

HELPING THE PEOPLE WHO CHANGE THE WORLD



**The Research Foundation
of The City University
of New York**

2016 Annual Report

**Letter from the Chairman of the Board
and President — page 1**

Introduction — page 2

**Helping the People Who
Change the World — page 8**

2016 Financial Statements — page 22

Corporate Information — page 41

A Word About Award Activity

The annual report reflects “award activity” or gross sponsor commitments recorded in the fiscal year. On the other hand, the Grants and Contracts sections of the audited financial statements reflect fiscal year “expenses” on sponsored awards. In many cases, expenses are actually lower than the award activity. The main reason for this would be multi-year awards, which are recorded in their entirety when received but expended over multiple years. The reader will, therefore, note that the figures in the audited financial statements differ from those in the report narrative and charts because they refer to different measures.

For a complete listing of 2016 awards, go to www.rfcuny.org/annualreport

Acknowledgments

The Research Foundation wishes to thank those whose contributions led to the development of the hard copy and online versions of this report: Rene Cruz, Gavita Harris, Wendy Patitucci, Renato Rodriguez, James Suarez, and Emily Wight.

Letter from the Chairman of the Board and the President

The year 2016 represents a high water mark for the Research Foundation. Total awards topped \$485 million, a record in the history of the RF and in the history of The City University of New York. We congratulate the many faculty and staff whose collective efforts have resulted in such a spectacular achievement. They bring distinction to their fields, their colleges, and CUNY. Likewise, we acknowledge the RF central office and field staff, 13,000 strong, who provide indispensable support to award recipients.

And yet, as this annual report is being prepared, we find ourselves uncertain about what the future may hold in terms of funding opportunities. Particularly at the federal level, the source of the majority of funding for scientific and medical research, there is concern that agencies such as the National Institutes of Health and the National Science Foundation will experience significant cuts to their budgets in coming years. Furthermore, proposals to effect cuts by reducing significantly the indirect costs that accompany grants (facilities and administrative costs in federal parlance) could place not only CUNY, but all other institutions of higher education conducting research in an untenable position.

Indirect costs reimburse institutions for providing everything from laboratories to heat to information technology infrastructure that are not generally covered elsewhere in award budgets. Without such reimbursement, many institutions would have to think long and hard about pursuing, let alone accepting, awards that would force them to absorb these costs.

Since the end of World War II, the collaboration between the federal government and research institutions has been the envy of the world. Diseases have been cured, life-changing inventions and discoveries have been brought

forth, and problems afflicting millions have been ameliorated as a result of this dynamic approach.

The federal government is not the only source of funding, however; we also obtain substantial support from New York City and State, private foundations, and others. Those funds are generally provided to carry out tasks that address a specific societal need or interest – everything from transportation to criminal justice to disability services. And they are no less important and no less a key aspect of the role of the largest urban public institution of higher education in the nation. (But even these sources can be adversely affected by federal action as so much of what they award contains federal flow-through funding.)

Nevertheless, the University and the Research Foundation have implemented programs and systems to more aggressively seek out opportunities and take advantage of CUNY's unique assets, which are considerable. Whatever the landscape now and in the future, we will rise to meet the challenges and continue to achieve outstanding results, just as we have in the past.

In this annual report you will meet a representative sample of our exceptional award recipients and learn a little about their projects. You will also learn about the role played by the Research Foundation in supporting their efforts. We hope that you find the pages that follow illuminating.



(Left) Marc V. Shaw, Chairman of the Board
(Right) Richard F. Rothbard, President

Introduction

This Annual Report is more than just a collection of numbers that demonstrate how well principal investigators have done in a particular year. It is also a collection of stories that provide the reader with an indication of the fascinating and inspiring work being carried out every day in the areas of natural and social sciences, government services, job training, curriculum planning, assessment, pedagogy, program evaluation, media production, and software development throughout The City University of New York. Likewise, it is a window into how the Research Foundation works in partnership with CUNY and our other clients to achieve important scientific, societal, and other breakthroughs that address challenges and advance knowledge.

As we look back at the recent accomplishments of those we have the privilege to serve, we also recognize the need for continuous improvement so that principal investigators and field employees can continue to prosper. At the Research Foundation we are dedicating ourselves to providing our CUNY colleagues with even better experiences, whether it be with our staff or with our tools. New technologies make possible improvements in a broad array of services; our renewed emphasis on customer service is a top to bottom pledge to put our award recipients in the forefront of all our planning and operations.

In the past year alone we have brought new systems online and others are in the pipeline, all designed to streamline processing of everything from contracts to purchases to new hires. Our website is being totally revamped to facilitate quick access to the things users seek. And our Director of Customer Service Development is helping all Foundation professional staff provide the highest level of support to the field.

Here are just a few of the latest improvements that will enhance the experiences of faculty and staff on the campuses:

Peer Review

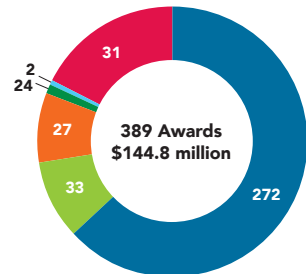
Begun only a little more than a year ago, the Peer Review program has already proven its value. It

Awards by Source and Purpose 2016

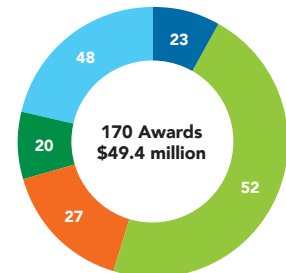
(slices denote dollar amount; values denote number of awards)

- Research
- Training
- Program Development
- Institutional Improvement
- Equipment
- Student Support Services

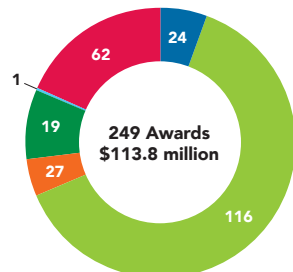
Federal



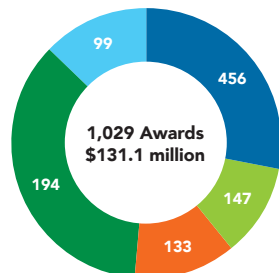
New York State



New York City



Private

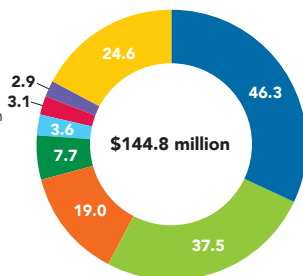


(Excludes \$42.3M in Manhattan District Attorney criminal justice initiatives and \$3.8M in PSC-CUNY)

Government Awards by Source 2016

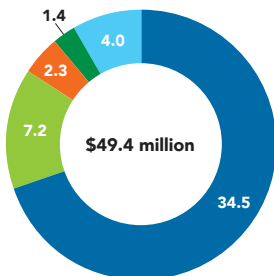
Federal

- Department of Health and Human Services
- National Science Foundation
- Department of Education
- Department of Energy
- Department of Defense
- Department of Justice
- Department of Transportation
- Other



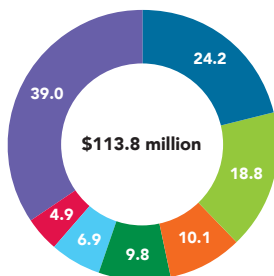
New York State

- NYS Education Department
- NYS Office of Children and Family Services
- NYS Department of Transportation
- NYS Department of Health
- Other



New York City

- NYC Human Resources Administration
- NYC Department of Education
- NYC Center for Economic Opportunity
- NYC Department of Youth and Community Development
- NYC City Council
- NYC Department of Health & Mental Hygiene
- Other



uses a web-based platform that provides support to faculty and students to strengthen the content and quality of their proposals before they are submitted to sponsors. The program is voluntary and has two components. The first component recruits faculty to register as peer reviewers of proposals prepared by CUNY faculty that are ready for submission to external funding agencies. The second component encourages faculty to submit proposals to be reviewed by their CUNY and/or external peers prior to their submission to sponsors. The process will boost the competitiveness of the proposals by obtaining feedback on proposal strengths and weaknesses based on the sponsor's review criteria.

Hundreds of faculty have volunteered their services as peer reviewers and hundreds of award proposals have been submitted to the system so that the peer reviewers can help their colleagues strengthen their requests prior to formal submission to NIH and NSF. In the near future we plan to expand the initiative to cover proposals to other sponsors.

Faculty Travel

In partnership with CUNY, we continue piloting a program that provides travel funds to faculty so that they can engage in person with program officers at funding agencies and decision makers at private foundations. This will provide them with invaluable insights into how funding decisions are made and will guide them in preparation of their proposals.

Following the first year of this initiative we surveyed all the individuals who have been supported by the program. All of the faculty that were surveyed felt that the travel helped them develop their grants. All of them either are developing, have developed, or submitted a proposal. In fact, one of the faculty members has already been told that he is being funded. Based on these results, we decided to continue the program for another year.

e-Onboarding

Onboarding is the process by which new staff are added to the RF's employee rolls. The new electronic system will eliminate the current paper-based onboarding process, automatically create the new hire electronic personnel action forms, and provide a secure means of gathering data from principal investigators and prospective employees. No longer will there be a need to fill out numerous paper forms for everything from benefits selection to paycheck direct deposit. Nor will anyone have to provide the same basic personal information multiple times on multiple forms.

