

RESEARCH AND GRADUATE STUDIES Fall 2010

Transform



Inspiring Scholarship
& Graduate Education



Highlights

Supercomputer

Tackles Traffic,
Schizophrenia,
and Autism

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Carbon is Key to
Human Health and
Homeland Security

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Plus Our Ten-year
Plan, Students Making
News, Professional
Development,
and Grant Activities

COLLEGE OF STATEN ISLAND
The City University of New York



Creating Leaders, Changing Lives

Graduate students at CSI are provided the tools and research opportunities they need to succeed in their academic careers and make positive contributions to our global society. Our students perform hands-on research side-by-side with leading faculty, taking full advantage of the College's state-of-the-art equipment and facilities. Students also enrich their experiences through internships, assistantships, and fellowships with leading organizations in New York City.

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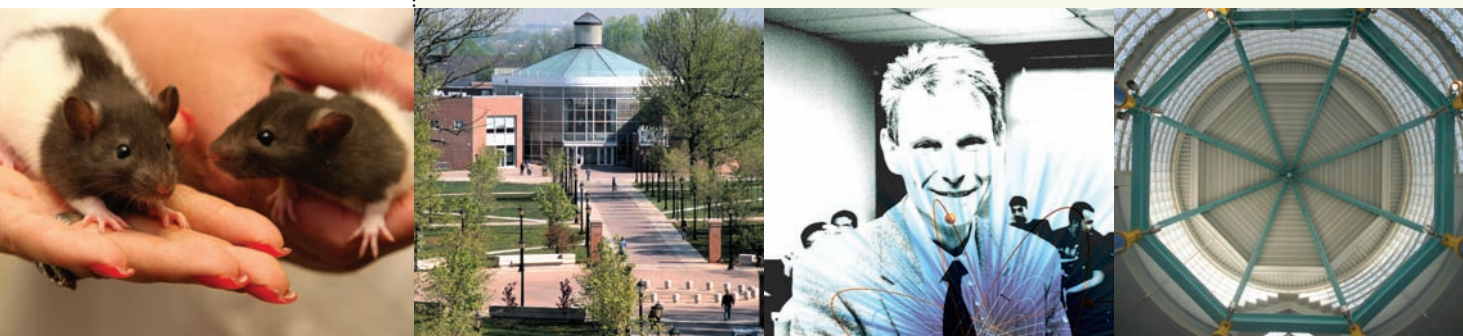


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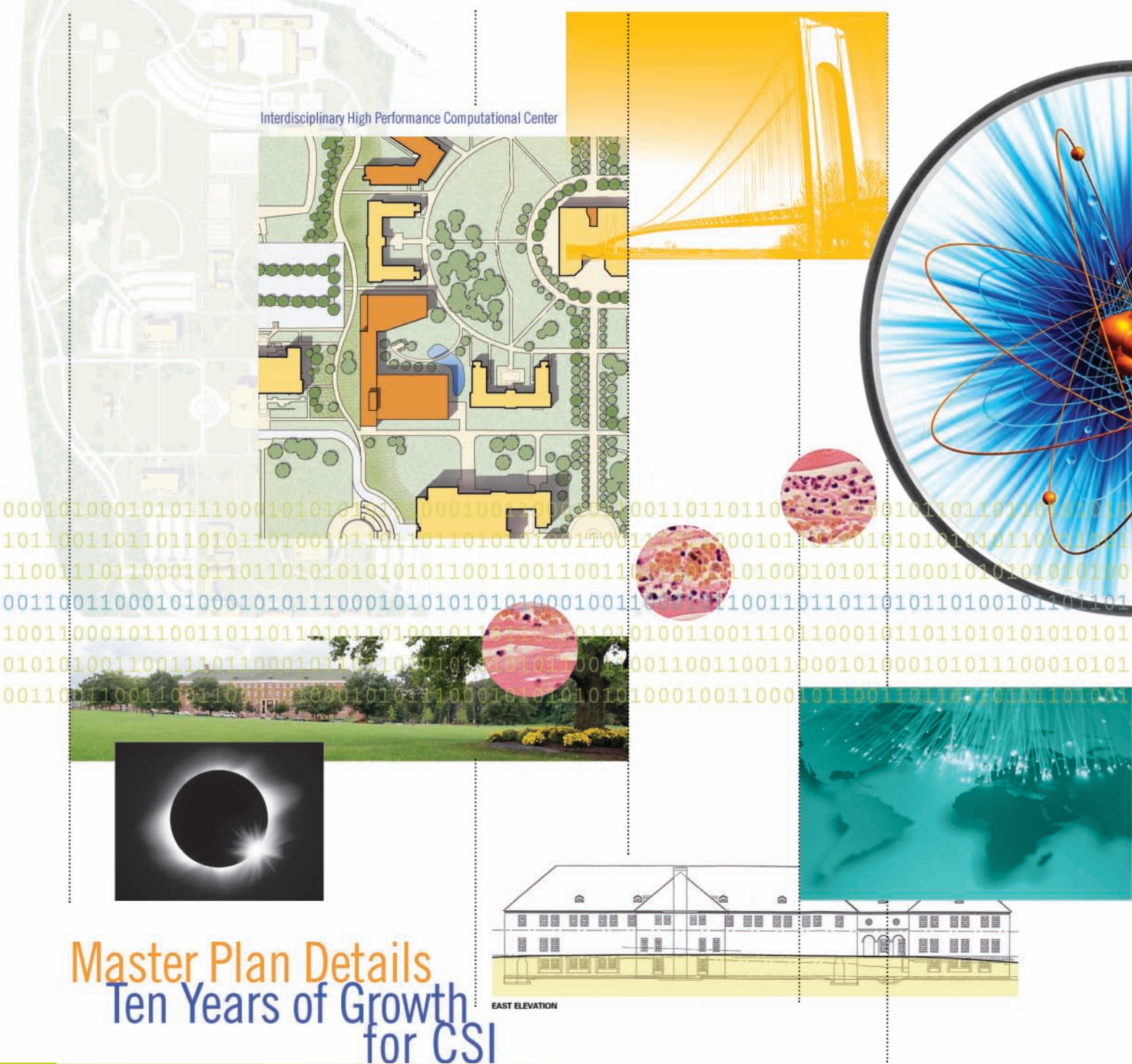
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Master Plan Details Ten Years of Growth for CSI



When the College of Staten Island moved to the Willowbrook Campus in the early 1990s, the College took a quantum leap forward in serving the needs of Staten Island, thanks to the efforts of New York State Senator John J. Marchi.

