Dr. Miriam Rafailovich of Stony Brook University-SUNY.
With the unemployment rate stubbornly high across the country, an increasing number of Americans are at risk of suffering adverse health effects due to their poor diets. Indeed, new research by Dr. Inas Rashad Kelly, Assistant Professor of Economics at Queens College, indicates that the unemployed tend to consume fewer healthy foods than those who are employed, which can have far-reaching implications for their health. She found that among those individuals with the highest risk of being unemployed, a one percent point increase in the rate of unemployment results in up to an 8% reduction in the consumption of fruits and vegetables.

“The focus on healthy and unhealthy food consumption is policy-relevant given that caloric intake and nutrition are proximate inputs into obesity and overall population health,” say Dr. Kelly and her co-author, Dr. Dhaval Dave of Bentley University. “Individuals do not necessarily choose healthier lifestyles during downturns for reasons other than investing in health in order to return to the labor force. Faced with constraints, individuals may in fact consume fewer healthy foods, which will likely have adverse effects on long-term health.”

Drs. Kelly and Dave analyzed data from the Behavioral Risk Factor Surveillance System (BRFSS), the world’s largest telephone survey tracking health conditions and risk behaviors. The BRFSS covers a representative sample of the U.S. population of over 350,000 adults, and has been conducted annually since 1984.


The City University of New York has begun an ambitious effort to transition its life science research breakthroughs into commercial products. As part of this effort, the University participated in the NYC Emerging Technologies Summit “Opportunities in Oncology”, held in October 2010 at Memorial Sloan-Kettering Cancer Center. The summit brought together scientists from New York City’s leading academic research institutions and a diverse array of interested stakeholders to discuss latest advancements in oncology research and treatment.

At this summit, CUNY faculty presented three technologies, all of which were well received by other researchers, industry experts, and business community in attendance. Dr. David Gruber (see also page 5), Assistant Professor of Biology at Baruch College, has identified and developed a novel fluorescent protein (PhosFluor™) from deep coral reefs along the Australian coast. PhosFluor™ is the first fluorescent protein capable of monitoring cell signals, and could significantly accelerate drug discovery in cancer, inflammation, and pain.

Dr. Probal Banerjee, Professor of Chemistry at the College of Staten Island, has developed a safe, non-toxic cancer treatment from curcumin, a primary component of the yellow spice, turmeric. This treatment promises our increased ability to treat cancers without painful or dangerous side effects.

Dr. Linda Einbond, a cancer scientist at Lehman College, has developed several plant-based drugs to prevent and treat cancer, based on a native American herb – black cohosh (left). Native Americans used the roots of this member of the buttercup family to treat kidney ailments, malaria, rheumatism, and sore throats.

Dr. Einbond’s extracts, containing acetin and other triterpenes, have demonstrated a high efficacy in humans not only in reducing the risk of primary breast cancer, but also in preventing recurrence.

The next NYC Emerging Technologies Summit “Opportunities in Neuroscience” will be hosted at the CUNY Grad Center on Friday, June 6, 2011.

Illustration: Homer D. House

www.cuny.edu/research
In this issue, we highlight four early-career faculty from across CUNY

Dr. Kelle Cruz is right at home teaching an Introductory Astronomy course to 330 non-science majors at Hunter College. She likes being on stage and doesn’t mind being the center of attention. It’s also probably worth mentioning that Cruz did theater in high school.

“Teaching is a good fit for me,” she said.

Last fall was Cruz’s first semester teaching at Hunter. She’s an Assistant Professor in the Department of Physics and Astronomy and the only astronomer at Hunter. She is an expert on the observational study of brown dwarfs, which form like stars, but have different temperatures and masses more similar to giant gas planets like Jupiter.

Brown dwarfs were discovered fairly recently, in the mid-1990s. Therefore, Cruz has spent most of her career compiling the basic data on these new objects of study, which she says will one day help scientists understand more about the extrasolar planets found around nearby stars. Currently, together with Physics & Astronomy majors at Hunter, Cruz is analyzing the massive amounts of data she has collected during the past few years with collaborators at the NASA Ames Research Center. In addition, she is co-mentoring a Theoretical Astronomy graduate student at Hunter, whose research focuses

Continued on Page 15

Dr. Dan Steingart Assistant Professor of Chemical Engineering at the Grove School of Engineering (CCNY), is a native New Yorker. But after spending most of his adult life on the West Coast—the Bay Area, more specifically—he’s realizing there’s some validity to the clichéd expression that everything here happens in “a New York minute.”

After just four semesters at CUNY, Steingart has been making great strides for the Chemical Engineering department. In addition to securing three federally funded and three state funded grants on advanced battery research, he helped launch the brand new entrepreneurship contest for engineering students who want to turn their business ideas into successful start-ups (see page 9). Steingart is heading the program, and he’s now busy making preparations for the first group of students who will spend this summer immersed in a state-of-the-art prototyping lab on the CCNY campus. The contest aspires to be a “Silicon Valley” garage-like environment. Steingart should feel right at home.

After completing his PhD in Materials Science at UC Berkeley, Steingart created a start-up company with his Berkeley

Continued on Page 19
Dr. David Gruber joined the faculty of the Department of Natural Sciences at Baruch in Fall 2008 and has forged a solid foundation within the department, developing a number of collaborations with other CUNY faculty, commercializing inventions, securing numerous external grants, teaching courses at the Macaulay Honors College, and mentoring undergraduate and graduate students. His research is centered on a unique family of fluorescent molecules from coral reefs and recently he has focused his sights on a new target, deep water coral reefs — where technical limitation have, until recently, left these areas less studied than the surface of the moon.

David claims one of his favorite quotes to be from the French biologist Jacques Monod: "Anything found to be true of E. coli must also be true of elephants." To that end, he has pursued an interdisciplinary career, exploring biological oceanography, microbiology, molecular biology, fish behavior, tropical forestry, environmental management and journalism between his undergraduate and graduate degrees.