Contract Manager

The Contract Manager is a paperless electronic document request and processing system that will significantly improve and streamline the way the RF conducts its business. The first phase will create a new, and much simpler, process for

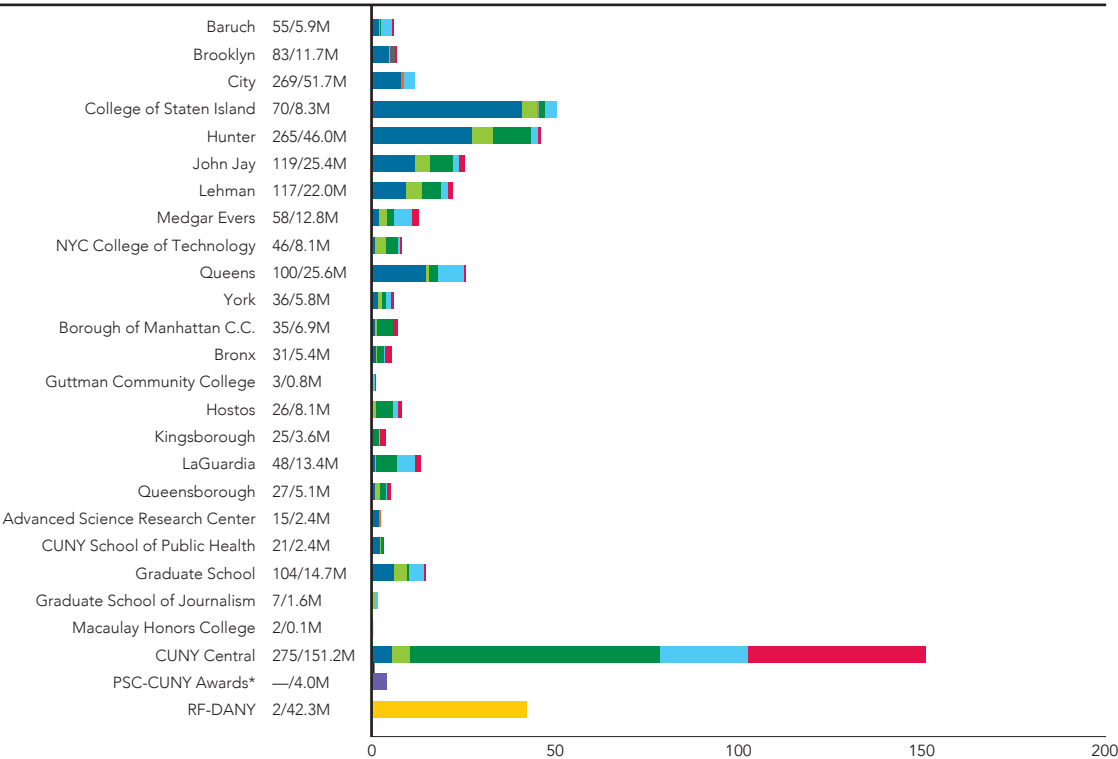
principal investigators to submit independent contractor agreements, memoranda of understanding, and subaward requests, and for the Research Foundation to process them. Ultimately, with the second phase, we will add other functionality for contracts and grants, as well as for the miscellaneous agreements we process for PIs, such as material transfer agreements, data use agreements, and collaborative research agreements.

Among its many benefits, Contract Manager integrates with the RF's financial management systems. As a result, the user (ordinarily the PI) is immediately provided with real-time data validation, such as available account balance and budget term of the project. Providing the PI with that information in real time will help identify and minimize issues at the time of request preparation.

The system will provide for greater transparency as well, allowing the user to track the progress of requests, and also creates and maintains an audit trail that provides up-to-the-minute information on

Awards By Purpose and College 2016 (number of awards/dollar value of awards)

Research Training Program Development Equipment Institutional Improvement Student Support Services
PSC-CUNY RF-DANY



* The Professional Staff Congress-City University of New York (PSC-CUNY) research award program supports faculty research and leverages external funding.

who has worked on the request and the last action performed upon the transaction.

GrantForward and Pivot Databases

RFCUNY has been testing GrantForward, an online search engine that provides information to researchers on upcoming external grant funding opportunities. It is available to every member of the CUNY community. Benefits include:

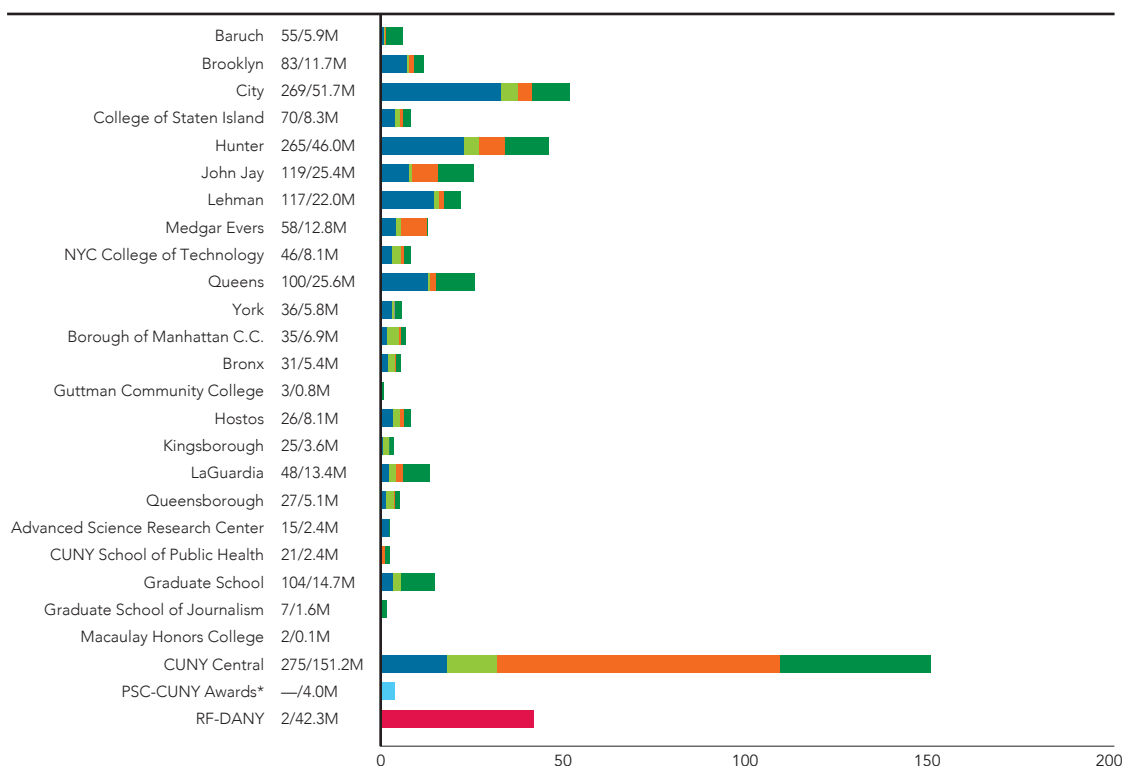
- GrantForward's specialized search algorithm and team of specialists allow the system to constantly add new and accurate funding opportunities
- GrantForward's adaptive search filters make it quick and easy to find the right grant opportunities to start moving research forward
- GrantForward incorporates a dynamic search engine with a personalized funding recommendation service to simplify the grant search process

Pivot, our principal searchable database, is also available to all. It is a tool that provides global and local connections that strengthen research by exploring new avenues for funding and collaboration. Some of Pivot's features include:

- Ability to identify and connect funding opportunities to researchers at their institutions
- Access to the most comprehensive source of funding opportunities globally
- Ability to identify researcher expertise from within or outside the institution
- Enhanced communication, monitoring, and tracking between individual faculty, teams, or researchers and the campus Grants Office
- Enables users to add internal deadlines to critical funding opportunities and sends weekly updates on saved searches users organize in their own folder

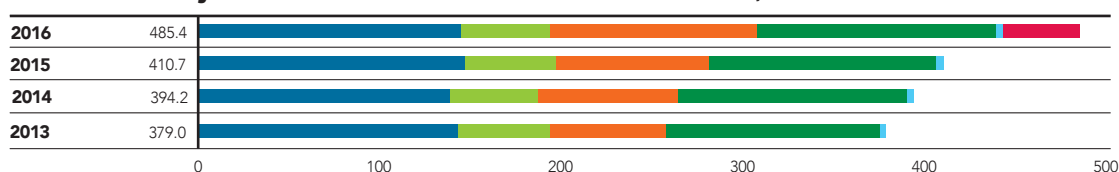
Awards By Source and College 2016 (number of awards/dollar value of awards)

● Federal ● State ● City ● Private ● SC-CUNY ● RF-DANY

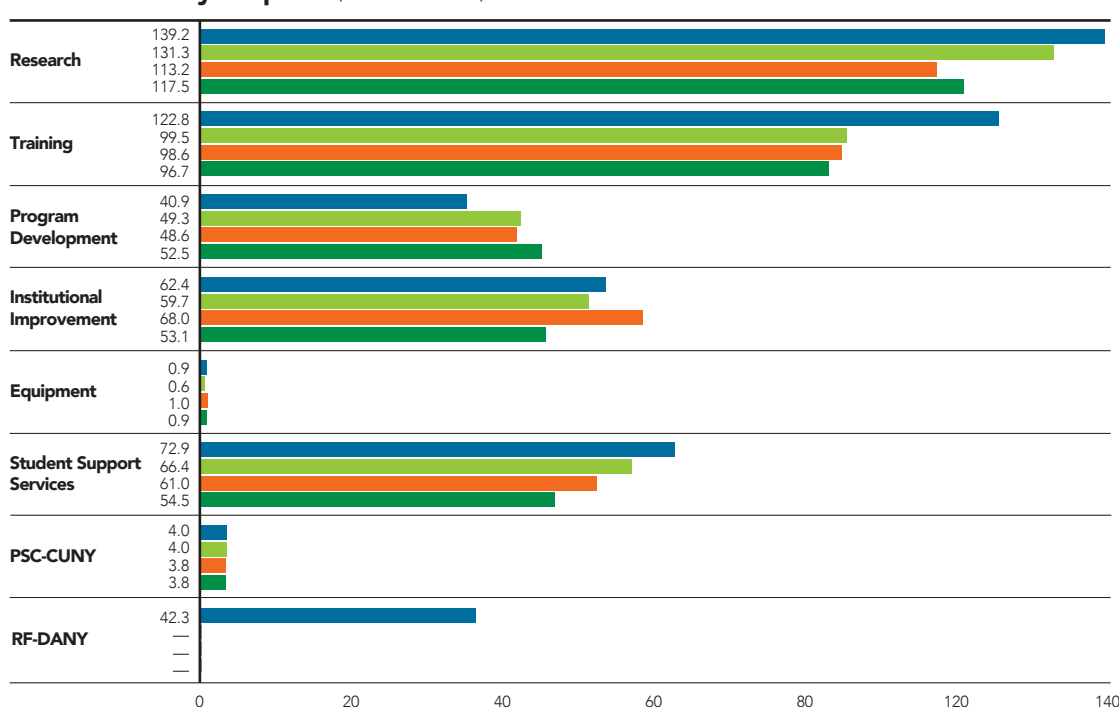


* The Professional Staff Congress-City University of New York (PSC-CUNY) research award program supports faculty research and leverages external funding.