Today, CSI is poised to expand upon this vision. The Board of Trustees of The City University of New

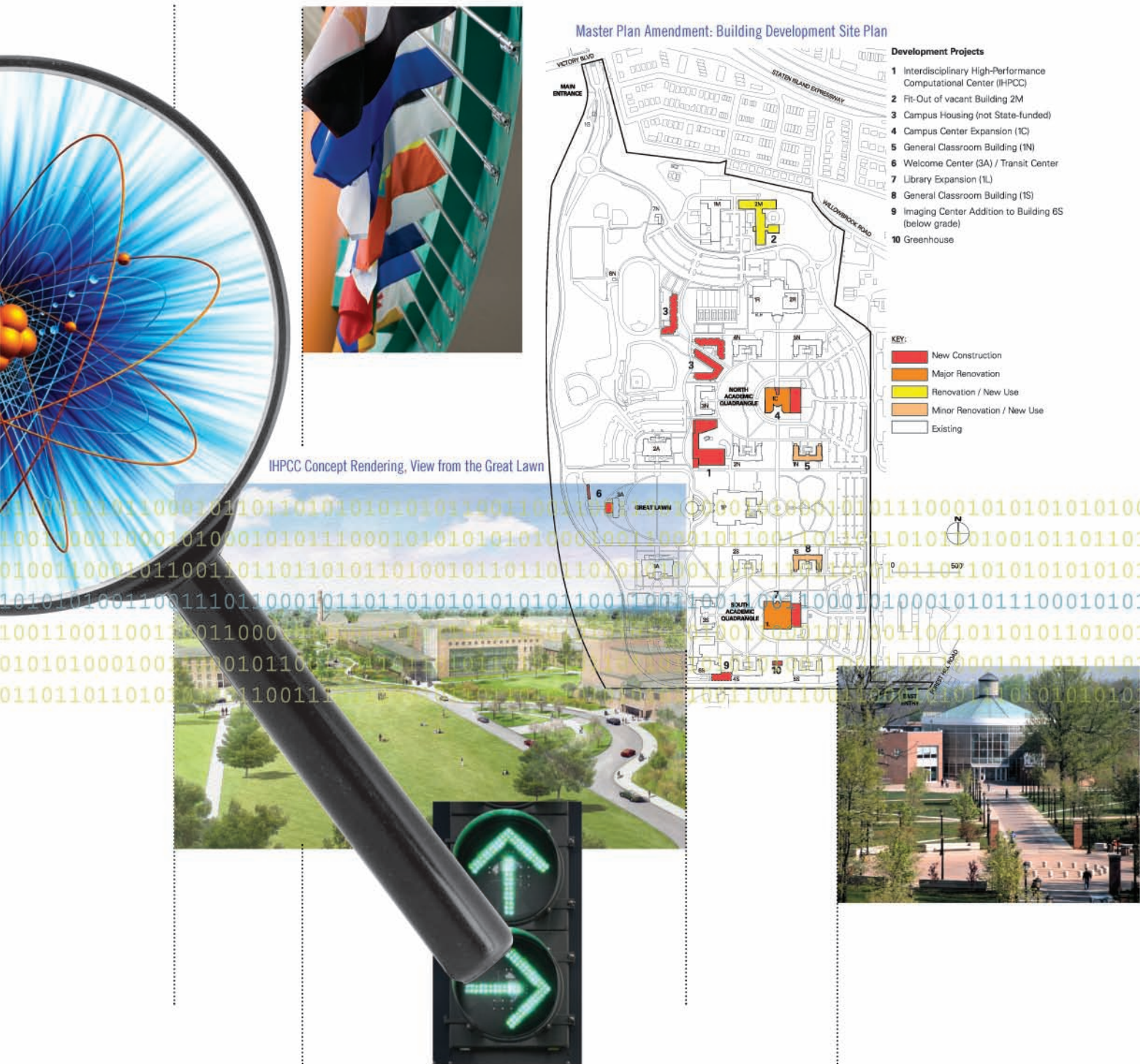
York has unanimously approved a new Master Plan for CSI at its April 26, 2010 meeting. The Plan is the result of a three-year process that included wide participation from the University facilities planning offices as well faculty, students, and staff at CSI. The College has been well-served by the collaborative nature of this process, and our students, today and tomorrow, will greatly benefit.

The Plan is designed to support the College's commitment to access and excellence while addressing its anticipated growth over the next ten years. With a projected total enrollment of approximately 18,000 by the year 2019, the Plan calls for an additional 477,735 gross square feet in new construction and renovation of existing facilities. This campus-wide

modernization of facilities is designed to meet the needs for additional research and classroom space and student support services while creating a sustainable and environmentally sensitive infrastructure.

The Plan provides an estimated \$257 million in building projects, including the innovative Interdisciplinary High-Performance Computational Center, a much-needed expansion of the Library, new campus housing, mixed-use research and academic buildings, and the enhancement of the Central Campus with an expanded Student Service Center, a new Welcome Center, and critical improvements to the College's unique transportation needs.

CSI is the cultural and intellectual hub of Staten Island. We are dedicated to providing world-class learning opportunities for students ranging from doctoral to associate degrees. Our successes are grounded and most evident in the dedication of our faculty and staff. Today, thanks to our combined efforts, CSI is leading the way into the 21st Century as a premier residential and commuter campus.



IHPCC Concept Rendering, View from the Great Lawn

Master Plan Amendment: Building Development Site Plan

Development Projects

- 1 Interdisciplinary High-Performance Computational Center (IHPCC)
- 2 Fit-Out of vacant Building 2M
- 3 Campus Housing (not State-funded)
- 4 Campus Center Expansion (1C)
- 5 General Classroom Building (1N)
- 6 Welcome Center (3A) / Transit Center
- 7 Library Expansion (1L)
- 8 General Classroom Building (1S)
- 9 Imaging Center Addition to Building 6S (below grade)
- 10 Greenhouse

KEY:

- New Construction
- Major Renovation
- Renovation / New Use
- Minor Renovation / New Use
- Existing

The Benefits of this Plan Are Many.

New construction will meet LEED green-building standards. Current buildings will receive energy efficiency upgrades. Existing buildings will house geothermal systems. Rain gardens will be created to manage storm water runoff. No-mow grass will replace high-maintenance turf in selected areas. The Plan also calls for \$85 million to upgrade electrical, water, heating/air conditioning, sewer, and fire services.

A new Transit Center will provide open shelter and helps support MTA bus service to the campus interior. Entrances and campus loop roads will be reconfigured to ease bottlenecks and improve traffic flow. A 50,000-square-foot expansion of the Library will offer unparalleled access to information, an 8,000-square-foot imaging center will enhance biology and chemistry research, and a 2,100-square-foot greenhouse will support teaching, research, and community outreach.

The College has always welcomed our community, and a 4,000-square-foot Welcome Center will provide a new “front

door” to the campus. A renovation of 68,000-square-feet of instructional space, support areas, and childcare facilities is designed to help our students feel more at home.

CSI and our many programs offer a transformative experience for our students. This Master Plan effectively addresses the dynamic and evolving needs of our College and community, transforming our facilities to serve our students and faculty better.

I thank all members of the College community for their invaluable input regarding this exciting new milestone in the history of CSI. I look forward to embarking on this journey with all of you.

Sincerely,

Tomás D. Morales, PhD
President

Humanities & Social Sciences

Powering Up

CSI Faculty, Students Using Supercomputers to Unlock New Knowledge

In the past, academic research has been limited only by the power of computers. In the future, high-performing computers will enable researchers to process unlimited amounts of data. New insights will be gained and new solutions will be forged. At the College of Staten Island, the future of computing power has arrived.