But, it was his postdoctoral appointment in the Brown University Division of Biology and Medicine that put his future research into focus. Here, David began work in the development of fluorescent protein probes—green fluorescent protein, or GFP, was the subject of the 2008 Nobel Prize in Chemistry—

Continued on Page 17

Moving to a teaching institution like the College of Staten Island after seven years at medical institutions was a welcomed change, feeling more like a real university where Dr. Sebastien Poget (Assistant Professor of Chemistry) could be more involved in the academic progress of undergraduate students. But changes in scenery are not new to Sebastien. He was born and raised in Basel Switzerland until the age of four when his father’s career in pharma led his family to South America. Over the next nine years in South America, he attended primary and middle school and had opportunities to explore the Andes Mountains and rainforests of Ecuador and the subtropical beaches of Uruguay. Sebastien returned to Switzerland to attend high school. Having a penchant for tinkering and conducting amateur chemistry experiments as a child, Sebastien contemplated his future in civil engineering, but entered the University of Basel as a Chemistry major and secured an undergraduate research project in bio-organic synthesis. The study of organic synthesis now had a hold of him and after graduation, he left Switzerland again to pursue a PhD in Biochemistry at the University of Cambridge focusing on protein engineering in the multidisciplinary lab of Dr. Alan

Continued on Page 12
City Tech’s Assistant Professor of Physics Dr. Justin Vazquez-Poritz recently received an NSF grant to further his research in string theory. In addition, Nobel laureate David Gross has named him a 2010-2012 Scholar at the Kavli Institute for Theoretical Physics in Santa Barbara, California.

Dr. Vazquez-Poritz is attempting to use string theory to study the properties of a new state of matter known as the quark-gluon plasma (QGP). This plasma, scientists believe, filled the early universe shortly after the Big Bang and at 4 trillion degrees Celsius, is thousands of times hotter than the center of our Sun. It is currently being produced at Brookhaven National Laboratory’s Relativistic Heavy Ion Collider by colliding two large nuclei, such as gold or lead ions accelerated to ultrarelativistic speeds.

Dr. Vazquez-Poritz believes that string theory may one day explain how the universe works: “String theory remains the leading candidate for a ‘theory of everything,’ capable of describing everything from quarks to black holes. A better understanding of the quark-gluon plasma will provide us with a clearer window into the beginning of the universe itself. There is a deep but not yet well-understood mathematical connection between the plasma and black holes.”

In addition to studying the properties of QGP, Dr. Vazquez-Poritz mentors graduate students as well as undergraduate students from underrepresented groups in research projects. This enables students to apply the knowledge they have gained throughout their course studies and to further develop their research and analytical skills. Dr. Vazquez-Poritz is currently teaching a new course on string theory at the CUNY Graduate Center.
Nanotechnology is a rapidly evolving scientific field that deals with materials that can be 10,000 times smaller than the width of a human hair. It is regarded as one of the most important technologies of our time, with the potential to revolutionize numerous industries, ranging from medicine and electronics to optics and energy production. Researchers at CUNY have long been at the forefront of research in this field. Now, for the first time, they have succeeded to observe a strong optical coupling between single nanoparticles and photonic molecules by utilizing on-chip-notched micro-ring resonators (right). This work provides a unique way of achieving single nanoparticle detection and sorting, with thousand-fold signal enhancement. The research was led by Dr. Yasha Yi, Assistant Professor of Engineering Science and Physics (College of Staten Island and CUNY Graduate Center) and Principal Investigator at the Integrated Nanophotonics Laboratory with collaborators at NYU and MIT.

In the journal Applied Physics Letters, the researchers placed a nanoparticle in the micro-ring notch producing a much stronger response than simply placing the nanoparticle in contact with the exterior of the core. “By creating a notch in the ring resonator and putting a nanoparticle inside the notch, large spectral shifts and splittings at the nanometer scale can be achieved, compared to only picometer scale observed by fiber tip evanescently coupled to the surface of a microsphere, thereby significantly lowering the quality factor requirement for single nanoparticle detection.”


Did You Know?

All students (high school, undergraduate, graduate) and postdoctoral associates engaged in research at CUNY, regardless of whether they are supported by sponsored projects, must receive and participate in Responsible Conduct of Research (RCR training). Such training should be appropriate for the career stage of the trainee and is available as follows:

A. On-line CITI Modules
B. RCR Workshops
C. Individual Training/Mentoring by Principal Investigator

For more information, visit the CUNY Research Compliance page: http://www.cuny.edu/research/compliance.html
According to a recent study, the Philippines may have more unique species of birds than previously believed. This research was motivated by a need to estimate the number of unidentified bird species in the Philippines, a country of thousands of islands widely considered one of the most important biodiversity hotspots on our planet. The study was led by Dr. David Lohman, Assistant Professor of Biology at City College, in collaboration with researchers from the Philippines, Singapore, Indonesia, and the US.

The Philippines is well known for its richness of endemic species (species not present in any other part of the world). Indeed, 64% of Philippine land mammals and 77% of amphibians are unique to the country. However, endemism in birds is estimated to be only 31%. To examine whether the unexpectedly low proportion of endemic avian species may be due to undiscovered species, Dr. Lohman and his colleagues studied Philippine populations of seven non-migratory perching birds that are widespread in Southeast Asia. Their results suggest that many Philippine populations of what were thought to be widespread bird species may actually represent overlooked endemic species presently lacking recognition and protection. If the estimates of Dr. Lohman’s team hold true, these findings may have important implications for Philippine conservation efforts.

“Assuming that our sample is representative of Philippine populations of species that are considered widespread in Southeast Asia, the data suggest that current alpha taxonomy underestimates the true number of Philippine endemic bird species by at least 50%,” say the researchers. “This oversight is particularly troubling because island populations are especially prone to extirpation (local extinctions) and because the Philippine archipelago has lost over 75% of its forests in the past century. Mistakenly classifying morphologically-cryptic endemic species as populations of widespread species potentially interferes with the conservation of biodiversity because undetected endemics that are imperiled may lack appropriate protection.”