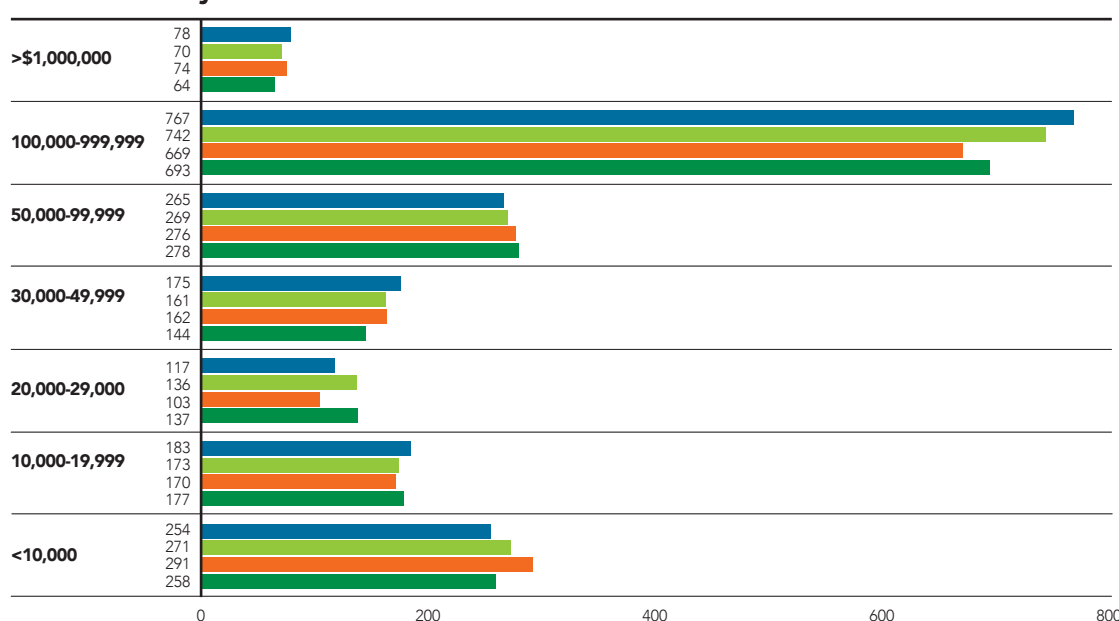
Total Awards By Source (dollars in millions)



Total Awards By Purpose (dollars in millions)



Total Awards By Dollar Value and Number



Kuali Research

Kuali Research helps institutions of all kinds simplify research administration processes and make better decisions faster. With Kuali Research, one can speed funding, reduce risk, and work more efficiently to grow research volume.

With Kuali Research, one can manage the complete lifecycle of all sponsored projects and ensure the highest levels of compliance and integrity. Pls will be able to:

- Develop proposals more efficiently with intelligent routing and approval
- Submit proposals directly to Grants.gov and Research.gov
- Manage negotiations more effectively for faster awarding and better visibility
- Manage award activity over the life of a project and integrate with the financial system
- Track research activities across the institution for better oversight and control
- Manage compliance, including COI, IRB, and IACUC

The RF is currently in the process of piloting this system at three CUNY institutions.

Survey

The RF has from time to time undertaken surveys to gauge the extent to which we are meeting the expectations of our clients. In response to the urging of faculty, the RF is now engaging a professional survey firm to design and administer future instruments that will annually measure our success in meeting the needs of both our principal investigators and our field employees. This will provide more and better ongoing feedback than previous efforts have, and guide us in deploying our resources to where they can do the most good.

DANY

In last year's Annual Report we described a new partnership with the Office of the Manhattan District Attorney. The DA had selected the RF to act as fiscal agent for a number of projects under its Criminal Justice Investment Initiative. Programs included Saturday Night Lights, a community-based program to support youth development, and the Sexual Assault Kit project

to support the testing of rape kits that were languishing throughout the country and coming up against deadlines to prosecute perpetrators.

As a result of our successful experience, more projects are being added. These include:

- College-in-Prison Reentry Initiative to award grants to New York State educational institutions to deliver college-level instruction and reentry support in select prisons
- Family and Youth Development to fund not-for-profits specializing in family and youth through innovative programming
- Youth Opportunity Hubs, providing coordinated service, again through local-not-for-profits

230 West 41st Street – RF Headquarters

Our Times Square home base continues to bestow a variety of benefits on the RF. Its central location offers a convenient hub for our own operations, as well as for many at CUNY, including its Finance division and its Graduate School of Journalism. Rental income in excess of operational costs helps defray RF expenses, thereby mitigating the need for our CUNY clients to be our lone source of revenue. And our newly renovated main entrance and lobby will attract and retain the type of first-class commercial and retail tenants that will make the building a destination address.

GrantsPlus

Although our commitment to excellence is first and foremost to our CUNY family, it also extends beyond to our other not-for-profit clients. Through GrantsPlus, we provide a variety of sponsored program support services to a wide range of organizations. Our clients are engaged in a broad array of social services that include combatting housing discrimination, providing financial benefits to low-income workers, promoting small business entrepreneurship, fighting substance abuse, and reducing the cost of prescription drugs for the uninsured.

Revenue from GrantsPlus operations helps fund RF operations.

Please, now, enjoy brief profiles of a few of our thousands of principal investigators and their exciting work in the pages that follow.



Elisa Riedo

Professor, Physics

Advanced Science Research Center, City College

Much of our built world is based on standard fabrication approaches, but Professor Riedo envisions something different. "I would like to see a new approach, more compatible for the nanoscale that goes beyond what is available today." Riedo's contribution to this vision began in 2007 with the invention of a nanosized (extremely small) "hot tip." "You can control the chemistry of any surface by controlling the temperature," Riedo explains. By using the nanosized heater attached to an atomic-force microscope cantilever, it is possible to build complex chemistry on the surface by controlling the heat output and location of the tip. Her two-year, \$179K NSF award, *Controlling the Chemistry at the Nanoscale: Parallelization, Robustness, and Registration* allows Riedo to develop methods of applications for electronics, biology, and mechanical sciences. Currently, Riedo is developing a method for building a microelectronic circuit to be used in nanoelectronics. "This will not be the only nanoscale fabrication method, but it can become a very important tool."

Guillermo Gerona-Navarro

Assistant Professor, Chemistry
Brooklyn College

Traditional cancer treatments have focused on destroying cancer cells, but recent developments in epigenetics have inspired researchers to explore a different approach. Epigenetic cancer therapy targets biological mechanisms relating to gene expression in order to reprogram sick cancer cells to their prior healthy, functioning state. Professor Gerona-Navarro uses his three-year, \$471K NIH award, *Chemical Probes Targeting PRC2 Gene Repression*, to develop molecules that interrogate PRC2 repression, a specific epigenetic mechanism associated with the growth of cancer cells. Gerona-Navarro's novel method for developing stable peptides enables the lab to create and test a range of molecules for this goal. "Understanding the complexities of PRC2 repression allows us to determine whether inhibiting the over-methylation of this mechanism restores the cell's ability to produce tumor suppressant genes, thereby allowing the cell to destroy itself and stops cancer from growing."



M. Chantale Damas

Assistant Professor, Physics
Queensborough Community College

After attending a NASA boot camp on space weather, Professor Damas knew she had to bring the experience to her community college students. Space weather refers to how the sun and solar wind impact environmental conditions that affect both satellites in space and technology on Earth. "It's a great research subject for them; there is plenty of data to analyze and understanding space weather is critical," Damas explains. Using her three-year, \$750K NASA grant, *NASA Solar and Atmospheric Research Program and Education Partnership*, Damas is able to create a holistic research experience for her students. The highlight of the program for students is leaving their classrooms for a summer working with researchers at either NASA Goddard Space Flight Center or City College. For Damas, the impact of the program expands beyond space weather. "Research is important regardless of the field, we seek to produce individuals who have a better understanding of science as a whole."





Babette Audant

**Assistant Professor, Tourism & Hospitality
Executive Director, Center for Economic and
Workforce Development
Kingsborough Community College**

The linkages between credit and non-credit programming in higher education are notoriously weak. Recognizing the opportunity in this divided approach toward learning, Professor Audant considered how to strengthen these ties in fields where an informal overlap between degree students and continuing education students was already occurring. She secured a four-year, \$150K award from the Capital One Foundation titled, *Implementing a Data-Tracking Strategy to Inform Institutional Growth & Improve Student Outcomes*, to build a database of continuing education students. Essential background knowledge on non-credit students will allow Audant and her team to better counsel both continuing education students and students pursuing degrees. "We want all students to understand from the beginning where certain credentials will take them and what other options are available to help them grow in their careers."



James M. Sherry

**Professor, Immigrant, Refugee and Global Health
Health Policy and Management
CUNY School of Public Health & Health Policy**

"There is a conception of research as an individualist, independent endeavor, but in reality it is much more about process than personality," Professor Sherry explains. His five-year, \$2M USAID award, *Health Evaluation, Applied Research and Development (HEARD)* aims to make optimizing the process of research the main focus in achieving global health and development goals. Central to this goal is the concept of implementation science, a research model that addresses the wide-ranging challenges of translating research knowledge into real-life practice. "Trying to get research more relevant and focused on the issues of the day isn't dumbing down science. Delivery science is about asking: How can we make science work for us?" Sherry, along with his global university and program partners, seeks to bring together stakeholders, researchers, and implementers at the beginning of the research process to shape an agenda that addresses key questions in real-time. "The long-term impact is making systems smarter. That in the end, is the value of research investment - it's a learning process."



Jun Liang

**Assistant Professor, Science
Borough of Manhattan Community College**

The biological process of aging is still not well understood. Researchers have found a connection between certain genes and their ability to prolong or shorten an individual's lifespan, but that's not enough information, according to Professor Liang. "There are still many genes that are unknown – the set of genes we've identified is not enough to interpret the bigger picture of the aging process. We need to add new genes to the known knowledge." Liang is contributing to this body of knowledge through her three-year, \$146K NIH grant, *Novel Function of CLIC and TGF-beta Signaling in Stress Response and Health Span in C. elegans*. Her experiments with nematodes (worms) have revealed a chloride channel protein (encoded by the gene CLIC) contributed to a stress response in the TGF-beta pathway. This ion channel influences a vast network of critical cellular processes in the human body. "Although the biological process is complicated, we have discovered a gene that contributes to stress and aging."



Naphtali O'Connor

**Associate Professor, Chemistry
Lehman College**

Wound healing is a complex biochemical process that can be hampered by medical and environmental factors, increasing an individual's susceptibility to infection. Developing biomaterials that expedite the healing process is one therapeutic strategy for improving wound treatment. Professor O'Connor investigates this tactic with his four-year, \$471K NIH award, *Polysaccharide-Polyamine Hydrogels* by analyzing how changes in chemical structures affect cell behavior. "A characteristic of cell behavior relating to wound healing is the rate of cells migrating into the affected area," O'Connor explains, "the question is: Can we develop a material where we can boost that rate?" O'Connor uses a polysaccharide-dextrin hydrogel (naturally non-reactive to cell adhesion) and adds or changes different amines (organic compounds) to determine whether the material can be transformed in a manner that allows cells to adhere. "We want to know if changing the ratio of amines affects the process of cell migration, not just adherence, but increasing the speed cell growth and migration as well."