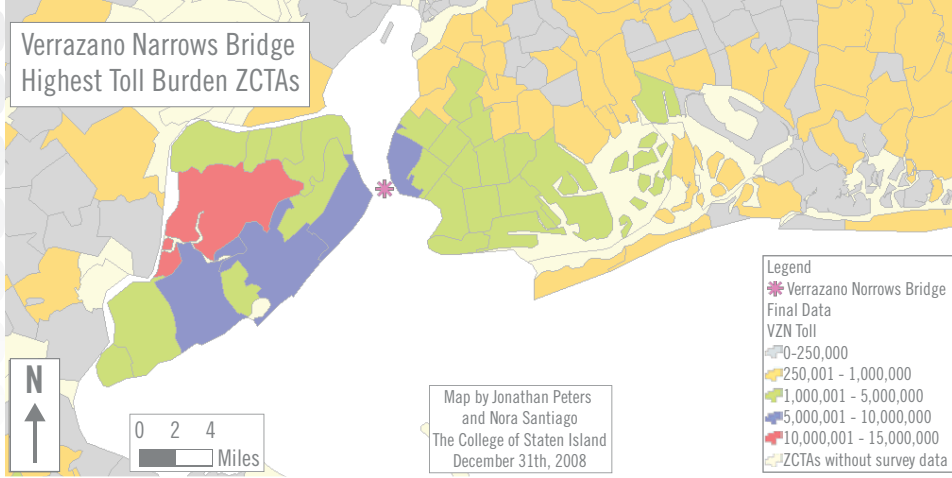
Generous grants from the National Science Foundation have enabled The City University of New York to expand the capacity and power of its High-Performance Computing Center, located on CSI's campus. A new Interdisciplinary High-Performance Computing Center (IHPCC) is being built on the CSI campus with the grant funding new supercomputers, which will be

housed within this 170,000-square-foot facility supporting faculty research at CSI and across the University system.

Former Congressman Michael McMahon (D-NY) was instrumental in securing the grants from the National Science Foundation, which totaled \$1.3 million. "I am thrilled to help our own CSI partner with the federal government to support this project," McMahon stated. "CSI leaders are making Staten Island a first-class center for research, both here in New York and around the world." An additional \$500K came in from the City of New York, through the efforts of Staten Island-based City Councilman James Oddo, to further enhance the capabilities of the IHPCC.



cunyspsc.org



The new interdisciplinary center will attract computational scientists from around the globe to CSI and CUNY.

“These new systems make the CUNY computing center the largest, most capable academic research computing facility in the City of New York,” said Dr. Michael Kress, Vice President for Technology Systems at CSI, and Executive Director of the HPCC. “It is enabling us to recruit new researchers to CSI and to better prepare our students for careers in science, engineering, and mathematics.”

The center is remarkable not only for its computational power, but for the vast sweep of research it enables. Already a hub for traditional scientific research in areas such as biology, chemistry, and physics, the center is also becoming known for advancing interdisciplinary research in the social sciences. Researchers are using this expanded computational power to seek out solutions to complicated social and medical challenges. “We now have the computing power to lead the way in both traditional scientific research and research in the social sciences,” Kress observed. “Our faculty will use this center to make distinctive advances as we seek out solutions to improve human life in many ways.”

CSI is already known for its research leadership in many areas of social science. One example is the College’s commitment to finding transportation solutions in and around Staten Island. Staten Island suffers with the longest commute time in the nation—with Staten Island commuters spending over

43 minutes each way traveling to work on a daily basis. Under professors Jonathan Peters and Kress, the College has conducted detailed studies of transportation patterns around the borough in a bid to reduce traffic congestion and energy consumption. Peters and Kress are currently studying the use of toll bridges and roads and how changes in operational standards at toll booths can impact traffic flow and pollution output. Computer simulations that allow them to study alternative arrangements of toll plaza operations create the opportunity to test these scenarios to find the optimal arrangement and mix of toll booths to create the maximum potential traffic flow and minimal delay at the toll facility. By reducing the delay created at a toll facility, air pollution is minimized and consumers waste less time paying the fee.

Over the last two decades, the amount of data that is collected on the highway system has increased exponentially. Transponders in vehicles (such as E-Z Pass) and traffic counting equipment in and on roads (including pneumatic tubes, magnetic loops, and video cameras) allows the researchers to monitor and collect traffic flow information on streets, highways, and bridges, throwing off huge amounts of data that can be used to analyze traffic patterns, congestion, and the air pollution impacts of traffic operations. In addition, identifying travel patterns in this observed data allows the team to explore the potential for additional mass transit routes and services.



\$2.5 million

Drawing on this enhanced data, CSI officials have identified a number of practical applications, such as expanding the number of cash toll lanes on holidays at area bridges, and making lane adjustments along traffic corridors at appropriate times. “Where we once had to make educated guesses, we now have the data to support our analysis,” Kress comments.

Analyzing toll lanes and traffic patterns is just one way researchers are utilizing the power of the IHPCC.

Sonia Ragir, Professor of Sociology, Anthropology, and Social Work, is utilizing the computational prowess of the IHPCC to help understand Learning and the Evolution of Behavior of Learning Repertoires. The model explores the effect of natural selection on learned performances built on innate performances. Various innate cognitive faculties have been postulated to underlie important human capacities that depend on significant activity-dependent learning such as sharing, altruism, symbolic representation, and language syntax. Ragir and her team have adapted a genetic algorithm to simulate interactions between the genetic configuration, learning, and natural selection in a stable adaptive landscape over evolutionary time. The algorithm generates an adaptive search on two scales: on an evolutionary time scale where both survival and chance determine which genomes are conserved in the population, and on an ontogenetic time scale during which learning enhances the fitness value of each agent and determines whether or not they survive, enter the mating pool, and produce offspring.

The simulations allowed the investigators to explore the effect of selection on learned performance where genetic and learning interactions are complexly interdependent; similar to those in real populations. The genetic algorithm allows them to follow the changes in the population at the genomic level over evolutionary time.

In a third major endeavor, CSI Assistant Professor of Psychology Dan

McCloskey is using the computer center to power his research into understanding the neural correlates of social behavior. McCloskey is tracking the social behavior of a unique laboratory animal—the naked mole rat—in his lab to better understand how neurons participate in networks to produce complex social behaviors such as individual recognition and helping behavior. The unique breeding system of these mammals is more like honeybees than it is like rats or mice. This allows McCloskey to study larger groups of animals housed together to learn how they form groups and help one another, and the brain systems that regulate these behaviors.



The computer center allows McCloskey to track the behavior of each of over 100 animals in his colony with high resolution as they navigate their way through a complex system of tubes and cages. The animals are implanted with transponders similar to the ones used to pay tolls on bridges, mentioned above. Each time an animal passes through a tube with a sensor, the identity, location, and time of that event is stored in a database that receives hundreds of thousands of events each day. Analysis of these large datasets requires the power of a high-performance computer to manage them and ask questions about animal behavior.

Software written by VP Kress and Dr. Xiowen Zhang of the Computer Science Department creates a history for each animal, which tells where it was, what other animals it was with, and whether it was carrying food, nest material, or a newborn animal to help other animals in the colony. Animals in the colony that are less likely to interact or help others will be studied in more detail



innovations in

to understand what is different in the brain when social behavior is impaired. This work has implications for understanding the cause of social impairments in schizophrenia and autism. Presently, Dr. McCloskey has three students in the Master's Program in Neuroscience at CSI: Igor Kushnir, Sheby Abraham, and Labentina Shala, who are assisting in this work.