Assistant Professor of Physics Dr. Ronald Koder (CCNY) has been awarded a $1.1 million grant by the US Department of Defense to develop artificial blood. In previous work, Koder and his collaborators at University of Pennsylvania created a synthetic protein with the capacity to transport oxygen, thus replicating the role that hemoglobin plays in our blood. The newly developed protein has been hailed as a big step towards developing a viable blood substitute, which could be particularly useful after natural disasters or other situations when large numbers of urgent blood transfusions are needed. Now, the team plans to use the new grant to improve the properties of their protein and cross-link it into large aggregates to create particles of the same size as red blood cells.

“Engineered blood substitutes have a lot of attractive properties compared to blood drawn from people. No typing is required, you don’t have to worry about refrigeration or freshness, and there is no risk of infection,” says Dr. Koder.

One central idea in Dr. Koder’s work builds on the notion that synthetic proteins can be customized to fit their intended functions. “Natural materials are fussy. It’s hard to get them to interact. The man-made stuff is better for engineering more complex systems,” he explains.
Inaugural Kaylie Entrepreneurship Prize

Five teams comprised of 23 students were announced as finalists to compete for the first annual Kaylie Prize for Entrepreneurship. Over the next several months, the teams will refine their business ideas as they compete for the first prize: financial support and housing to work over the summer in a Silicon Valley garage-like environment to further develop their projects.

“The Kaylie Prize has generated tremendous excitement among our students,” said Dr. Dan Steingart (see also page 4), Assistant Professor of Chemical Engineering in the Grove School of Engineering. “Shortly after it was announced, more than 35 teams mobilized to submit proposals for consideration by the judges. This tremendous response shows that the spirit of entrepreneurship is flourishing at City College.”

The five finalist teams, their members and product ideas are:

- **Cable Inspecting Robots**: Denis Arce, Rachel Lovell, Shiraz Macuff, and Kenshin Ushiroda.
- **Stoke Innovation**: James Scholtz, Sergey Lyapustin, and Wayne Parkinson; cancer detection through light analysis.
- **Dynamic Braille**: Joseph Borrello, Jeremy Cortez, Sullivan Fleming, Sankha Ghatak, and Nick Macaluso; lower-cost braille computer interfaces.
- **InYourClass.com**: Arber Ruci, Ariel Terefici, Arijon Xhelo, Edina Bektasesvic, and Jonida Xhaferaj; web-based virtual study group software.
- **MedMobileBP**: Satadru Pramanik, Mohammad Arafat, Ishmam Ibtida, Khrisendat Persaud, Gerardo Sevilla, and Michael Cheng; cell phone-based medical diagnostics.

The Kaylie Prize for Entrepreneurship was established in 2010 through an endowment given to City College by alumnus Harvey Kaylie, ’60. Mr. Kaylie is president and founder of Mini-Circuits, a Brooklyn-based RF and microwave electronic components design, manufacture and distribution company. Established in 1969, the company has grown into a global leader in RF, IF and microwave components for commercial, industrial, space and military applications.

Source: City College
A recent study co-authored by Dr. Jillian Grose-Fifer, Assistant Professor of Psychology at John Jay College, shows that newborn infants are able to process and learn about external information, even while sleeping. To reach this conclusion, the team measured eyelid responses and bioelectrical brain activity in 1- to 2-day-old infants during an eyelid conditioning procedure. For the study, the subjects were split into two groups: an experimental group and a control group. Infants in the experimental group were exposed to a series of paired stimuli, where a tone was followed by a gentle puff of air to the sleeping infants’ eyelids. The researchers then compared the reactions of the infants in the experimental group to those in the control group. For the control group, tones and air puffs occurred in a random order, such that tones were not consistently followed by air puffs.

Their findings, published in PNAS, demonstrated that newborn infants are capable of learning about relationships between stimuli while asleep. According to the researchers, all the infants made eyelid responses to the puffs of air. However, by the end of the experiment, nearly all infants in the experimental group also learned to squeeze their eyes tighter after hearing the tone in anticipation of the air puff. In contrast, no eyelid conditioning occurred in the control group. Eyelid conditioning was associated with a change in brain activity over frontal electrodes after tone presentation, which the researchers believe may signal memory updating. Since eyelid conditioning is mediated via the cerebellum, the research team believe that this methodology opens up new avenues for early detection of a wide range of developmental disorders in which cerebellar dysfunction has been implicated, such as dyslexia, attention deficit hyperactivity disorder, autism, and schizophrenia.

Eyelid conditioning was associated with a change in brain activity over frontal electrodes after tone presentation, which may signal memory updating. Since eyelid conditioning is mediated via the cerebellum, the researchers believe that this methodology...


The first CUNY One-Day Workshop on Pedagogical Research was held on Friday, January 14 2011 at the Borough of Manhattan Community College. The workshop was designed specifically for community college faculty, and is part of the community college collaborative research incentive award program (C3IRG), now in its 8th year. This competitive grant program funds promising research at community colleges, with the intention of providing seed money for future grant proposals.

The current focus on pedagogical research was the initiative of Dr. Gillian Small, CUNY Vice Chancellor for Research. Given the need to improve graduation rates there is renewed emphasis on pedagogy. The C3IRG program fulfills this need by funding faculty whose research can improve pedagogy in almost any discipline. The workshop held on January 14 was a way to introduce the concept of pedagogical research and to provide practical advice on how to design, implement and assess projects. Over 100 community college faculty members attended the workshop, which had platform presentations by Dr. Nikki Edgecombe (Community College Research Center at Columbia University), Dr. Larry Suter (National Science Foundation), Ms. Arita Winter (CUNY Office of Research Conduct), and Dr. Michael Weiss (MDRC, a non-profit education and social policy research organization). Afternoon breakout sessions were conducted to help faculty with specific concerns working in Humanities, Natural & Physical Sciences, and Behavioral & Social Sciences.
The City College of New York (CCNY) is partnering with Natural Currents Energy Services, LLC (NCES), a start-up firm specializing in hydro-turbine equipment, to identify the best sites along the coastal waters of New Jersey to generate hydrokinetic energy. The primary goal of the study is to better understand the potential for tidal energy generation along the coastline, as well as the technologies that are best suited to harness the power of tidal currents. The 18-month study, funded by a $260,000 grant from the New Jersey Department of Transportation and the University Transportation Research Center (based at CCNY), is part of an ongoing state project, that aims to help New Jersey achieve its goal of meeting 20% of the state’s energy needs through renewable resources by 2020.