Peter Serrano

Associate Professor, Psychology
Hunter College

As children, we experience an effect known as infantile amnesia, wherein we are not able to remember the very early events of our life. As adults, of course, we are able to regularly recall memories. Professor Serrano endeavors to understand what drives this difference between children and adults in the consolidation of memory with his two-year, \$250K NIMH award *Difference Between Juvenile and Adult Fear Memory Capability*. Specifically, Serrano focuses on memories of fear. "The central hypothesis of this project is that elevated levels of fear, anxiety and stress alter various proteins affecting cognitive function," states Serrano. Using rat models, Serrano has found that repeated exposure to stressful situations, in short increments, can actually consolidate a fear memory. On the biological level, Serrano is examining changes in a specific pathway and protein, known as PKMz that may be important for the consolidation of that fear memory. "This work has wider implications for understanding PTSD in children, but also potentially PTSD in adults."

Preeti Chauhan

Associate Professor, Psychology
John Jay College of Criminal Justice

Scholars and policy-makers have traditionally focused on felony offenses when researching the criminal justice system, overlooking the enforcement of lower-level offenses such as misdemeanors or criminal summonses, which represents a larger proportion of enforcement actions. "The massive footprint of the criminal justice system is on this higher volume activity that doesn't get much attention," explains Professor Chauhan. Her initial award on the subject, *Misdemeanor Justice Project I*, produced objective analysis and trend reports on misdemeanors and criminal summonses in New York City and to a lesser extent New York State. The success of this research propelled Chauhan's three-year, \$3.25-million Laura and John Arnold Foundation award, *Research Network on Misdemeanor Justice*, which allows for the national expansion of the program through the funding of misdemeanor research in six additional cities. "The ultimate goal is for policy-makers to use this data as evidence for reforms and for scholars to start to focus on this area of criminal justice."





Chris Robinson

**Professor, Biological Sciences
Bronx Community College**

"There's a lot we can learn about the past by using a model from the present," explains Professor Robinson. His three-year, \$49K NSF award *Collaborative Research: Integrative Investigation of the Evolution and Biomechanics of Mandibular Form in Extant Great Apes and Australopithecus*, explores the differences between early hominin mandibular bones (jaw bones) and their modern day counterparts to better understand how their shape has changed over time. "Jaw bones are one of the best-preserved fossil categories," states Robinson, "their shape often indicates diet, which informs the behaviors and environment of early humans." Robinson is using a micro-CT scanner at the American Museum of Natural History to build 3D images of the mandibular bones of modern day apes and humans. Meanwhile, his colleagues are collecting similar images from the early human genus, *Australopithecus*, to serve as a comparison. "We hope to improve our understanding of evolutionary history and where we came from by understanding how our ancestors' bodies change through time in response to the environment."

Tony Ro

**Presidential Professor, Psychology & Biology
The Graduate Center**

How do we consciously experience the world? Professor Ro investigates this mystery of visual perception through his three-year, \$550K NSF award, *Cortical Mechanisms for Visual Perception*. Using a variety of techniques, including EEG recordings and MRI scans, Ro's team tracks how people and their brains respond to seeing something versus missing something. Seeing in this case refers to the brain consciously representing visual information. Missing describes the brain not consciously representing visual information despite the presence of an image. "We can detect changes in brain activity and assess how different brain areas are functioning when we're having these different types of visual experiences," Ro explains. He endeavors to gain a basic understanding of the processes involved with vision and how this process unfolds over time, allowing us to visually experience the world. "This knowledge will help us discover new methods for correcting impairments in perception caused by brain damage or loss of vision."



Rebecca Spokony

**Assistant Professor, Natural Sciences
Baruch College**

"Since every individual is different, their sensitivity to a drug or a hormone would potentially be different," describes Professor Spokony. She seeks to understand how this natural variation in sensitivity to hormones is expressed and how the sensitivity variation relates to an animal's genotype. Spokony's three-year, \$231K NSF award *RUI: Genetic Architecture of Juvenile Hormone Sensitivity*, allows her to examine the juvenile hormone in the common fruit fly, a hormone critical for the species' ability to grow into an adult. "We are aware of juvenile hormone, but we don't know all the genes that it regulates," Spokony explains. By using a chemical mimic of juvenile hormone known as methoprene, Spokony and her class administer a hormone treatment and score for sensitivity based on visible mutations in the development of the flies. "I hope to broaden our knowledge of the juvenile hormone pathway and leverage that knowledge to assess how the hormone actually regulates development."



Michelle Attles

**Program Director, Professional Development
and Workplace Learning
CUNY School of Professional Studies**

Global warming is an important issue for New Yorkers. In 2014, the NYC Mayor's Office released One City: Built to Last, a plan to reduce greenhouse gas emissions by 80% by the year 2050. Central to the plan is improving the energy efficiency of non-residential city buildings over 10,000 square feet through green training programs for building operators. Ms. Attles, with a three-year \$3.9M award from the Department of Citywide Administrative Services Energy Management Division (DEM) titled, *Energy Management Training* program, partners with the Building Performance Lab at City College to design and administer these energy management classes. Attles focuses on a learner-centric approach to education that ensures students are successful in applying their knowledge to their assigned building. "The personal benefit [for students] is, 'I learn something,' but the impact goes beyond the individual. With everyone working together to learn and apply energy saving solutions, the city can achieve its larger goal of reducing greenhouse gas emissions."



Huseyin Yuce

**Associate Professor, Mathematics
NYC College of Technology**

Stem cell transplants for individuals with leukemia are very specialized, high-risk procedures. These factors also make it one of the most expensive treatments for hospitals and in turn their patients and insurance companies. Professor Yuce analyzes the cost and utilization of the procedure with his three-year, \$60K STATinMED Research award, *Economic Burden of Hematopoietic Stem Cell Transplantation*, to provide policy makers with guidance on optimizing the process. By comparing longitudinal data from Medicare and Medicaid, Yuce is preparing a descriptive analysis that clarifies the many variables involved in the process, from disease sub-types and stem cell source to comorbidities and age. This data assessment enables Yuce and his colleagues to identify key factors that impact the overall cost of the procedure. "This study will be an eye opener for policy makers," Yuce says, "We're hoping they will use this analysis to better distribute their resources."





Yingli Tian

**Professor, Electrical Engineering
The City College**

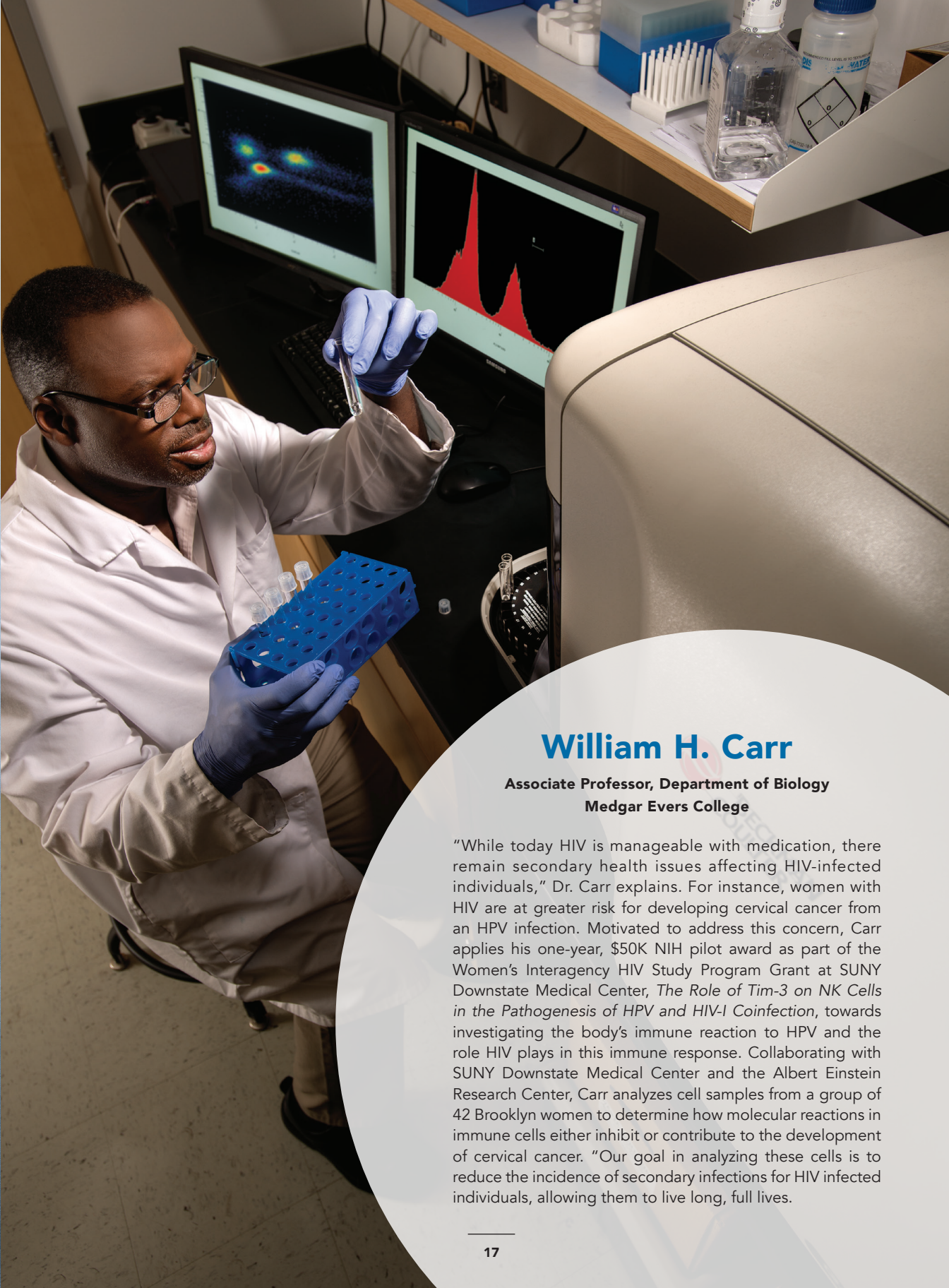
Arctic ice is shrinking rapidly, causing large ice floes to break up into smaller fragments that pose a danger to ocean navigation and impact climate and biology systems in the region. Monitoring this fragment movement is critical for both human safety and scientific research, but the low-resolution of current satellite data limits the ability to track and predict patterns in the ice flow. As an engineer specializing in computer vision (using computer algorithms to analyze images), Professor Tian realized there was potential to improve the resolution of these images. Through her four-year, \$415K Office of Naval Research award, *Tracking and Predicting Fine Scale Sea Ice Motion by Constructing Super-resolution Images and Fusing Multiple Satellite Sensors*, Tian developed “Super-resolution” algorithms that dramatically increased image resolution and allowed for predictive modelling. “Computer vision is generally used for industry-driven applications, but this project demonstrated how it can generate a big impact when applied to remote sensing research.”