To enhance CSI's research in the years ahead, former Congressman McMahon submitted an appropriations request for the FY 2011 budget that would provide \$2.5 million to CSI to continue to bring together leading transportation experts, economists, social scientists, mathematicians, and computer scientists, to develop advanced methods for innovative analysis of critical issues in transportation. A second system with a different architecture, designed to support complex engineering applications was also funded by the National Science Foundation.

neuroscience

Student Profile Susan Briffa-Mirabella

Susan Briffa-Mirabella, Dr. McCloskey's PhD student in the Neuroscience subprogram in Biology has discovered that low thyroid hormone early in development causes changes in the brain that are similar to those reported in autism. Susan's dissertation, in which Dr. Jeffery Goodman of the New York State Institute for Basic Research is an adviser, will involve measuring the social behavior of developmentally hypothyroid and hypothyroxinemic animals using the IHPCC, and monitoring changes at the level of the single neuron to understand how maintaining thyroid gland function is important for pregnant women. Thyroid hormones are essential to normal development of the brain. Severe hypothyroidism during development is associated with mental retardation and can go undiagnosed

due to current testing standards. The purpose of Susan's proposal is to test the hypothesis that developmental thyroid insufficiency via dietary or chemical thyroid hormone suppression alters the number and synaptic input of cortical neurons in the rat brain. This area of investigation has important clinical relevance because most cases of hypothyroxinemia go undiagnosed, and may account for some misdiagnosed developmental disorders.

Student Profile Hyoun Suk Shim

Hyoun Suk Shim, a student in the PhD Program in Economics at the CUNY Graduate School is working at the IHPCC with Dr. Jonathan Peters and Dr. Michael Kress to estimate the impact of spatial relationships (location of users) and user demographics on the probability of using toll facilities. Over the last 30 years, the New York Metropolitan region's transportation system has faced significant increases in travel demand based upon population growth and urban sprawl. In addition, we have an aging capital stock and limited resources to provide for replacement and expansion of our road and transit network, both nationally and locally. Tolling and road pricing—such as Mayor Bloomberg's proposed congestion pricing zone—offer some potential for additional revenue as well as the opportunity to manage demand on road systems. These estimates will help the researchers to develop enhanced models that will better predict the impact of road pricing on urban roads. Utilizing a regional survey of traveler behavior on New York City toll bridges, Shim's models have estimated toll bridge frequency of use overall, as well as the impact of mass transit services, both at the beginning and end of a trip, on frequency of use. This will allow urban planners to utilize pricing and transit supply more precisely to manage traffic loads in the region and the nation. ■

transportation

Research

The **Center for Developmental Neuroscience and Developmental Disabilities** is supported jointly with the New York State Institute for Basic Research (IBR). The Center conducts, promotes, and sponsors research, education, and training in the developmental neurosciences, with special emphasis on research and educational programs in the specific field of developmental disabilities. The Center provides for collaborative efforts between the College and IBR in offering the Master's degree in Neuroscience, Developmental Disabilities, and Mental Retardation, as well as with the University's Doctoral programs in Biology (subprogram in Neuroscience), and in Psychology (subprogram in Learning Processes). The Center provides advanced research training for graduate students.

The **Center for Environmental Science** provides support for research and policy recommendations concerning environmental problems. One of the major purposes of the Center is to define and solve environmental problems on Staten Island and its environs through research that includes studies of respiratory diseases, toxic and carcinogenic chemicals in the air, and the population at risk for lung cancer.

The **Center for the Study of Staten Island: Staten Island Project (SIP)** is designed to integrate the work of the College with the public affairs concerns of the people of Staten Island. To that end, it mediates and facilitates the collaboration of the College's faculty, students, and staff with government, civic organizations, and businesses in order to identify and assist in finding solutions to the borough's pressing public issues. The Center serves as an information and consultation resource to prepare citizens and leaders to make better-informed decisions about public life, it fosters the development of faculty research and graduate education through engagement with the community, and it builds bridges to other public affairs institutes and local communities as a spur to innovations in public life on Staten Island.

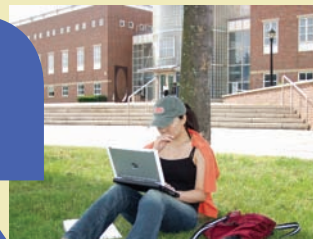
The **Center for Interdisciplinary Applied Mathematics and Computational Sciences** brings together a wide range of research faculty and students with interests in interdisciplinary applications of mathematics and computational science. The Center's activities include the use of the campus supercomputer, faculty collaboration, grant writing, student mentoring and research, and sponsored lectures.



The **CUNY Interdisciplinary High-Performance Computing Center (IHPCC)** is located on the CSI campus. The IHPCC goals are to: support the scientific computing needs of University faculty, student, staff, and their public and private sector partners; create opportunities for the CUNY research community to develop new partnerships with the government and private sectors; and leverage the IHPCC's capabilities to acquire additional research resources for its faculty and graduate students in existing and major new programs.

The **Discovery Institute (DI)** develops and manages multiple educational programs using interdisciplinary themes engaging intermediate and high school students. The Institute's unique discovery learning system allows students to learn more actively and effectively. The DI's Teaching Scholars Program trains and places CSI students at public schools partnering with public and private institutions to serve as mentors and role models. Our Institute also provides professional learning development for teachers at local public schools by extending new teaching strategies. The programs are supported by College resources and grants from state, federal, and private institutions. Our active grants are as follows; a six-year federal grant "The GEAR-UP Program" (\$3.7 million), five-year New York City Department of Education in Biotechnology grant "The Tech-Prep Program" (\$460,000) for Staten Island schools, and the newly awarded three-year "Medical Laboratory and Assisting Program in Biotechnology" (\$531,000) for Manhattan schools.

The **Center for Engineered Polymeric Materials (CePM)** is a New York State Office of Science, Technology, and Academic Research (NYSTAR) funded initiative. The Center's mission is to conduct cutting-edge research in polymeric and nanoscale materials and to provide a conduit for the transfer of technology involving synergistic interaction among New York State industries, academic institutions, and government laboratories. The University's Doctoral program in Polymer Chemistry serves as the Center's intellectual base. ▀



Graduate Student Profiles

Doctoral students **Phyllis Langone** and **Sukanta Dolai** have worked on the CSI campus with Sneha Banerjee while she was a student at Staten Island Technical High School.

The team performed organic synthesis in the College's laboratories and then used targeted derivatives of the food component curcumin to perform elaborate studies on cancer cells.

The studies in tumor-implanted mice showed the decimation of brain tumors and rescue of sick mice by antibody-targeted curcumin, a spice component that preferentially kills cancer cells but protects normal cells. Since high school students cannot be involved directly in animal studies, Sneha actively participated in imaging of the tumors, all organic syntheses, spectroscopic analyses, cell culture studies, microscopy, data interpretation, and literature analysis.

Langone and Dolai contributed heavily to this project, working with professors Dr. Qiao-Sheng Hu and Dr. Krishnaswami Raja of the College's Chemistry Department, by assisting in further moving the research into the area of in vivo studies.

The dedication of the team landed Sneha a spot at the International Science and Engineering Fair (ISEF) for the project entitled "Inhibiting Brain Tumor Progression Using Targeted Curcumin."

The research was performed in the laboratory of Dr. Probal Banerjee, Professor of Chemistry, Biochemistry, and Neuroscience at CSI. He notes that "enthusiastic judges from various backgrounds placed this project at the top of the 'Biochemistry and Molecular Biology' category at the New York Science and Engineering Fair (NYSEF), which caused this project to move to competition" at the international level.

Highlighting the role of the CSI doctoral students in this accomplishment, Dr. Raja added that "Sukanta was instrumental in supervising and executing the synthesis [with Sneha]," adding, "he is the backbone of my research group."