The research team, headed by Assistant Professor of Civil Engineering Dr. Hansong Tang at the Grove School of Engineering, will identify the top 20 tidal power generation sites, and will also determine the total potential of tidal energy generation that may be realized from these sites. According to Dr. Tang, “producing useful estimates will involve obtaining computer prediction and field measurements for several variables. Besides measuring flow speeds as the tides rise and ebb, criteria to be computed and measured include changes in depth and velocity.”

“There are existing coastal ocean models that estimate flow velocities over areas of one square kilometer or larger, but we need to make flow estimates on scales as small as 10 square meters or finer,” explains Dr. Tang. “One of our goals is to successfully and accurately integrate macro-scale and small-scale models to reliably predict multi-scale and multi-physics coastal ocean flows, which is a unique approach that has not been done before.”

The Howard Hughes Medical Institute (HHMI) announced that it will award $60 million in institutional grants to support a diverse spectrum of educational initiatives aimed at improving student achievement in science. The grants, ranging from $800,000 to $1.6 million for individual institutions and reaching $4.8 million for those applying jointly, will be available to 215 undergraduate-focused colleges and universities across the country. Among the 215 institutions invited to apply for a grant are four CUNY colleges: Brooklyn College, City College, Hunter College, and Queens College.

HHMI hopes that the funding will help the applicants think creatively about how science education can be improved. In particular, HHMI's goal is to better understand what kinds of science education programs succeed in developing the talent and leadership skills of students.

“The question is not whether we can produce more scientists and science teachers, but whether we can produce better ones,” said David Asai, Director of HHMI’s precollege and undergraduate program. “We want to get away from just counting the numbers of students who do research. We want to find out what [the institutions] are doing that is making undergraduates better prepared to be successful as future scientists, teachers, or members of a scientifically literate public.”
Fersht. His dissertation focused on C-type lectin binding domains and working with the lab’s senior postdoc (an NMR specialist), he determined the crystal structure and characterized ligand binding in a tunicate (sea squirt) model. C-type lectin domains are found in many transmembrane proteins and are often associated with immune response.

Postdoctoral opportunities brought Sebastien to New York City where he continued to use NMR and biophysical techniques to study ion channels and transporters in different membrane mimetics (artificial membranes, micelles, and bicelles), first at Rockefeller University, and later at the Albert Einstein College of Medicine in the Bronx. Since starting at the College of Staten Island in the spring of 2009, he has continued his focus on natural killer cell receptors as well as expanding his research to examining ion channels—transmembrane proteins that are responsible for the electric signal transmission in nerves and the regulation of the heartbeat. Many animal toxins target these ion channels, disrupting the propagation of electrical signals in cells. With collaborators across CUNY, Dr. Poget is studying the interactions of these toxins with several ion channels to better understand channel structure and function, and also as potential templates for designing therapeutic drugs that could act in a subtler manner than today’s channel blocker drugs.

Phospholipid environments are crucial to studying transmembrane proteins and Sebastien continues to explore the use of artificial membrane mimetics, particularly bicelles, in studying these proteins and to develop new, more efficient methods of incorporating proteins into these membrane models. Being at CSI has been a learning experience and Sebastien has had to parse this research into small projects that are suitable for undergrads and still have his overall research goals in mind. He has recently recruited a number of undergraduates from his General Chemistry course who are mastering basic molecular biology lab techniques such as cell culture, cloning, and transformation and last summer, a Macaulay Honors College student began work on ion channel toxins. He is continuing his recruiting efforts in General Chemistry this semester while also revising the department’s Biochemistry labs to be more in line with his own research program: more exploratory in nature and plans to develop a new course in Biophysical Chemistry in the near future. This past year, he has recruited a postdoc, Dr. Mangmang Zhu, to join his research group and invited a number of PhD students to do rotations in his lab—he hopes to advise his first PhD student beginning this year.

Dr. Anthony Carpi, Professor of Chemistry and Environmental Science at John Jay College of Criminal Justice, has been awarded the prestigious Presidential Award for Excellence in Science, Mathematics and Engineering Mentoring (PAESMEM). He is one of only 11 individuals and four organizations nationwide to receive this high honor in 2011.

Dr. Anthony Carpi (back row, left of President Obama)
A team of math and biology students at City Tech is working to enhance our understanding of one of the most complex health problems facing our society today — antibiotic-resistant nosocomial infections (NIs), better known as hospital-acquired infections. Each year, over 2 million Americans contract NI after being treated in a healthcare facility. Of those, nearly 100,000 die because of complications associated with the infection. This project is partially funded by a two-year NSF Science Education for New Civic Engagements and Responsibilities (SENCER) implementation award (Dean Pamela Brown, PI), which aims to increase interest in STEM (science, technology, engineering, and mathematics) disciplines among students.

During the first stage of the project, the students analyzed the occurrence of NI in 15 Brooklyn hospitals. They identified the most common pathogens causing such infections and found significant variation in the occurrence of these pathogens among the hospitals using statistical analysis. As a next step, the project participants aim to uncover the underlying causes of this variation.

“The underlying causes of these disparities are mainly due to inpatient population. Elderly patients and a sicker patient population usually intake more antibiotics and thus harbor antibiotic resistant bacteria. Patients in trauma centers and surgical units are at higher risk to be infected with antibiotic resistant bacteria. Also, over use or repeated use of a specific antibiotic by a hospital means higher resistance rate for that particular antibiotic. So, each case needs to be investigated separately and thoroughly to explain these disparities,” explains Associate Professor Urmi Ghosh-Dastidar (Mathematics), who works on the SENCER project with two other City Tech faculty members, Assistant Professor Liana Tsenova (Biological Sciences) and Associate Professor Arnaz Taraporevala (Mathematics). The team also thanks John Quale, MD from SUNY Downstate Medical Center, for his consultation and valuable suggestions. Dr. Quale is a specialist in infectious diseases and internal medicine.