Lesley Emtage

**Assistant Professor, Biology
York College**

As the US population ages, mid- to late-onset neurodegenerative disorders such as Alzheimer’s and Parkinson’s disease are becoming critical health issues. These disorders are characterized by the accumulation of unfolded, or faulty, protein deposits in the brain, but the fundamental cause of the disorder is still unknown. Professor Emtage investigates the cellular phenomena involved in this protein accumulation to gain further knowledge of these diseases overall. Her three-year, \$457K NIH award, *Cellular Mechanism Underlying Detoxification of Mutant Huntingtin*, enables Emtage to study mutant huntingtin, a similar neurodegenerative disease to Alzheimer’s, in yeast. Using a visual approach to analyze the huntingtin protein’s movement within the cell, Emtage can dissect the process of protein accumulation in living cells. “As we discover more about the process that causes these protein deposits, we increase our understanding of the underlying causes of neurodegenerative disorders that share this feature, enabling the development of therapies to treat them.”



William H. Carr

**Associate Professor, Department of Biology
Medgar Evers College**

"While today HIV is manageable with medication, there remain secondary health issues affecting HIV-infected individuals," Dr. Carr explains. For instance, women with HIV are at greater risk for developing cervical cancer from an HPV infection. Motivated to address this concern, Carr applies his one-year, \$50K NIH pilot award as part of the Women's Interagency HIV Study Program Grant at SUNY Downstate Medical Center, *The Role of Tim-3 on NK Cells in the Pathogenesis of HPV and HIV-1 Coinfection*, towards investigating the body's immune reaction to HPV and the role HIV plays in this immune response. Collaborating with SUNY Downstate Medical Center and the Albert Einstein Research Center, Carr analyzes cell samples from a group of 42 Brooklyn women to determine how molecular reactions in immune cells either inhibit or contribute to the development of cervical cancer. "Our goal in analyzing these cells is to reduce the incidence of secondary infections for HIV infected individuals, allowing them to live long, full lives.



Yoko Nomura

**Professor, Psychology
Queens College**

Professor Nomura began her career examining how mechanisms of gene expression, known as epigenetics, influence pre- and post-natal infant development. But in the process of collecting pre-natal tissue samples for this project, Superstorm Sandy hit. Nomura was distraught over the stress many pregnant women experienced as a result of the destruction of critical city infrastructure. She realized she could help, in the long-term, by incorporating the disaster into her study as a measure of how stress influences these epigenetic mechanisms. The idea was further expanded into her five-year \$3.5 million NIMH award, *The Infants of Superstorm Sandy: The Epigenetic and Developmental Impact of Natural Disaster*. By identifying how stress and the environment affect changes in the expression of the genome gene expression in the child and thus their development, doctors could preemptively treat potential diseases or impairments. "There is an epigenetic factor in development, but how does the environment influence this on the molecular level? Knowing this will make it easier to intervene and treat for developmental problems earlier."



Holly Porter-Morgan

**Associate Professor, Natural Sciences
LaGuardia Community College**

"Many students have misconceptions about the geosciences; it's not just about rocks," states Professor Porter-Morgan, "There are a wide range of great careers students can pursue with geoscience training, including Environmental Science." Her goal, in cooperation with Queensborough Community College and Queens College, is to increase the number and diversity of students joining the geosciences and completing a Baccalaureate degree in the field. With her three-year \$77K NSF award, *GP-Impact: Freshman Year to Geoscience Career*, Porter-Morgan focuses on recruitment, advising, and hands-on research at the community college level to better prepare students for success at a four-year school. Coordinating with her Queens College colleagues, Porter-Morgan introduces her students to the labs, professors, and peers they will encounter when transitioning to the four-year college. "Having personal interactions between the two levels makes a tremendous impact. The students feel that they're part of the community and able to progress in their studies."



Li Ge

**Assistant Professor, Engineering Science & Physics
College of Staten Island**

Moore's Law, a theory developed in 1965, predicted that computational power would double every eighteen months. This advancement depends on the capacity to fit more transistors (electronic switches) on to smaller and smaller computer chips. Recent reports suggest that today's technology can no longer keep up with this curve. Professor Ge explains, "In the last two decades people realized that in order to increase information capacity in our electric circuits we can't use electrons anymore (because they talk to each other and limit both bandwidth and power density). Since optics (light) doesn't have this same effect it's possible to overcome this performance bottleneck in modern computers." Ge is studying this possibility with his three-year, \$183K NSF award, *Investigation of Rotation – Time and Inversion – Time Symmetries in Photonic Materials*. Utilizing a new approach to manipulate the behaviors of light, Ge is able to dramatically improve the functionality of today's photonic devices and optical computing.

Evelyn Fernandez-Ketcham

**Executive Director of Workforce Development
Continuing Education and Workforce Development
Hostos Community College**

The healthcare sector continues to undergo rapid employment growth. Ms. Fernandez-Ketcham sees this as an opportunity for her community. With her three-year \$596K award from the US Department of Health and Human Services, *Health Careers Opportunity Program (HCOP)*, Fernandez-Ketcham offers cost-free training to NYC underrepresented individuals interested in healthcare professions. Students learn dental assistance, certified nursing assistance, or health information technology. HCOP allows for the creation of career pathways in the healthcare sector. Whether the next step for students is transition to college or additional career certifications, the ultimate goal is for individuals to advance in their careers. The program's coordinator, Jamila Cumberbatch observes, "Since its inception, 300 students have completed the training, which allows students to build coping skills, develop resiliency, and boost their self-esteem."



NSF Career Awardees



Louis-Pierre Arguin

Louis-Pierre Arguin

**Assistant Professor, Mathematics, Baruch College
Statistics of Extrema in Complex and Disordered Systems,
\$446K**



Hysell Oviedo

Hysell Oviedo

**Assistant Professor, Biology, City College
Mechanisms of Lateralized Auditory Processing, \$725K**

Sarang Gopalakrishnan

**Assistant Professor, Engineering Science
and Physics, College of Staten Island
Quantum Many-body Physics Beyond the Boltzmann Paradigm:
Prethermalization,
Many-body Localization, and Their Applications, \$484K**



Sarang Gopalakrishnan

Jean P. Gaffney

**Assistant Professor, Chemistry, Baruch College
Discovery of Tunable Fluorescent Proteins from Marine
Organisms: Integrating Education and Research in the
Identification and Development of Novel Fluorescent Probes,
\$636K**



Jean P. Gaffney

The National Science Foundation (NSF) CAREER award is among the most prestigious awards granted to early career tenure-track assistant professors. In the 2016-2017 academic year, four CUNY faculty received NSF CAREER awards totaling \$2.3M. Faculty within the group of four recognized that their participation in RFCUNY's Proposal Pre-Submission Peer Review Program and NSF CAREER workshops provided additional leverage in securing the prominent funding. Professor Arguin submitted his proposal to the Peer Review Program and indicated it was satisfying to receive constructive responses from CUNY peers and the Office of Award Pre-Proposal Support (APPS). Professor Gaffney agreed that the Peer Review Program aided her in developing a stronger proposal and found it beneficial to have reviewers who previously served on NSF review panels evaluate her proposal. Professor Oviedo understood the importance of peer review and sent her proposal to a colleague for review. Her submission and subsequent NSF award resulted in her recruitment as an NSF peer reviewer. While relatively new to CUNY, Professor Gopalakrishnan stated he was agreeable to submitting future proposals to the Peer Review Program. Over the next five years, these NSF CAREER award winners will advance the research of probabilities in mathematics, develop open sourced teaching tools (videos and animations) for biological processes, investigate computational physics, and explore the discovery of new fluorescent proteins from marine organisms.

Research Foundation of
The City University of New York and Related Entities

Consolidated Financial Statements



June 30, 2016 and 2015
(With Independent Auditors' Report Thereon)

Independent Auditors' Report

The Board of Directors Research Foundation of The City University of New York:

We have audited the accompanying consolidated financial statements of the Research Foundation of The City University of New York and related entities, which comprise the consolidated balance sheets as of June 30, 2016 and 2015, and the related consolidated statements of activities and cash flows for the years then ended, and the related notes to the consolidated financial statements.

Management's Responsibility for the Consolidated Financial Statements

Management is responsible for the preparation and fair presentation of these consolidated financial statements in accordance with U.S. generally accepted accounting principles; this includes the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of consolidated financial statements that are free from material misstatement, whether due to fraud or error.

Auditors' Responsibility

Our responsibility is to express an opinion on these consolidated financial statements based on our audits. We conducted our audits in accordance with auditing standards generally accepted in the United States of America. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the consolidated financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the consolidated financial statements. The procedures selected depend on the auditors' judgment, including the assessment of the risks of material misstatement of the consolidated financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the consolidated financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as

evaluating the overall presentation of the consolidated financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Opinion

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of the Research Foundation of The City University of New York and related entities as of June 30, 2016 and 2015, and the changes in their net assets and their cash flows for the years then ended, in accordance with U.S. generally accepted accounting principles.

Other Matter

Our audits were conducted for the purpose of forming an opinion on the consolidated financial statements as a whole. The 2016 consolidating information is presented for purposes of additional analysis of the 2016 consolidated financial statements rather than to present the financial position, changes in net assets, and cash flows of the individual entities and is not a required part of the 2016 consolidated financial statements. Such information is the responsibility of management and was derived from and relates directly to the underlying accounting and other records used to prepare the 2016 consolidated financial statements. The 2016 consolidating information has been subjected to the auditing procedures applied in the audit of the 2016 consolidated financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the 2016 consolidated financial statements or to the 2016 consolidated financial statements themselves, and other additional procedures in accordance with auditing standards generally accepted in the United States of America. In our opinion, the 2016 consolidating information is fairly stated in all material respects in relation to the 2016 consolidated financial statements as a whole.

KPMG LLP

October 28, 2016

Consolidated Balance Sheets

June 30, 2016 and 2015 (with consolidating information as of June 30, 2016)

Assets

Cash and cash equivalents

Restricted cash (note 8)

Grants, contracts, and accounts receivable (net of allowance of \$3,000,000 in 2016 and \$3,800,000 in 2015)

Rent receivable

Prepaid expenses and other assets

Investments, at fair value (note 3)

Investment in GrantsPlus

Investment in 230 West 41st Street LLC

Deferred rent receivable

Value of in-place leases (net of accumulated amortization of \$2,320,843 in 2016 and \$2,188,877 in 2015)

Above-market leases (net of accumulated amortization of \$1,531,832 in 2016 and \$1,432,462 in 2015)

Deferred costs (net of accumulated amortization of \$3,677,638 in 2016 and \$3,371,064 in 2015)

Fixed assets:

Rental property, net (note 7)

Furniture, fixtures, and equipment (net of accumulated depreciation of \$3,263,891 in 2016 and \$3,198,848 in 2015)

Leasehold improvements (net of accumulated amortization of \$722,014 in 2016 and \$607,415 in 2015)

Total assets

Liabilities and Net Assets

Liabilities:

Accounts payable and accrued expenses (notes 4 and 6)

Deferred revenue (note 5)

Grants payable to CUNY (note 9)

Due to Foundation (note 9)

Deferred rent payable

Tenant security deposits payable

Deposits held in custody for CUNY colleges

Postretirement benefits payable (note 4)

Mortgage loan payable, net (note 8)

Total liabilities

Commitments and contingencies (notes 6 and 10)

Net assets:

Unrestricted:

Postretirement benefits

230 West 41st Street LLC

GrantsPlus

Other

Total net assets

Total liabilities and net assets

See accompanying notes to consolidated financial statements.