"This is an impressive achievement for our institution and for Sneha Banerjee. CSI continues to seek new ways to promote and support more of these kinds of opportunities for high school students, as well as our doctoral students," said E.K. Park, Dean of Research and Graduate Studies at CSI. "In this way, CSI further fulfills its commitment to our community, while providing world-class educational opportunities."



Moshe Shushan, a graduate student in the College of Staten Island's Master's program in Film and Media Studies has recently completed his Master's thesis, which investigates the complex role that Israeli cinema has played in reconstructing Israeli national identity by portraying ultra-orthodox Jews as the "other" in Israeli society. In his study, Moshe investigates how the films representing the ultra-orthodox communities affirm the secular "normative" Israeli identity by negating the ultra-orthodox identity.

Mr. Shushan, who has a background in mathematics and computer science, says he chose CSI's Master's Program in Film and Media Studies because the Media Culture faculty met his expectations perfectly. "In order to develop my writing and research skills it was essential for me to attend a college with faculty members who have a strong research background related to film and media studies," he said when discussing the CSI faculty. CSI offers a full evening Master's program in Film and Media Studies and faculty members with a large spectrum of research specialties, such as Global Media Studies, Gender Studies, Experimental Film, Media Theory, Aesthetics, and History. This is perfect for a student like Moshe, who works full-time for an information technology corporation.

Along with his Thesis Adviser, **Ying Zhu**, Professor of Media Culture and Co-Director of East Asian Studies Group at CSI, Moshe argues that the representation of the ultra-orthodox demonstrates, polemically, the danger of being an Israeli ultra-orthodox Jew or belonging to an ultra-orthodox community. In these films the ultra-orthodox Jews are represented as fanatics who impose their religious ideologies on others. His study examines these emerging representations regarding ultra-orthodox Jews and their communities in films such as *Kadosh* (Amos Gitai, 1999), *The Secrets* (Avi Nesher, 2007) and *Eyes Wide Open* (Haim Tabakman, 2009). His thesis also examines ultra-orthodox filmmakers who want to represent their own point of view, such as *Ushpizin* (Gidi Dar, 2004). Moshe chose to use this topic as his thesis because he believes that "there is a struggle between the modern, secular, and native-born Israeli hegemony and the ultra-orthodox religious faction in Israeli society." ▀



A black and white photograph of a smiling man in a suit and tie. Overlaid on his chest is a stylized atomic model with a central nucleus of orange spheres and several elliptical orbits with small orange spheres. In the background, other people are visible, including a woman on the left and several men on the right.

Science & Technology

“Our goal is to develop... nanosensors that can be embedded into the human body.”

Zaitsev Finding Answers in Carbon

Alexandre Zaitsev

Human health. Homeland security. CSI professor Alexandre Zaitsev is devoting his research to both subjects as he works to help people lead safer, healthier lives.

Dr. Zaitsev and his team are developing carbon nanostructures in his lab at the College. The goal is to create new materials that can be used in technology that advances medical care and military security.

Why carbon?

“When developing new materials, carbon is choice number one,” says Zaitsev, who teaches engineering science and physics at CSI. “Carbon is the most versatile element in nature. It is used in almost all modern technologies.”

Drawing on grants provided by the U.S. Army Research office, Zaitsev’s team aims to expand the growth of two-dimensional carbon nanostructures. As part of that effort, they are developing thin carbon nanofilms that will be used to make nanosensors that can be embedded in the human body.

“Our goal is to develop sensors that can be used for both medical and biological purposes,” remarks Zaitsev, who is collaborating with researchers at Columbia University on his work on carbon nanofilms.

For students such as Siarhei Samsonau, learning under Zaitsev

has proven to be an extraordinary opportunity. A graduate of Belarus State University, Samsonau came to the U.S. in 2007 and is now a second-year Doctoral student in Physics at the CUNY Graduate Center. He has spent much of the last six months working alongside Zaitsev in the lab. Much of the pair’s research centers on diamond, a carbon-rich compound. Zaitsev himself has devoted more than 30 years of his scholarly work to diamond research.

“Professor Zaitsev is guiding my development,” Samsonau says. “Several times each day I seek out answers, and he always makes time for me.”

Samsonau is writing his PhD thesis on the electronic properties of carbon nanofilms on insulated substrates. He has presented his research at the International Diamond Conference in Budapest, Hungary.

Zaitsev is proud of Samsonau, who, like his mentor, hails from Belarus.

“Siarhei is a very effective student,” Zaitsev comments. “He has achieved much success in a short period.”

As much as he enjoys conducting research himself, Zaitsev says he takes great pleasure in helping others learn and find success in the lab.

“I am a player-coach,” says the prolific researcher, who came to CSI to teach after devoting the bulk of his career to laboratory research at leading universities in Belarus and Germany.

Reflecting on his move from the lab to the classroom, Zaitsev calls it a natural transition.

“As you get older, you want to leave behind what you know for your students,” he observes. “To die with knowledge in your head would be a crime.”



Funding



OSPR provides grant opportunities

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It is the mission of the Office of Sponsored Programs and Research to support, encourage, and empower faculty to pursue external funding opportunities and to assist them in both pre-award and post-award activities.

We Can Help

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The Office of Sponsored Programs and Research (OSPR)

is designed to support faculty and staff in their efforts to secure external funding for research and programs.

The office serves as a resource in identifying potential funding sources, reviewing concepts, editing, drafting budgets, providing technical assistance, acting as a liaison with government agencies and funders, and ensuring compliance with College, University, and governmental regulations.

The Office provides training and workshops for faculty and staff in areas relating to obtaining external funding. These include “New Faculty Orientation” sessions and grant-seeking workshops, such as *Grant Writing Basics*, *Institutional Grants for Staff and Faculty*, *Introduction to Community of Science*, *Humanities and Social Sciences Grant Seeking*, and *NIH/NSF Grant Workshop* (sometimes by outside entities). Also, this year, there are several new initiatives taking place in the OSPR, including *Responsible Conduct of Researchers* (RCR) training and a customized *Division of the Humanities and Social Sciences Grants* workshop. Ongoing workshops include *Introduction to Community of Science* and *Grant Seeking Basics*.

The OSPR is also implementing a new initiative whereby a “Faculty Research Liaison” from each department in the Division of Humanities and Social Sciences will be selected by Dean Christine Flynn Saulnier to work with the OSPR to bring important news and information back to his/her departments and to provide pertinent information to the OSPR so that more faculty are able to pursue viable funding opportunities. Faculty and OSPR staff will meet monthly to discuss upcoming grant opportunities, particular research interests and needs, and project planning.

In an effort to assist grant-seekers, the Office maintains a comprehensive Website on the CSI portal with critical tools including budget templates, Web links, mandatory forms, and guidelines for some of the largest governmental agencies. An additional tool that faculty may find very useful in researching funding opportunities is the Website www.cos.com, which is available to all faculty and staff at CSI for researching funding options.

In addition to a newsletter, regular mailings of a grants update, and a PI Newsletter, the OSPR collects data for tracking of external funding, and maintains an “Expertise Database” consisting of all research areas and proposals submitted by faculty members and departments over the last five years, by name of grant and faculty member. This database is useful for facilitating collaborations across disciplines, as well as enabling the OSPR to inform faculty of new grant opportunities as they become available.