“This was my first research project and it was challenging. I never thought I could do pathology research, but it opened a door to a new area,” says Aionga Pereira, one of the participating students, who aspires to be a nurse. “The experience was especially important for me, since NIs are spread by health care workers. We’re supposed to help patients, but we can harm them. I would encourage everyone to do a research project in college; it’s definitely worth it.”

Teaching Engineering Technology through a Hands-on Approach

The New York City College of Technology (City Tech) has established a new Mechatronic Technology Center (MTC). The center provides a multidisciplinary platform for students to learn the latest mechatronics and robotics technology, as well as to gain experience through hands-on projects. It is funded by the NSF Advanced Technological Education (ATE) program, which is designed to foster knowledge in science and engineering.

“Mechatronic technology has been identified as one of the most important emerging technologies of the 21st century,” says Dr. Andy Zhang, Director of MTC and Associate Professor of Mechanical Engineering and Industrial Design Technology. “There are 36 NSF-funded ATE centers around the country but none of them are in New York State. We hope we can be the first to turn the Mechatronic Technology Center into a NSF ATE center in New York.”

“This project has the potential for influencing a significant number of students, especially those in underrepresented groups, to consider careers in the fields of Science, Technology, Engineering, and Mathematics (STEM),” says Dr. Farrukh Zia, co-Director of MTC and Assistant Professor of Computer Engineering Technology.

“We at City Tech are now able to prepare graduates for careers in mechatronics by using innovative curriculum and hands-on teaching techniques. I’m quite excited about implementing our vision for 21st century technological education,” he adds.

Source: City Tech

www.cuny.edu/research
In a perfect world, no one would ever be sentenced for a crime they did not commit. Yet our world is not perfect: innocent people end up in jail, or worse, on the death row, sometimes with only inconclusive evidence. How is it possible? One of the reasons is that people confess to crimes they actually did not commit. Now why would anyone falsely confess to a crime? According to a recent study by researchers at John Jay College, some false confessions occur because of the bluff interrogation technique, in which police bolster an accusation by implying that they have other evidence.

On its face, this tactic seems relatively benign, as it is designed to "bluff" criminals into feeling trapped and confessing but posing no threat to innocents who have nothing to fear. The problem is that innocent people figure that this other evidence will absolve them, an assumption that paradoxically makes it easier for them to confess under the pressure of interrogation. As false confessor and current John Jay master's candidate Jeffrey Deskovic explained, after being exonerated by DNA years after his wrongful conviction, "I told them what they wanted to hear…I thought it was all going to be OK in the end."

“Perpetrators should be motivated to confess by a desire to escape the pressure of interrogation and cut anticipated losses. However, it appears that same pressure may cause innocent suspects to confess as well—and for them the bluff can make that decision easier by leading them to think they can confess now and be absolved by the alleged other evidence later,” say authors Jennifer Perillo (CUNY PhD student) and Saul Kassin (Distinguished Professor of Psychology), who have studied the impact of the bluff technique.

To evaluate the impact of the bluff tactic on confession rates, Perillo and Kassin conducted three different laboratory experiments. After analyzing the results, they concluded that the bluff technique may not adequately protect innocent suspects from the risk of a false confession. “To the contrary, in light of the phenomenology of innocence, which can lead people who stand falsely accused to confess out of an expectation of future exoneration, the bluff itself puts innocent people at risk and should be approached with caution.” According to the authors, the bluff tactic is particularly troubling because false confessions are hard to detect by the jurors who ultimately render a final verdict on guilt or innocence.


**POSTDOC ALUMNA AMONG PRESIDENTIAL HONORS RECIPIENTS**

Six chemical professionals were among the 85 researchers President Barack Obama selected to receive the 2009 Presidential Early Career Awards for Scientists & Engineers (PECASE), the highest honor given by the U.S. government to scientists and engineers at the beginning of their careers. **Dr. Jayne Garno**, Assistant Professor of Chemistry at Louisiana State University and former postdoctoral research associate of **Dr. Mike Drain**, Professor of Chemistry & Biochemistry at Hunter College.

PECASE awardees are chosen for their pursuit of innovative research at the frontiers of science and technology and for their commitment to community service as demonstrated through scientific leadership, public education, or community outreach. The winners receive research grants for up to five years to further their studies in support of critical government missions.

Dr. Garno has also been honored as one of 14 winners of the Camille Dreyfus Teacher-Scholar Award for 2010.
on refining a more accurate model for brown dwarf atmospheres.

Cruz grew up in San Antonio, Texas but was quick to make her way East. In high school, her plan was to study Business at the University of Pennsylvania, so she applied early. But somewhere between her junior and senior year of high school, she abandoned the business idea and decided she wanted to be a scientist.

“There are way more questions in Astronomy than there are astronomers,” said Cruz. She liked that Astronomy was a field with many unknowns, and the possibility to make a significant impact in a particular field excited her.

Cruz dove right into her Physics and Astronomy courses during her undergrad, stayed at UPenn for her doctorate (she won an NSF Graduate Research Fellowship), and then headed to New York City for postdoctoral research on brown dwarfs at the American Museum of Natural History (AMNH) as an NSF Astronomy and Astrophysics Fellow. Cruz worked with both REU (Research Experiences for Undergraduates) and Barnard College students through her research at AMNH. This was the point in her career when she realized that she always wanted to have students integrated into her research, and academia was her desired path.

Cruz won a Spitzer Fellowship for a second postdoctoral position, that took her to Caltech in Southern California. Caltech’s Astronomy Department provided her access to the high-end telescopes and instruments that are key to answering questions about brown dwarfs.

Back in New York at Hunter, Cruz has re-established her working relationship with the Department of Astrophysics at AMNH as a Research Associate. There, her Hunter students are exposed to many world-class astronomers, as well as the useful resources available at AMNH. Through grant support, Cruz and the other CUNY astronomers hope to formalize and strengthen the CUNY Center for Astrophysics at AMNH in the coming years.