2016

Consolidating Information					
Foundation	230 West 41st Street LLC	GrantsPlus	Eliminations	Total	2015
\$ 135,521,366	11,345,694	390,141	—	147,257,201	137,510,298
—	1,585,148	—	—	1,585,148	849,206
74,883,520	—	805	(99,500)	74,784,825	66,169,359
—	343,310	—	—	343,310	947,094
1,737,857	821,118	8,668	—	2,567,643	2,900,132
47,825,533	—	—	—	47,825,533	47,494,271
33,303	—	—	(33,303)	—	—
5,972,114	—	—	(5,972,114)	—	—
—	11,568,372	—	(265,036)	11,303,336	8,017,455
—	632,338	—	—	632,338	764,304
—	475,714	—	—	475,714	575,084
—	2,610,995	—	—	2,610,995	2,866,730
—	44,370,383	—	—	44,370,383	45,155,538
206,391	—	—	—	206,391	172,442
150,005	—	—	—	150,005	264,604
\$ 266,330,089	73,753,072	399,614	(6,369,953)	334,112,822	313,686,517
\$ 61,143,334	839,192	79,781	—	62,062,307	56,971,888
93,902,173	53,577	187,030	—	94,142,780	84,852,901
1,713,656	—	—	—	1,713,656	2,115,835
—	—	99,500	(99,500)	—	—
265,036	—	—	(265,036)	—	—
—	314,939	—	—	314,939	334,403
76,819,311	—	—	—	76,819,311	70,962,198
723,266	—	—	—	723,266	625,853
—	66,573,250	—	—	66,573,250	67,662,271
234,566,776	67,780,958	366,311	(364,536)	302,349,509	283,525,349
(723,266)	—	—	—	(723,266)	(625,853)
5,972,114	5,972,114	—	(5,972,114)	5,972,114	4,524,391
33,303	—	33,303	(33,303)	33,303	22,294
26,481,162	—	—	—	26,481,162	26,240,336
31,763,313	5,972,114	33,303	(6,005,417)	31,763,313	30,161,168
\$ 266,330,089	73,753,072	399,614	(6,369,953)	334,112,822	313,686,517

Consolidated Statements of Activities

June 30, 2016 and 2015 (with consolidating information as of June 30, 2016)

Grants and contracts administered for others:

Revenue:

Governmental

Private

Total grants and contracts revenue

Expenses:

Research

Training

Academic development

Student services

Other

Total grants and contracts expenses

Administrative services:

Revenue:

Administrative fees

Investment return (note 3)

Rental income (notes 6 and 9)

Donated services

Other

Total administrative revenue

Expenses:

Management and general

Postretirement credit (note 4)

Grants to CUNY for central research initiatives (note 9)

Investment return allocated to individual colleges

Operating expenses of 230 West 41st Street LLC (note 10)

Interest expense

Real estate taxes (note 11)

Depreciation and amortization

Donated expenses (note 9)

Total administrative expenses

Excess of revenue over expenses before other changes

Other changes:

Change in Foundation investment in 230 West 41st Street LLC

Change in Foundation investment in GrantsPlus

230 West 41st Street LLC distribution to Foundation

GrantsPlus distribution to Foundation (note 9)

Postretirement benefits changes other than net periodic benefit cost (note 4)

Increase in net assets

Net assets at beginning of year

Net assets at end of year

See accompanying notes to consolidated financial statements.

2016

Consolidating Information					
Foundation	230 West 41st Street LLC	GrantsPlus	Eliminations	Total	2015
\$ 280,865,708	—	—	—	280,865,708	259,563,097
131,264,411	—	—	—	131,264,411	124,372,042
412,130,119	—	—	—	412,130,119	383,935,139
(129,236,303)	—	—	—	(129,236,303)	(120,643,979)
(114,766,282)	—	—	—	(114,766,282)	(100,819,226)
(104,104,204)	—	—	—	(104,104,204)	(106,608,837)
(52,610,449)	—	—	—	(52,610,449)	(45,690,460)
(11,412,881)	—	—	—	(11,412,881)	(10,172,637)
(412,130,119)	—	—	—	(412,130,119)	(383,935,139)
28,552,406	—	127,279	—	28,679,685	27,565,528
296,690	7,101	—	—	303,791	206,104
—	17,386,761	—	(2,764,761)	14,622,000	14,483,156
—	—	29,000	(29,000)	—	—
165,786	27,358	—	—	193,144	194,673
29,014,882	17,421,220	156,279	(2,793,761)	43,798,620	42,449,461
(28,194,785)	—	(16,770)	2,764,761	(25,446,794)	(23,395,149)
10,830,433	—	—	—	10,830,433	10,660,492
(2,300,000)	—	—	—	(2,300,000)	(2,300,000)
(199,128)	—	—	—	(199,128)	(224,815)
—	(6,652,166)	—	—	(6,652,166)	(7,166,245)
—	(3,288,334)	—	—	(3,288,334)	(3,340,981)
—	(1,182,387)	—	—	(1,182,387)	(1,146,573)
(179,643)	(2,850,610)	—	—	(3,030,253)	(2,962,338)
—	—	(29,000)	29,000	—	—
(20,043,123)	(13,973,497)	(45,770)	2,793,761	(31,268,629)	(29,875,609)
8,971,759	3,447,723	110,509	—	12,529,991	12,573,852
1,447,723	—	—	(1,447,723)	—	—
11,009	—	—	(11,009)	—	—
2,000,000	(2,000,000)	—	—	—	—
99,500	—	(99,500)	—	—	—
(10,927,846)	—	—	—	(10,927,846)	(11,704,285)
1,602,145	1,447,723	11,009	(1,458,732)	1,602,145	869,567
30,161,168	4,524,391	22,294	(4,546,685)	30,161,168	29,291,601
\$ 31,763,313	5,972,114	33,303	(6,005,417)	31,763,313	30,161,168

Consolidated Statements of Cash Flows

Years ended June 30, 2016 and 2015

	2016	2015
Cash flows from operating activities:		
Increase in net assets	\$ 1,602,145	869,567
Adjustments to reconcile increase in net assets to net cash provided by operating activities:		
Depreciation and amortization	3,173,193	3,105,280
(Recovery) provision for bad debts	(800,000)	200,000
Postretirement benefits changes other than net periodic benefit cost	10,927,846	11,704,285
Net (appreciation) depreciation in fair value of investments	(85,248)	38,061
Changes in assets and liabilities:		
Restricted cash	(762,046)	719,521
Grants, contracts, accounts, and rents receivable	(7,211,682)	(2,037,525)
Prepaid expenses and other assets	295,191	(604,375)
Deferred rent receivable	(3,285,881)	(3,474,899)
Accounts payable and accrued expenses, and security deposit payable	5,062,701	5,840,644
Deferred revenue	9,289,879	5,069,645
Grants payable to CUNY	(402,179)	181,222
Postretirement benefits payable	(10,830,433)	(10,660,492)
Deposits held in custody for CUNY colleges	5,857,113	(1,786,345)
Net cash provided by operating activities	12,830,599	9,164,589
Cash flows from investing activities:		
Purchases of fixed assets	(98,992)	(1,661)
Expenditures for rental property improvements	(1,626,915)	(1,344,591)
Restricted cash	26,104	7,458
Deposits held in custody for tenant	45,552	(37,298)
Payment of deferred leasing costs	(50,839)	(69,875)
Purchases of investments	(63,971,553)	(69,091,118)
Sales and maturity of investments	63,725,539	78,741,784
Net cash (used in) provided by investing activities	(1,951,104)	8,204,699
Cash flows from financing activities:		
Principal payments on mortgage loan	(1,132,592)	(1,080,152)
Net cash used in financing activities	(1,132,592)	(1,080,152)
Net increase in cash and cash equivalents	9,746,903	16,289,136
Cash and cash equivalents at beginning of year	137,510,298	121,221,162
Cash and cash equivalents at end of year	\$147,257,201	137,510,298
Supplemental cash flow disclosure:		
Cash paid for interest	\$3,249,246	3,024,602

See accompanying notes to consolidated financial statements.

Notes to Consolidated Financial Statements

June 30, 2016 and 2015

(1) Organization and Purpose

The Research Foundation of The City University of New York (the Foundation) was chartered in 1963 to further the purposes of The City University of New York (the University or CUNY) and other not-for-profit organizations, through the pursuit, acquisition, and administration of grants and gifts. The Foundation is a separate legal entity and is exempt from federal income taxes under the provisions of Section 501(c)(3) of the Internal Revenue Code (the Code).

230 West 41st Street LLC (the LLC) was established on May 7, 2004 as a Delaware limited liability company and organized pursuant to the Limited Liability Operating Agreement (the Agreement) dated July 14, 2004 between the Foundation (the Sole Member with a 100% interest in the LLC) and the LLC. The LLC was formed to acquire, own, and operate an approximately 300,000-square-foot office building located at 230 West 41st Street in New York, New York (the Property). The LLC is a single-member limited liability company organized and, accordingly, is treated as a disregarded entity for federal, state, and local income tax purposes.

GrantsPlus Inc. (GrantsPlus) was created by the Foundation and incorporated in May 2004 to provide post award administration of sponsored programs for not-for-profit organizations other than the Foundation or CUNY. GrantsPlus is a separate legal entity exempt from federal income taxes under the provisions of Section 501(c)(3) of the Code.

(2) Summary of Significant Accounting Policies

(a) Basis of Presentation

The accompanying consolidated financial statements, which consolidate the Foundation, the LLC, and GrantsPlus (collectively, the Organization), are prepared on the accrual basis of accounting in accordance with generally accepted accounting principles in the United States of America for external financial reporting by not-for-profit organizations. All intercompany accounts and transactions have been eliminated in consolidation. The consolidated financial statements present balances and transactions according to the existence or absence of donor-imposed restrictions. At June 30, 2016 and 2015, none of the Organization's net assets or changes therein were subject to donor-imposed restrictions and, accordingly, are classified and reported as unrestricted net assets, and which includes grants and contracts for the performance of certain services or functions.