The Office also serves as a central depository for grant proposals and awards, and tracks and monitors data including awards, submissions, and rejections. In an effort to enhance its services, the OSPR will be developing and distributing surveys for faculty and staff, soliciting information on what types of assistance are most needed.

Another key role of the OSPR is to serve as the liaison to the Research Foundation (RF) of CUNY—the nonprofit corporation that administers post-grant activities. In this capacity, office staff members review contracts, request extensions as needed, handle Independent Contract Agreements, and, along with the RF, facilitate payroll and personnel issues for grant-funded staff.

The OSPR welcomes appointments with faculty and staff to discuss how it might assist and coordinate in grant seeking and grant administration. ■



Faculty Research Liaisons

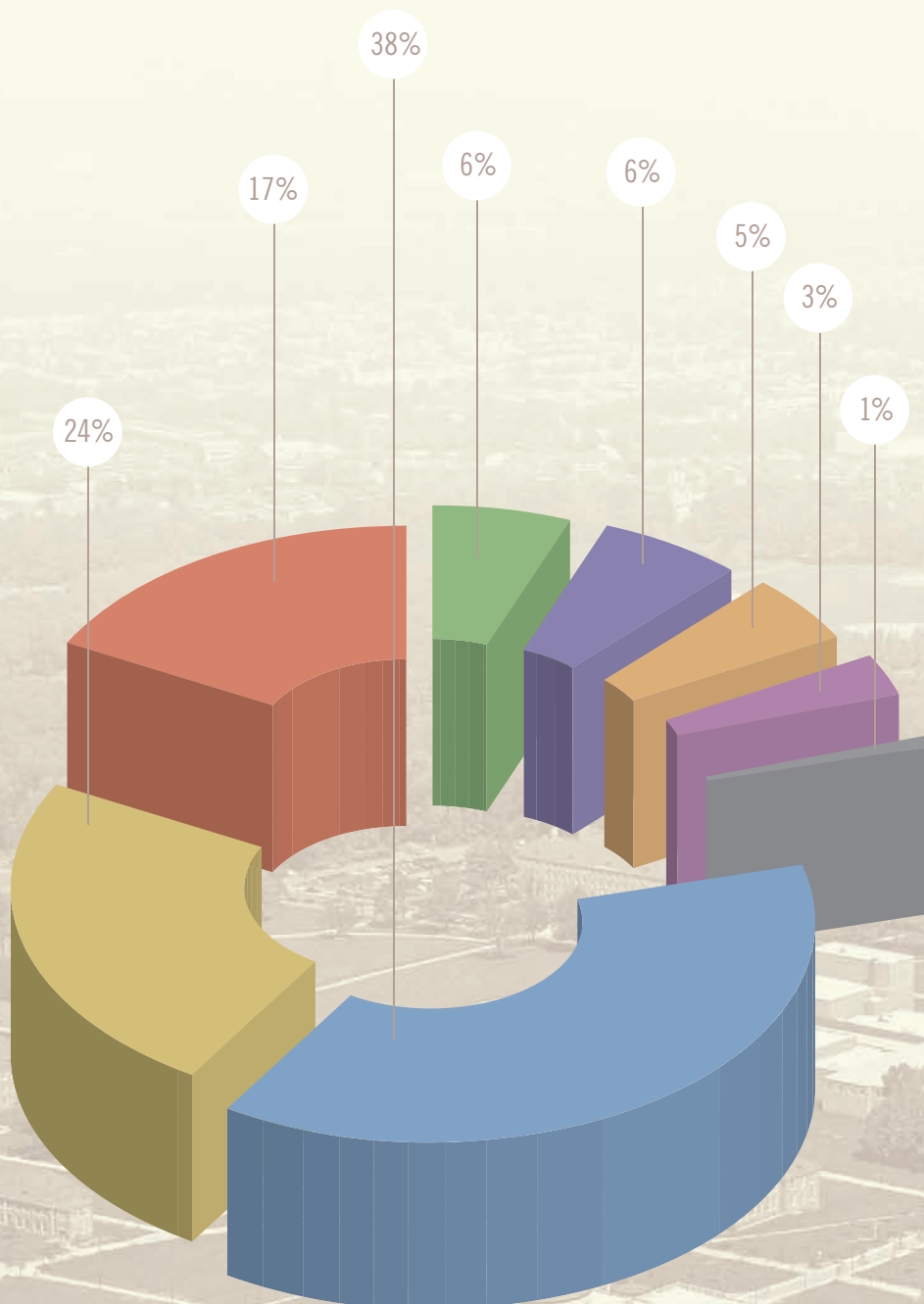
The following liaisons are working with the OSPR to identify targeted funding opportunities for faculty in their respective departments.

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KEY

Funding Source	Amount
New York State	\$3,897,764.00
National Science Foundation	\$2,482,216.00
Private	\$1,766,538.00
Other Federal	\$873,075.00
New York City	\$561,971.00
National Institutes of Health	\$550,897.00
The City University of New York	\$75,000.00
Misc.	\$20,897.00

Grant Activities



\$3,897,764.00

New York State		
Ahmed, Zaghloul Wieraszko, Andrzej Acrobatic Exercises and Spinal Stimulation after Spinal Cord Injury NYS/DOH	152,399.00	
Antoniades, Neophytos Jiang, Xin Rizvi, Syed Electrical Engineering Technology High-Tech Vocational Training NYSED/VTEA	104,104.00	
Como, June Gonzalez-Lama, Regina Nursing Technology Neighborhood/Virtual Hospital Center NYSED/VTEA	62,327.00	
Daniels, Michael Liberty Partnerships Program NYSED	381,815.00	
Flanagan, Richard Staten Island Project: Undergraduate Political Science Internships NYSED	3,500.00	
Freedland, Robert CDN Fellowships NYS/OMRDD	580,650.00	
Fritz, William Balsamini, Dean Small Business Development Center RF/SUNY/SBA	232,720.00	
Jones, Wilma Coordinated Collection Development Aid NYSED	12,972.00	
Kaser, James Phase II Documentary Planning Project: Staten Island's Environmental History NYSED	13,079.00	
Kijne, Hugo Workforce Investment Act NYSED	243,418.00	
Kijne, Hugo English Language/Civics NYSED	173,888.00	
Kijne, Hugo General Education Development Test NYSED	1,830.00	
Kijne, Hugo One-Stop Collaboration/Vocational Training/Placement NYSED/VTEA	49,792.00	
Knikou, Maria NYS Spinal Cord Injury Research Program NYS/DOH	347,699.00	
Rios, Ed Peters, Jonathan St. George Ferry Terminal to College of Staten Island Shuttle Service NYS/DOT	410,500.00	
Sharib, Linda Academic Support for AAS VTEA Students NYSED/VTEA	54,096.00	
Shepardson, Suzy Integrated Advisement and Mentoring of Business, Computer Technology, and Nursing Students NYSED/VTEA	62,182.00	
Simmons, Gail Evans-Greene, Debra Collegiate Science and Technology Entry Program (CSTEP) NYSED	193,951.00	
Simmons, Gail Evans-Greene, Debra Science and Technology Entry Program NYSED	241,842.00	
Simmons, Gail Lyons, Alan Material Sciences and Polymer Chemistry Faculty Development at CSI/CUNY NYSTAR	500,000.00	
Yang, Nan-Loh Center for Engineered Polymeric Materials (CART) NYSTAR	75,000.00	