Cruz is also working to strengthen and refine her teaching skills. Her 330 non-majors have certainly taught her a few things she plans to tweak for during upcoming semesters. One of them: Ask more challenging questions.

### CAREER AWARD INCENTIVE UPDATE

In Spring 2010 the Office of the Vice Chancellor for Research announced an incentive to encourage junior faculty to apply for funding through the National Science Foundation’s Faculty Early Career Development (CAREER) Program. In response to this initiative, CUNY faculty rose to the challenge and submitted a record number of CAREER proposals for the July 2010 deadlines.

We are pleased to announce that two CUNY faculty have received CAREER awards for 2010: Mandë Holford (Chemistry, York College) and Sihong Wang (Biomedical Engineering, City College). Dr. Holford’s research project, Development of a Tetroxin Neuropeptide Array for Investigating Neuronal Circuits is designed to identify, synthesize, and characterize novel neurotoxins from the venom of terebrid marine snails (tetrotoxins) in a high throughput manner. Dr. Wang’s project, Microfluidic 3D Apoptosis Cell Arrays will lead to the development of a high-throughput functional microfluidic platform and unique cellular constructs such that dynamic readouts of signaling associated with cell death pathways such as apoptosis can be investigated. This platform will be used to examine the mechanism of action of anticancer drugs, and ultimately be used in rapid drug screening.

Dr. Holford’s CAREER project includes an undergraduate laboratory research program called RAISE-W (Research Assisted Initiatives in Science Empowerment for Women). This education initiative is geared towards increasing and retaining the number of women, especially underrepresented women, engaged in scientific research in STEM disciplines. Dr. Wang aims to enhance research opportunities and increase the number of students from underrepresented groups entering the professional workforce of biotechnology and bioengineering by offering summer research experiences to high school students, reaching out to industry to promote recruitment of biomedical engineering (BME) graduates, and by incorporating up-to-date biotechnologies and undergraduate research opportunities into the CCNY BME curriculum.
On February 10, 2011, Thomson Reuters released a report identifying the world's top 100 chemists over the past 10 years as ranked by the impact of their published research. Dr. Michal Kruk, Associate Professor of Chemistry at the College of Staten Island ranked 72 among the top 100, the highest ranking among New York City academics to make the list. Dr. Kruk's research focuses on the synthesis and application of nanoporous materials. His 54 publications over the ten-year period surveyed have been cited over 3,300 times!

The top 100 is intended to celebrate the achievements of chemists who achieved the highest citation impact scores for Chemistry papers (articles and reviews) published since January 2000. Thomson Reuters published the table in support of the International Year of Chemistry.
proteins found in some marine invertebrates, such as corals and jellyfish, that naturally fluoresce. Since the discovery in 1992 of their utility in molecular biology, approximately 30,000 scientific publications have utilized GFP as a reporter molecule. Only about 20 of the roughly 130 fluorescent proteins that have been isolated, are regularly applied in molecular biology. To date, Gruber and his colleagues have described nearly 30 FPs, including a novel fluorescent protein coupled to phosphorylation, an important on-off switch in many crucial cellular processes. This discovery has lead to a patent that CUNY is actively marketing as a platform for cancer drug development. This discovery also led to David becoming one of the first Ewing Marion Kauffman Foundation Postdoctoral Entrepreneur Fellows. This program was launched to better position entrepreneurial early-career scientists with intensive mentoring and coaching and Dr. Gruber has since founded the biotechnology company, Lucidicor. In January 2011, the company was infused by a National Science Foundation SBIR (Small Business Innovation Research) grant.

David currently has NSF funding to study the differences and interrelationships between the deep corals (> 300 feet) and shallow corals. Dr. Gruber is actively researching corals off Little Cayman Island, Maroantsetra Madagascar, Eilat, Israel, and Exuma, Bahamas. These localities all support corals found at both depths. His team will examine molecular and physiological differences between these populations, and extract and characterize fluorescent proteins from deep corals. To facilitate these efforts, David has an NSF Major Research Instrumentation (MRI) award to develop an ROV (remote operated vehicle) to sample and photograph deep water corals and he plans to embark on National Geographic Society/Waitt Foundation expedition this summer to search for the elusive far-red fluorescent protein.

David has dedicated himself not only to exploring biodiversity and evolutionary innovation, but also to communicating his findings to non-scientists. His recent Communicating Science to Public Audiences grant from the NSF has enabled David to build a multimedia museum exhibit presenting biofluorescence and bioluminescence in coral reefs, and he is currently collaborating with the National Film Board of Canada to develop a 3D IMAX film on these mysterious pathways for younger audiences. He is also working with cutting-edge visual and performance artists Janaina Tschape and Kristin McArdle in an effort to strengthen our connection with nature in more sustainable and illuminating ways.

David is the co-author with his long-time collaborator Dr. Vincent Pieribone (Yale) of "Aglow in the Dark: The Revolutionary Science of Biofluorescence" and serves as scientific advisor and producer for WNYC Studio 360's "Science and Creativity" series. His writings have appeared in The New Yorker, Nature Medicine, and The Best American Science Writing 2007. In addition to his appointment at CUNY, David is a Visiting Scientist at Brown University and a Research Associate of the American Museum of Natural History and the Central Caribbean Marine Institute.
Two CUNY graduating seniors, Ann Marie Alcocer (Lehman College) and Jian Liu (City College), have won prestigious $100,000 Math for America (MfA) Fellowships. These highly-selective fellowships provide a stipend, plus a full-tuition scholarship to earn a master’s degree in Mathematics Education. They are aimed at talented students wishing to pursue careers teaching math in public schools.

“I was ecstatic that I won,” said Ann Marie Alcocer, who hopes to find a position at a local Bronx school. “I’ve been interested in the program since my sophomore year and I was encouraged by the fact that other Lehman students have won it.” Indeed, Ann Marie is the fourth Lehman College student to earn this prestigious fellowship.

The fellowship consists of a five-year program. In year one, both fellows will earn a master’s degree and gain teaching experience. In years two through five, they will teach in a New York City’s public school, receive mentoring and professional development support as well as participate in MfA activities.