Revenues and gains and losses on investments and other assets are reported as changes in unrestricted net assets unless limited by explicit donor-imposed restrictions or by law. Expenses are reported as decreases in unrestricted net assets.

(b) Grants and Contracts

Revenue from grants and contracts, awarded to and accepted by the Foundation, GrantsPlus, and various units of the University, as joint grantees, primarily for research, training, and academic development programs, is recognized as earned, that is, as the related costs are incurred under the grant or contract agreements. Included in private grants and contracts revenue are grants sponsored by CUNY, totaling approximately \$46,500,000 and \$44,600,000 at June 30, 2016 and 2015, respectively.

Facilities and administrative costs recovered on grants and contracts are recorded at rates established by the Foundation with its federal cognizant agency, or predetermined by the nonfederal sponsor. Facilities and administrative cost rates for government grants and contracts are subject to audit, and subsequent final settlements, if any, are recorded as current period adjustments. Management believes the impact of any future settlements to be immaterial to the consolidated financial statements.

Notes to Consolidated Financial Statements

June 30, 2016 and 2015

(c) Use of Estimates

The preparation of consolidated financial statements in conformity with U.S. generally accepted accounting principles requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosures of contingencies at the date of the consolidated financial statements and the reported amounts of revenue and expenses during the reporting period. These estimates and assumptions are based on management's best estimates and judgment. Management evaluates its estimates and assumptions on an ongoing basis using historical experience and other factors, and adjusts such estimates when facts and circumstances dictate. In the preparation of the Organization's consolidated financial statements, management uses significant accounting estimates with respect to the valuation of accounts receivable and postretirement benefit obligation.

(d) Cash Equivalents

Highly liquid debt instruments with maturities at date of purchase of three months or less are classified as cash equivalents, except for those short-term investments that are managed by an external investment manager for long-term investment purposes. As of June 30, 2016 and 2015, the LLC has approximately \$3,972,000 and \$6,150,000, respectively, of cash and cash equivalents designated for future capital expenditures.

(e) Investments

Investments are reported at fair value based upon quoted market prices. Realized and unrealized gains and losses on investments are reflected in the accompanying consolidated statements of activities.

(f) Rental Revenue Recognition

Base rent income relating to the LLC is recognized on a straight-line basis, rather than in accordance with lease payment schedules, for purposes of recognizing a constant annual rental income. Scheduled base rent increases and the effects of rent abatements are spread evenly over the terms of the respective leases. Differences between the straight-line rents recorded and the amounts actually received are included in deferred rent receivable. Allowances are provided for uncollectible amounts.

(g) Rental Property

Building and building improvements of the LLC are carried at cost and are depreciated, using the straight-line method, over their estimated useful lives of 39 years or the life of the improvements, whichever is shorter. Significant renovations or improvements, which extend the economic life of the Property, are capitalized. Expenditures for maintenance and repairs are expensed as incurred.

The LLC reviews the carrying amount of the Property for impairment whenever events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable. No impairment adjustments have been made as a result of this review process during 2016 or 2015.

(h) Fixed Assets

Furniture, fixtures, and equipment and leasehold improvements are stated at cost. Depreciation of furniture, fixtures, and equipment is computed on a straight-line basis, over the estimated useful lives of the assets, ranging from five to seven years. Amortization of leasehold improvements is computed on a straight-line basis, over the estimated useful lives of the assets, not to exceed the remaining life of the lease.

Equipment purchased by the Foundation on behalf of various units of the University from grant and contract funds is to be used in the project for which it was purchased and is not included in the Foundation's fixed assets on the accompanying consolidated balance sheets.

(i) Purchase Accounting for Acquisition of Real Estate

The fair value of the LLC's acquired rental property was allocated to the acquired tangible assets, consisting of land and building; and identified intangible assets and liabilities, consisting of the value of above-market and below-market leases, other value of in-place leases, and value of tenant relationships, based in each case on their fair values.

(j) Deferred Costs

Deferred financing costs, were incurred in obtaining long-term financing for the LLC. Such costs are being amortized on a straight-line basis over the term of the related debt and are recorded as a component of interest expense.

In 2016, the Organization early adopted ASU No. 2015-03, Simplifying the Presentation of Debt Issuance Costs, which requires debt issuance costs related to a recognized debt liability to be presented on the balance sheets as a direct deduction from the debt liability. The Organization applied the provisions of the update retrospectively to 2015.

(k) Restricted Cash

Restricted cash of the LLC includes amounts to be funded for tenant improvements, repairs, real estate taxes, and insurance as required by the LLC's loan agreement. Restricted cash also includes tenant security deposits held in accordance with tenant leases and other tenant deposits held for improvements to leased space.

(l) Deposits Held in Custody for CUNY Colleges

Deposits held in custody for CUNY colleges reflect those resources held on behalf of the individual colleges of the University. These deposits are credited with facilities and administrative cost, released time, summer salary recoveries, CUNY Charitable Gift Trust Annuity, and interest income for the respective colleges.

Released time recoveries represent personal service costs for individuals on the various colleges' payroll who report effort under grants or contracts. When colleges replace an individual providing time and effort to sponsored projects, the schools will also process the payroll for the replacements (adjuncts) and the Foundation will reimburse the school. The reimbursement of personal service costs is reflected as deductions of deposits held in custody for CUNY.

Facilities and administrative costs are considered recoveries of the specific colleges and, accordingly, are credited to deposits held in custody for CUNY colleges.

(m) Fair Value Measurements

Fair value is determined as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants as of the measurement date. The Organization measures the fair value of its financial assets using a three-level hierarchy for fair value measurements based on the observable inputs to the valuation of an asset or liability at measurement date. It prioritizes the inputs to the valuation techniques used to measure fair value by giving the highest priority to unadjusted quoted prices in active markets for identical assets or liabilities (Level 1 measurements), and the lowest priority to measurements involving significant unobservable inputs (Level 3 measurements).

Notes to Consolidated Financial Statements

June 30, 2016 and 2015

(n) Income Taxes

The effects of uncertain tax positions are recognized only if those positions are more likely than not of being sustained. No such positions have been recorded in the consolidated financial statements as of June 30, 2016 or 2015.

(3) Investments

Investments held by the Foundation consist of the following at June 30, 2016 and 2015:

	Fair value	
	2016	2015
U.S. money market	\$ 1,727,736	211,529
U.S. Treasury bills	30,350,961	30,293,498
U.S. government agency obligations	495,100	375,151
U.S. equity securities	396,757	404,244
U.S. government bonds	1,000,100	999,740
U.S. corporate bonds	12,697,022	13,435,740
U.S. municipal bonds	1,157,857	1,774,369
Total	\$ 47,825,533	47,494,271

The Foundation categorizes its financial and nonfinancial assets and liabilities into a three-tiered hierarchy using the following guidelines:

- Level 1 inputs are quoted prices (unadjusted) in active markets for identical assets or liabilities that the Foundation has the ability to access at the measurement date.
- Level 2 inputs are inputs other than quoted prices included in Level 1 that are either directly or indirectly observable for the assets or liabilities.
- Level 3 inputs are unobservable inputs for the assets or liabilities.

At June 30, 2016 and 2015, the Foundation's investments are categorized as Level 1 except for U.S. corporate bonds, which are categorized as Level 2.

Components of investment return, including interest on cash and cash equivalents, are as follows for the years ended June 30, 2016 and 2015:

	2016	2015
Interest income	\$ 218,543	244,165
Net appreciation (depreciation) in fair value of investments	85,248	(38,061)
Total	\$ 303,791	206,104

(4) Pension and Other Retirement Benefits

Eligible employees of the Foundation and certain project personnel are covered under a defined-contribution pension plan established with Teachers Insurance and Annuity Association (TIAA). The Foundation's contribution to the pension plan is based on specified percentages, ranging from 8% to 14%, of each employee's annual salary. Total pension expense for the years ended June 30, 2016 and 2015 was approximately \$8,700,000 and \$9,100,000 respectively. There are no unfunded past service costs.

In addition to providing pension benefits, the Foundation also provides postemployment benefits, including salary continuance, to certain employees. The cost of these benefits is accrued over the employees' years of service. Postemployment benefits liability included in accounts payable and accrued expenses was \$2,652,774 and \$2,443,587 in 2016 and 2015, respectively.

The Foundation also provides certain healthcare benefits to retired employees (including eligible dependents) who have a combination of age and years of service equal to 70 with a minimum age of 62 and at least 10 years of continuous service. The Foundation accounts for postretirement medical and other nonpension benefits provided to retirees on an accrual basis during the period of their employment.

The Foundation charges grants and contracts, as well as the administrative services department for postretirement benefit costs through the application of a fringe benefit rate, an element of which is based upon the estimated amount of such costs. In addition, a charge or credit is recognized in administrative services expenses for the difference between the actuarially determined net periodic postretirement benefit cost and the amount funded (claims paid and contributions to the trust).

Information with respect to the postretirement plan is as follows:

	2016	2015
Change in benefit obligation:		
Benefit obligation at beginning of year	\$128,313,421	114,488,925
Service cost	4,422,423	4,116,500
Interest cost	5,491,728	4,726,235
Actuarial loss	2,745,648	8,993,316
Benefits paid and administrative expenses	(4,150,163)	(4,011,555)
Benefit obligation at end of year	136,823,057	128,313,421
Change in plan assets:		
Fair value of plan assets at beginning of year	127,687,568	114,906,865
Actual (loss) return on plan assets	(2,684,777)	2,530,440
Employer contributions	15,247,163	14,261,818
Benefits paid and administrative expenses	(4,150,163)	(4,011,555)
Fair value of plan assets at end of year	136,099,791	127,687,568
Funded status, recorded as a liability in the accompanying consolidated balance sheets	\$ 723,266	625,853

Notes to Consolidated Financial Statements

Years ended June 30, 2016 and 2015

	2016	2015
Components of net periodic cost:		
Service cost	\$ 4,422,423	4,116,500
Interest cost	5,491,728	4,726,235
Expected return on plan assets	(6,384,377)	(5,745,343)
Amortization of transition obligation	757,413	757,413
Recognized prior service credit	129,543	(253,479)
Net periodic benefit cost	\$ 4,416,730	3,601,326
Weighted average assumptions for the year ended June 30:		
Discount rate used to determine benefit obligation	3.50%	4.35%
Discount rate used to determine net periodic benefit cost	4.35	4.20
Expected return on plan assets	5.00	5.00

For measurement purposes, increases in healthcare costs (7% in 2016) were assumed to decrease by 1% for two years and then by .5% for three years until an ultimate rate of 3% in 2022 and after.