\$561,971.00

New York City		
Daniels, Michael Booth, Ann College Opportunity to Prepare for Employment (COPE) NYC/HRA	54,707.00	
Daniels, Michael Booth, Ann College Opportunity to Prepare for Employment (COPE) NYC/HRA	10,565.00	
Flanagan, Richard Political Science Internship Program NYC Council	8,000.00	
Gerstle, Donna Staten Island Breast Cancer Research Initiative NYC Council	60,000.00	
Kijne, Hugo Adult Literacy Program NYC/Office of the Mayor	127,793.00	
Kijne, Hugo Creative Exchange NYC/DHMH	153,849.00	
Kijne, Hugo Literacy GED for Jobs - CSI NYC Department of Small Business Services	11,115.00	
Kijne, Hugo NYSDEC Certification Program NYC/DEP	11,422.00	
Pappas, Michael Tech Prep NYC/DOE	55,650.00	
Rothman, Jeffrey Physical Therapy Assistance Project NYC/DOE	68,870.00	

\$2,482,216.00

National Science Foundation		
Fritz, William STEM Talent Expansion via Applied Mathematics (STEAM) NSF	198,748.00	
Hamkins, Joel Research in Set Theory NSF	70,000.00	
Hu, Qiao-Sheng Development of Controlled Palladium(O)-Catalyzed Cross-Coupling Polymerizations (stimulus funds) NSF	370,000.00	
Kress, Michael Schaefer, Tobias w/CityTech, CCNY & Brooklyn II-EN: CUNY Computing Research Infrastructure NSF	452,410.00	
Kress, Michael w/CCNY, Columbia, Grad Ctr, & U. of MN II-EN: CUNY Computing Research Infrastructure NSF	842,499.00	
Kruk, Michal Ordered Mesoporous Materials with Closed Pores NSF	93,727.00	
Kruk, Michal Ordered Mesoporous Materials with Closed Pores NSF	92,069.00	
Liu, Charles REU Site: Collaborative Research: Earth and Planetary Science and Astrophysics REU at the American Museum of Natural History in Collaboration with CUNY NSF	21,390.00	
Maher, Joseph Geometry of the Mapping Class Group and Applications to 3-Manifolds NSF	69,147.00	
Oganesyan, Vadim CAREER: Dynamics and Transport of Excited Strongly Correlated Many-particle Systems NSF	180,000.00	
Shen, Chang-Hui RUI:Transcriptional Regulation of INO1 in Yeast NSF	92,226.00	

The City University of New York		
Alonso, Alejandra w/Hunter College Nurturing of the Early Hippocampus by Tau Structure and Function, Its Implication in Neurodegeneration CUNY Collab	10,000.00	
Banerjee, Probal Nurturing of the Early Hippocampus by 5-HT1A Signaling CUNY Bridge Fund Program	25,000.00	
Burbrink, Frank w/Queens College A North American Biodiversity Hotspot: How the Mississippi River Functions as an Engine of Species Diversification CUNY Collab	10,000.00	
Gerstle, Donna Staten Island Breast Cancer Research Initiative CUNY misc.	10,000.00	
Oganesyan, Vadim w/York College Spin Diffusion: Quantum Coherence, Disorder, Reduced Dimensionality CUNY Collab	10,000.00	
Raja, Krishnaswami, L'Amoreaux, William w/City Tech Living Copolymer-Antibody Conjugates for Imaging Applications CUNY Collab	10,000.00	

\$873,075.00

Other Federal		
Holak, Susan w/LaGuardia Community College Piloting ePortfolios in Linked General Education Courses for The Verrazano School at the College of Staten Island USED	8,000.00	
O'Donnell, Mary Clinical Nurse Specialist/Nurse Practitioner Traineeship HRSA	16,888.00	
Pappas, Michael Project Discovery Builds a School Pyramid for College Success (GEAR-UP) USED	617,600.00	
Poje, Andrew 3-D Effects, Robustness and Model Validation Issues in Drifter Motion Planning for Optimal Surveillance of the Ocean (DRIMPOS) ONR	4,693.00	
Tesdall, Allen Analysis of Self-Similar Solutions of Multidimensional Conservation Laws DOE	35,894.00	
Veit, Richard Marine Bird Surveys in the Northwest Atlantic Ocean in FY09 U.S. Fish and Wildlife Service	190,000.00	

\$550,897.00

National Institutes of Health		
Alonso, Alejandra Tau Phosphorylation and Neurodegeneration NIH	148,846.00	
Naider, Fred w/University of Tennessee Peptide-Cell Interactions in Saccharomyces cerevisiae NIH	363,320.00	
Naider, Fred w/Weizmann Institute of Science Multi-Dimensional NMR of HIV-1 Envelope NIH	38,731.00	

\$20,897.00

Miscellaneous		
Kijne, Hugo Continuing Education Special Projects Various	20,897.00	

\$1,766,538.00

Private		
Alonso, Alejandra Tau-induced Neurodegeneration Alzheimer's Association	64,993.00	
Fritz, William Helm, Ann Study Abroad Program Various	243,450.00	
Jin, Shi Nanostructured Organic Optoelectronic Materials 3M	15,000.00	
Kijne, Hugo 1199 HC4 Program Hospital League 1199	1,184,750.00	
Kijne, Hugo Funding for Certified Nursing Assistant (CAN) Training Robin Hood Foundation	30,000.00	
Levine, Alfred Environmental Science Program ISC	22,500.00	
Lyons, Alan Novel Acid Resistant Coatings for Glass Gray Glass	10,000.00	
Naro-Maciell, Eugenia Protected Areas and Migratory Species Conservation: A Focus on Globally Endangered Marine Turtles American Museum of Natural History	12,122.00	
Ploog, Bertram Brooks, Patricia Attention to Prosodic Features of an Unfamiliar Language in Autism Language Learning/Ontario Inst for Studies in Educ	10,000.00	
Schanker, Herbert Zelikovitz, Sarah NSF Post-Institute Implementation Award SENCER	3,000.00	
Shew, Chwen-Yang R & D Molecular Dynamics Calculations Oak Ridge National Labs	68,748.00	
Veit, Richard American Oystercatcher Management and Monitoring in Massachusetts Manomet Center for Conservation Sciences	11,820.00	
Veit, Richard How Much Do Tunas and Great Shearwaters Overlap in the Atlantic Ocean? Birdlife International	14,000.00	
Veit, Richard Goyert, Holly Ultimate Mechanisms of Foraging Behavior in Common and Roseate Terns The Norcross Wildlife Foundation	2,000.00	
Venditti, Margaret Transportation Grant for Disabled Students New York Community Trust	1,648.00	

Yang, Nan-Loh Characterization of Pharmaceutical Suspension Pfizer	9,000.00
Yang, Nan-Loh High Energy Ultracapacitor Development Ioxus Inc.	22,000.00
Yang, Nan-Loh Imaging and Instrumental Analysis Sun Chemical Corporation	2,250.00
Yang, Nan-Loh Polycetal Research with Acetal Ring Kuraray America, Inc.	25,250.00
Yang, Nan-Loh Solid State Analysis of Copper Materials Momentive Performance Materials	2,100.00
Yang, Non-Loh Testing and Consultative Services Agreement Pall Corporation	11,907.00

Highlights

Student Research, Scholarship, and Performance Highlighted at Conference

Students at the College of Staten Island had an opportunity to show off their research and creative projects last spring at the Ninth Annual Undergraduate Conference on Research, Scholarship, and Performance. The event, held in the Center for the Arts, spotlighted the results of the student-faculty collaboration that is a hallmark of a CSI education. In total, more than 200 students and over 40 faculty mentors participated in 70 poster presentations and six performing arts programs that encompassed music, dance, and the visual arts.