“This is an incredible honor. It’s an extremely competitive program and a major boost to my plans to become a math teacher,” said Jian Liu, who plans to pursue his master’s either at Bard College or at NYU – two graduate programs collaborating with the MfA program.

In addition to MfA fellowships, other top CUNY students have recently won two $30,000 Harry S. Truman Scholarships for graduate study leading to careers in government. The two 2011 Truman scholars are graduating seniors Ayodele Oti (CCNY & Macaulay Honors College) and Gareth Rhodes (CCNY). Other recent major achievements by CUNY students include four Barry M. Goldwater Scholarships [Mark Barahman [CSI], Johnson Shuan-Jian Ho [CCNY], Celine Joiris [Hunter], and Joseph Cammarata [Hunter]], two Fulbright Scholarships [Julia Szendro [John Jay] and Easter Wood [CCNY]], three National Science Foundation Graduate Research Fellowships [Lina Mercedes-Gonzalez [Hunter], Arthur Parzygnat [Queens & MHC], and Anthony Pang [CCNY]], and one Rhodes Scholarship [Zujaja Tauqueer [Brooklyn & MHC]].

For additional information on the event, visit http://www.cuny.edu/research/news-events/StructuralBiologyWorkshop.html
‘Living Laboratory’ of Brooklyn Waterfront

City Tech students, faculty, and curriculum will connect to the dynamic “living laboratory” of downtown Brooklyn in new and creative ways thanks to a $3.1M grant from the US Department of Education (ED). The grant was awarded by the Strengthening Hispanic-Serving Institutions (HSI) Program, that has the goal of improving retention and graduation rates of Hispanic and low-income students. For City Tech, the additional goal is to prepare students for leading roles in the cutting-edge technological and professional workforce.

A team of faculty and administrators from across the College will conduct four major activities: a redesign of the College’s general education curriculum to increase connectivity among courses offered; the creation of a state-of-the-art digital platform for teaching and learning; the integration of comprehensive outcomes assessment into the curriculum; and the establishment of an endowment to support the recently-created Center for the Study of the Brooklyn Waterfront.

“All of our degree programs are built upon a strong foundation in general education — liberal arts courses required of every student,” explains City Tech Provost Bonne August. “However, sometimes students fail to see the connections. We are so excited about this grant because it brings faculty together from across the College to develop new ways to engage students in their Gen Ed courses and, through technology, meaningfully connect what they learn to their majors.”

“City Tech’s new digital platform will forge bonds among students between courses, deepening their engagement with course materials,” notes Assistant Professor of English and Project PI, Matthew Gold. “It will also make the shared intellectual culture of the institution more visible to the College itself and to the wider public.”

Source: City Tech

FACULTY SPOTLIGHT

DANIELUSTEINGART

Continued from Page 4

adviser, Jim Evans, called Wireless Industrial Technologies (WIT). The company, based in Berkeley, allowed Steingart to apply his engineering and materials science background in a practical manner—using wireless mesh networks to enhance electrical efficiency and reduce emissions in large metals production plants. After two years with WIT, he joined another Bay Area start-up doing the same sensor work, but in a more general environment.

Steingart’s ‘real-world experience’ was rewarding, and it helped him secure his faculty position at CCNY. “They wanted someone who was going to make something. Specifically, someone who could make big batteries,” Steingart said.

Dan’s PhD research focused on batteries and real-world applications. He sees his new position at CCNY as a chance to make significant impacts in power production by improving the efficiency of batteries. He looks forward to continuing to work closely with his students in the Printed/Electrochemical Engineering Lab (P/EEL). Steingart believes that, similar to a start-up, the success of the P/EEL depends on collaboration—not just in the lab but also throughout the department.

The P/EEL is part of the CUNY Energy Institute, of which Steingart is a founding member. It is one of the few labs working on large-scale battery testing and fabrication. In conjunction with the labs of Energy Institute Director Sanjoy Banerjee and Associate Professor Stephen O’Brien, another member of the Energy Institute, the lab is now working on both of CUNY’s recent Advanced Research Projects Agency-Energy (ARPA-E) grants.

The overall goal of engineering large-scale batteries is to solve large energy problems for urban settings, like New York City. For example, large-scale batteries could be used to run apartment buildings for a day, and combined with energy efficiency, an entire week. With environmental concerns at an all-time high, emission-free power like this is extremely attractive. “It’s modular and cheap, and we’re pretty far along,” Steingart added.

Pretty far along in part because of the quick and well-organized way the P/EEL has been able to print, test, and analyze battery electrodes. Work has progressed so well that these new batteries could be tested for real-world use in just two years. Efficient indeed and reassuring for what is to come.
ENTREPRENEURIAL CUNY DISCUSSION SERIES LAUNCHED BY TCO

This year, the Technology Commercialization Office launched the Entrepreneurial CUNY Discussion Series. The discussion series will invite entrepreneurs and experts to discuss how to start a successful startup in New York City.

The Entrepreneurial CUNY Discussion Series kicked off on April 4, 2011, with “All You Ever Wanted To Know About Doing A Startup Company In NYC.” Topics discussed included: How to start; What makes your idea different and special; What is Intellectual Property and why does it matter; How to build a team and why; and How to fund your startup.

The second discussion in the series will be on April 20, “New Ventures – How to Pick a Winner and Succeed: An Insider’s Point of View.” Two successful serial entrepreneurs will share their secrets of picking a winner and succeeding at your new venture. They will address the core issues that are critical to any new business success.

The Entrepreneurial CUNY Discussion Series will be held at the CUNY Graduate Center.

All CUNY Innovators and Entrepreneurs are welcomed.

Please email Info.TCO@mail.cuny.edu to subscribe and receive updates.

CITY TECH RESEARCH TEAM CASTS LIGHT ON ASTEROID DEFLECTION

What could happen if a 25M ton chunk of rock slammed into Earth? “A collision with an object of this size traveling at an estimated 30,000 to 40,000 mile per hour would be catastrophic,” according to City Tech’s Associate Professor of Physics and NASA researcher Gregory Matloff. His recommendation? “Either destroy the object or alter its trajectory.”