Assumed healthcare trend rates have a significant effect on the amounts reported for postretirement plans. A one-percentage-point change in assumed healthcare cost trend rates would have the following effects for 2016:

	1% Increase	1% Decrease
Effect on total of service and interest cost components	\$ 1,853,640	(1,636,980)
Effect on postretirement benefit obligation	19,783,645	(18,834,745)

For the years ended June 30, 2016 and 2015, the Foundation made contributions to the postretirement plan of \$11,097,000 and \$10,250,263, respectively. In addition, for the years ended June 30, 2016 and 2015, the Foundation paid claims and expenses of \$4,150,163 and \$4,011,555, respectively. The Foundation expects to contribute or pay claims and expenses aggregating to approximately \$4,000,000 in 2017.

The benefits expected to be paid in each fiscal year from 2017 through 2021 and the five subsequent years are:

Year(s):	
2017	\$ 4,488,263
2018	5,001,102
2019	5,459,771
2020	5,902,412
2021	6,360,282
2022-2026	36,730,223

At June 30, 2016 and 2015, the items not yet recognized as a component of net periodic benefit cost are as follows:

	2016	2015
Transition obligation	\$ 1,363,333	2,120,746
Net loss	25,764,164	14,078,905
Total unamortized items	\$ 27,127,497	16,199,651

The transition obligation, prior service credit, and actuarial loss that are expected to be amortized into net periodic cost in fiscal year 2017 are as follows:

Transition obligation	\$ 757,413
Net loss	129,543

Investment allocation and strategy decisions are generally made by management and the Foundation's board of directors. The postretirement plan's weighted average asset allocations at June 30, 2016 by asset category are as follows:

	Target allocation 2016	Actual allocation 2016
Growth Portfolio:		
Domestic equity securities	24% - 70%	49.8%
Debt securities	13% - 42%	25.9
Commodities	0% - 7%	3.2
International equity securities	9% - 34%	10.3
Cash equivalents	0% - 5%	10.8
		100.0%
Immunized fixed income portfolio:		
Debt securities	100%	98.2%
Cash equivalents	—	1.8
		100.0%

The Foundation's plan assets are measured at fair value. Investments in equity securities and mutual funds with readily determinable fair values and all investments in debt securities are reported at fair value based upon quoted market prices.

Notes to Consolidated Financial Statements

Years ended June 30, 2016 and 2015

The following tables present the Foundation's fair value hierarchy for postretirement assets, which are measured at fair value on a recurring basis, as of June 30, 2016 and 2015, respectively:

	2016			
	Fair value	Level 1	Level 2	Level 3
Debt securities:				
Fixed income mutual fund	\$ 4,491,011	4,491,011	—	—
Corporate bonds	36,085,655	—	36,085,655	—
U.S. Government obligations	10,132,129	—	10,132,129	—
Foreign bonds	4,646,732	—	4,646,732	—
Other	466,693	—	—	466,693
Total debt securities	55,822,220	4,491,011	50,864,516	466,693
Equity securities:				
Equity mutual funds	33,278,982	33,278,982	—	—
U.S. common stock	20,299,534	20,299,534	—	—
American depositary receipts	7,337,407	7,337,407	—	—
Foreign stock	3,786,264	3,786,264	—	—
Real estate investment trusts	3,489,911	3,489,911	—	—
Total equity securities	68,192,098	68,192,098	—	—
Short-term investments	12,085,473	12,085,473	—	—
	\$ 136,099,791	84,768,582	50,864,516	466,693

	2015			
	Fair value	Level 1	Level 2	Level 3
Debt securities:				
Fixed income mutual fund	\$ 3,745,428	3,745,428	—	—
Corporate bonds	24,875,924	—	24,875,924	—
U.S. Government obligations	11,040,976	—	11,040,976	—
Foreign bonds	3,639,867	—	3,639,867	—
Other	273,401	—	—	273,401
Total debt securities	43,575,596	3,745,428	39,556,767	273,401
Equity securities:				
Equity mutual funds	35,034,585	35,034,585	—	—
U.S. common stock	24,042,551	24,042,551	—	—
American depositary receipts	9,774,781	9,774,781	—	—
Foreign stock	4,968,007	4,968,007	—	—
Real estate investment trusts	2,876,415	2,876,415	—	—
Total equity securities	76,696,339	76,696,339	—	—
Short-term investments	7,415,633	—	7,415,633	—
	\$ 127,687,568	80,441,767	46,972,400	273,401

Activity with respect to Level 3 plan assets for the years ended June 30, 2016 and 2015 was as follows:

	2016	2015
Balance at beginning of year	\$ 273,401	388,505
Purchases	710,874	53,634
Sales	(531,019)	(164,016)
Unrealized gain (loss)	13,437	(4,722)
Balance at end of year	\$ 466,693	273,401

(5) Deferred Revenue

At June 30, 2016 and 2015, cash advances for grants and contracts are for the following projects:

	2016	2015
Research	\$ 16,950,409	14,584,304
Training	18,381,937	17,541,707
Academic development	38,750,204	37,107,972
Student services	9,847,511	11,124,743
Other	10,212,719	4,494,175
	\$ 94,142,780	84,852,901

(6) Commitments

(a) Rental Income under Operating Leases

Future minimum rental income under the LLC's operating leases is as follows:

2017	\$ 13,228,419
2018	13,189,871
2019	13,223,974
2020	13,760,995
2021	13,789,820
Thereafter	163,127,387
Total minimum rental payments	\$ 230,320,466

Pursuant to the individual tenant leases, the tenants pay their allocable share of the costs of operating the Property, including real estate taxes, certain insurance premiums, and other expenses that are not included above. CUNY's portion of the above future minimum rent is approximately \$199,000,000.

Notes to Consolidated Financial Statements

Years ended June 30, 2016 and 2015

(b) Letter of Credit

In fiscal year 2008, the Foundation entered into an agreement with one of its health insurance carriers whereby the Foundation is required to pay the carrier, in advance, for claims incurred but not reported in the event of plan termination. The carrier has allowed the Foundation to retain this payment, which totals \$3,254,491 and is included as a component of accounts payable and accrued expenses on the accompanying consolidated balance sheets as of June 30, 2016 and 2015, and is secured by an irrevocable letter of credit to the carrier for the same amount, which expires on December 31, 2016.

(7) Rental Property

Rental property (99.8% occupied as of June 30, 2016) consists of the following at June 30, 2016 and 2015:

	2016	2015
Land	\$ 9,037,040	9,037,040
Building	36,149,160	36,149,160
Building improvements	8,185,498	6,712,993
Tenant improvements	15,030,693	14,876,283
Total	68,402,391	66,775,476
Accumulated depreciation	(24,032,008)	(21,619,938)
Rental property, net	\$ 44,370,383	45,155,538

(8) Mortgage Loan Payable

Outstanding mortgage loan payable as of June 30, 2016 and 2015 consisted of the following:

	2016	2015
Mortgage loan payable	\$ 67,787,256	68,919,848
Less: unamortized costs of issuance	(1,214,006)	(1,257,577)
Mortgage loan payable, net	\$ 66,573,250	67,662,271

The LLC entered into a mortgage loan payable (the loan) on May 12, 2014 with an original principal amount of \$70 million, which matures on May 12, 2044. A portion of the loan was used to pay the previous mortgage in the amount of \$56,403,933. The loan bears interest at a rate of 4.75%. The monthly principal and interest payments of \$365,153 began on July 1, 2014. The mortgage is amortized over 30 years with options to be called by the bank in 10 years and then every 5 years thereafter until the mortgage matures. The loan is collateralized by the Property and assignment of rents and other payments from the tenants and is guaranteed by the Foundation. The LLC incurred \$1,307,121 of financing costs in connection with obtaining the loan, which are being amortized over the life of the loan.

At June 30, 2016, future minimum principal payments are as follows:

2017	\$ 1,187,576
2018	1,245,230
2019	1,305,684
2020	1,369,072
2021	1,435,538
Thereafter	61,244,156
	\$ 67,787,256

Included in restricted cash in the accompanying consolidated balance sheets are balances in escrow accounts, including interest earned, of approximately \$1,270,000 and \$508,000 as of June 30, 2016 and 2015, respectively. Under the terms of the loan, the LLC is required to deposit annual payments of \$500,000 beginning on May 15, 2015 through May 15, 2019 and an additional payment of \$198,515 on May 15, 2020 into an escrow account maintained by the mortgage bank for future tenant improvements related to CUNY's extended lease.

(9) Related-Party Transactions

The Foundation entered into an agreement with CUNY, a tenant in the building, to sublease 66,867 of CUNY's 179,901 square feet of space. The CUNY lease agreement was extended in 2014 and expires in June 2034. The Sole Member's sublease is subject to all terms and conditions of the CUNY lease agreement. For the years ended June 30, 2016 and 2015, rental revenue from CUNY were \$4,794,972 and \$4,596,945, respectively, net of sublease expense of \$2,764,761 and \$2,697,328, respectively.

In fiscal years 2016 and 2015, the Foundation approved grants to CUNY for central research initiatives of \$2,300,000 annually.

Grants Plus provides administrative services with respect to grants and contracts received by several not-for-profit organizations. Those grants and contracts administered by Grants Plus, as agent for not-for-profit organizations, in fiscal years 2016 and 2015 approximated \$2,793,524 and \$2,471,979, respectively.

The Foundation paid the operating costs of Grants Plus, which totaled \$29,000 in 2016 and 2015. These costs are reflected as donated services and expenses in the consolidated statements of activities, before elimination, and they consist of the following:

Personal services	\$ 27,800
Supplies, telephones, and communications	1,200
	\$ 29,000

In 2016 and 2015, Grants Plus accrued a management fee of \$99,500 and \$95,000, respectively, payable to the Foundation for services rendered, which is eliminated in consolidation.

Notes to Consolidated Financial Statements

Years ended June 30, 2016 and 2015

(10) Property Management Fees

The LLC has a management agreement with a third party to manage and provide leasing services to the Property through December 31, 2016. Such expenses are included in operating expenses in the consolidated statements of activities. Additionally, the LLC pays the property manager a commission in accordance with the terms of the management agreement if the property manager procures a new lease or an extension, renewal, or expansion of an existing lease for space in the Property during the term of this agreement, such costs are included in deferred costs on the accompanying consolidated balance sheets.

(11) Real Estate Tax Exemption

During fiscal years 2016 and 2015, the LLC obtained a real estate tax reduction amounting to \$1,505,964 and \$1,459,034, respectively, relating to an exemption for the portion of the Property used by CUNY as a not-for-profit, tax-exempt organization.

(12) Subsequent Events

The Organization evaluated events subsequent to June 30, 2016 and through October 28, 2016, the date on which the consolidated financial statements were available to be issued, the result of which had no impact on the Organization's consolidated financial statements.

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