The posters spanned the academic spectrum, including a robotic dog that entertained passersby, a study of gender and displacement in the Republic of Georgia, research on benzene's effects on accelerating breast cancer development, the creation of paperless ePortfolios that enable students to organize and display their work, and a review of cartooning, among other topics.

Dr. Susan Holak, CSI Associate Provost for Institutional Effectiveness and Conference coordinator, said that the work on display "represents the culmination of a semester or a year's worth of work on the part of our student-mentor pairs, and we all know how special that relationship is—one of sharing, discovery, and mutual trust."

Underscoring the importance of the Conference for students, Dr. Holak added, "This is a time when students learn about participating and presenting in a discipline, gain exposure to the poster development process, and experience collaborative work. We know that the experiences that culminate at the Conference matter in graduate school applications—and might even change a career path."

Student participants at this year's Conference were enthusiastic about having the chance to display the fruit of their efforts, and also to experience the sense of community that comes with the opportunity to see the work of fellow students.

Michael Young, a senior who studied with Dr. Catherine Lavender, commented, "I think [the Conference] is fantastic because most of my peers are presenting either projects or research that they've done, and it's enjoyable to see the product of work that I only hear about."

Elementary Education major and junior Stephanie Helewa, who was mentored by Dr. Peter Kabachnik, seemed to agree. "I feel that [the Conference] was really good. I've never been to one before and to see what everyone else is doing is great."

Sophomore Computer Science major Vitaly Nirenburg, who worked with fellow Computer Science major and junior Justin Allen to develop a robotic dog with mentoring assistance from Dr. Susan Imberman, added, "Overall, this is a research community that you don't really feel unless you're working with other students. This brings us all together."




Beyond the sense of community, other students' comments reflected the sense of accomplishment and growth they felt.

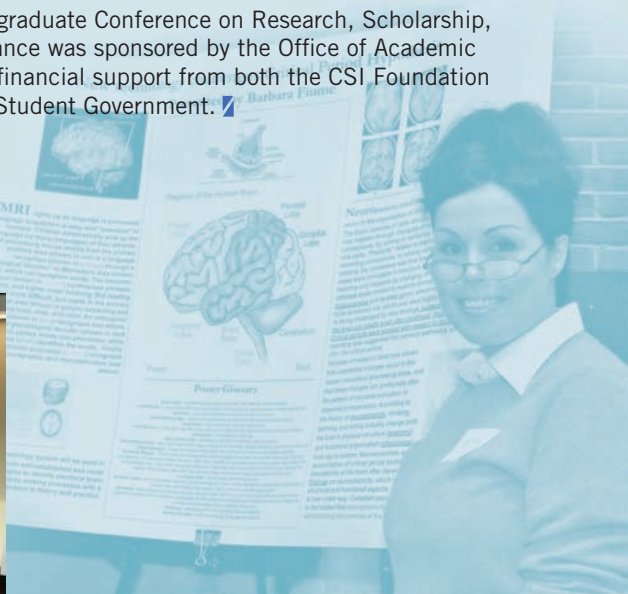
Freshman Jeanine Ruggiero, who worked with freshmen Joseph Adia and Amanda Couso with the guidance of Louise Levine on the ePortfolio project, noted, "We started from [scratch] and we've come so far. It's nice to see our work developing."

Sajini Gundry, who is researching breast cancer under Dr. Jimmie Fata, said that the conference has helped her to overcome her nervousness when explaining her work to others, giving her "a lot of experience in mingling with people and explaining my research much better."

Although the Conference is in its ninth year, Dr. Holak mentioned that there were two new aspects to the event, as the Library and Alumni Association both played larger roles in 2010. The Library offered the services of a reference librarian to help student researchers increase the number of references in their projects, and the Alumni Association is helping Dr. Holak track where past presenters have gone and what they are doing now. In addition, the Association reached out to participants from earlier conferences for the first time, encouraging them to come back and see how the Conference has grown.

Dr. Holak added that this event would not have been as successful as it was without the help of Dr. David Keberle, who coordinated the event's creative performances; Jennifer Lynch, Associate Director of Alumni Relations, for providing staff t-shirts and conducting Conference alumni outreach; and Director of the Center for the Arts John Jankowski and Debbie Mahoney from the Provost's Office for their diligent efforts to coordinate the Conference.

The Undergraduate Conference on Research, Scholarship, and Performance was sponsored by the Office of Academic Affairs, with financial support from both the CSI Foundation and the CSI Student Government. 



PROGRAMS OF STUDY



Master's Post-Master's Advanced Certificates Doctoral Programs

MASTER OF ARTS AND SCIENCE

Biology (MS)

Business Management (MS)

Cinema and Media Studies (MA)

Computer Science (MS)

Education (MSEd)

- Childhood Education
- Adolescence (Biology, English, Mathematics and Social Studies)
- Special Education — Childhood
- Special Education — Middle Childhood Generalist

English (MA)

Environmental Science (MS)

History (MA)

Liberal Studies (MA)

Mental Health Counseling (MA)

Neuroscience, Mental Retardation, and Developmental Disabilities (MS)

Nursing (MS)

- Adult Health
- Gerontological

POST-MASTER'S AND ADVANCED CERTIFICATES

Leadership in Education (Post-Master's)

- School Building Leader
- School District Leader
- School Building Leader and School District Leader (Dual Certificate)

Nursing (Post-Master's)

- Adult Health
 - Gerontological
- Nursing (Advanced Certificate)
- Cultural Competence
 - Nursing Education

DOCTORAL PROGRAMS

The College of Staten Island offers Doctoral programs jointly with The CUNY Graduate Center

Biochemistry (PhD)

Biology (Specialty in Neuroscience) (PhD)

Computer Science (PhD)

Nursing (DNS)

Physics (PhD)

Polymer Chemistry (PhD)

Clinical Doctorate in Physical Therapy (DPT)

CHILD DEVELOPMENT RESEARCH AT CSI CUNY

The College of Staten Island is committed to our community, and we welcome you to take part in our research programs, which help us understand how children learn and grow. We invite you to our child-friendly spaces on the CSI campus where children interact one-on-one with members of the research team, led by experts in their fields.

YOUR CHILD CAN PROVIDE ANSWERS TO IMPORTANT QUESTIONS ABOUT HUMAN DEVELOPMENT.



The Child Development Lab works with children **five months to four years old**, studying cognitive and motor development by examining how they navigate their environment on specially designed playground equipment. Studies provide **insight into sibling relationships** and early language development, and range from 15 minutes to one hour. Participants will receive a thank you gift and a summary report of their child's study. **For more information**, contact Dr. Sarah Berger at 718.982.3770 or childlab@csi.cuny.edu.

The Language Development Lab

works with children **five to ten years old**.

The Lab specializes in working with typically developing children, **children within the autism spectrum**, and children with language impairments. The program offers **free speech and hearing screenings**.

Studies typically involve multiple sessions and extend over several weeks or months, based upon your child's and your unique needs and circumstances. Children are generously compensated for their time. **For more information**, contact Dr. Patricia Brooks at 718.982.3793 or patricia.brooks@csi.cuny.edu.



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