Dr. Matloff’s research suggests that large chunks of space debris, termed Near-Earth Objects (NEOs), could be diverted by heating their surface to create a jet stream, altering their trajectory and causing them to veer off course. Previously, Dr. Matloff and his colleagues at NASA investigated methods of deflecting NEOs, theorizing that a solar collector (SC), a solar sail configured to concentrate sunlight, could do the trick.

For the past year, Dr. Matloff and a team of City Tech scientists have been experimenting with red and green lasers to see how deeply they penetrate asteroidal rock (regoliths), using samples from the Allende meteorite that fell in Chihuahua, Mexico in 1969.

In a related study, Assistant Professor of Physics Lufeng Leng and her student Thinh Lê narrowed the red laser beam and scanned the surface of a thin-section Allende sample, discovering that differences in the depth of transmitted light exist, depending on the composition of the material through which the beam passes. They concluded that lasers aimed at a NEO could help determine its surface composition. Using that information, solar sail technology could more accurately focus solar rays to penetrate the asteroid’s surface to the proper depth, generating a jet stream that would re-direct the asteroid.

“A beam that penetrates too deeply would simply heat an asteroid,” explains Dr. Matloff, “but a beam that penetrates just the right amount — perhaps about a tenth of a millimeter — would create a steerable jet and achieve the purpose of deflecting the asteroid.”

City Tech student Thinh Lê with apparatus used to study laser penetrance of meteorite samples

Source: City Tech
Continued from Page 1

faculty. In November 2010, the second workshop brought together over 125 CUNY researchers from many disciplines whose research collectively encompass environmental studies. On June 6, 2011, the third workshop will be held at the CUNY Grad Center to bring structural biologists from across the University to discuss their research and develop focal issues for research in this area at CUNY (see page 18).

We have also initiated the CUNY Advanced Science Seminar (CASS) series (see page 1). About once per month throughout the academic year, we are inviting present and future national leaders in our flagship research areas to visit CUNY. Each speaker is presenting a seminar at the CUNY Graduate Center and throughout the day, meets with faculty and students. The first two of these seminars drew great attendance and spurred interesting discussions among attendees.

In May 2011, we will be hosting two CASS speakers. On May 20, Dr. Charles Marcus from Harvard University will discuss the design and fabrication of submicron structures such as carbon nanotubes, and on May 27, Dr. Trevor Douglas from Montana State University will talk about the use of viruses and other molecular machines in fabrication and medicine. I invite all of you to visit the CUNY Research homepage to find out more about the ASRC, the flagship workshops, and the CUNY Advanced Science Seminar series.

Continued from Page 1

structures—semiconductor quantum dots, carbon nanotubes, and graphene-based microstructures, with possible applications. NOTE: this CASS talk will take place from 12:30 to 1:30 PM. On Friday, May 27, Dr. Trevor Douglas, Distinguished Professor of Chemistry at Montana State University will present his research on viruses and other molecular assemblies as platforms for synthetic manipulation with a range of applications from materials to medicine. This seminar will take place from 3:30 to 4:30 PM in the Segal Center at the CUNY Graduate Center. The seminars will be followed by a reception, giving attendees the opportunity for further discussion with each speaker.

To find out more about the CASS program and to see a full list of speakers and dates, visit www.cuny.edu/research/news-events/CUNYCASS.html.

www.cuny.edu/research
CALENDAR

APRIL
APRIL 20, 2011
TCO Entrepreneurial CUNY Discussion Series
New Ventures - How to Pick a Winner & Succeed
CUNY Graduate Center, 5:00-7:00 pm
Rooms C203-205
(see page 20)

MAY
May 6, 2011
NYC Emerging Technologies Summit
Opportunities in Neuroscience
CUNY Graduate Center
Recital Hall, 1:00-6:00 pm

May 12, 2011
Postdoctoral Career Development Workshop
Dr. Keith Micoli (NPA Advisory Council)
Using the National Postdoctoral Association Core
Competencies to Enhance Your Career Development
CUNY Graduate Center, 9:00-12 noon
Skylight Meeting Room

May 20, 2011
CUNY Advanced Science Seminar series (CASS)
Dr. Charles Marcus (Harvard University)
Controlling Quantum-Coherent Electronic Circuits,
with Possible Applications
CUNY Graduate Center, 12:30-1:30 pm
Segal Theater
(see page 1)

May 27, 2011
CUNY Advanced Science Seminar series (CASS)
Dr. Trevor Douglas (Montana State University)
Controlling Materials at the Genetic Level:
Letting Biology do the Work
CUNY Graduate Center, 3:30-4:30 pm
Segal Theater
(see page 1)

JUNE
June 8, 2011
CUNY Structural Biology Workshop
From Molecules to Machines
CUNY Graduate Center
Concourse level, 9:00-5:00 pm
http://www.cuny.edu/research/news-events/
StructuralBiologyWorkshop.html
(see page 18)

RESEARCH OFFICE

Gillian Small, PhD
Vice Chancellor for Research

Avrom Caplan, PhD
Associate University Dean for Research

Laurence Frabotta, PhD
Director, Special Research Programs

Effie MacLachlan, PhD
Research Programs Manager/Grant Writer

Derek Steele, PhD
Project Coordinator

Nadia Prokofieva, MA
Project Associate

Luz Jimenez, MPA
Executive Assistant to the Vice Chancellor

Astrid Sylvester
Administrative Assistant

Office of Research Compliance

Arita Winter, BA
Research Conduct Associate

Tara Smith, BA
Sr. Administrative Assistant

Technology Commercialization Office

Jake Maslow, Esq
Director, Technology Commercialization Office

Elaine Lu, PhD
Technology Commercialization Associate

Nitin Virmalwar, Esq
Technology Commercialization Associate

Wei Chen, PhD
Technology Commercialization Business Assistant

Marceline Dickson-Duncan
Office Manager

Saidy Estrada
Office Assistant

Newsletter Contributor

Loren Bonner, MA
Faculty Spotlights: Cruz, Steingart