



GROVE SCHOOL OF ENGINEERING

AT THE CITY COLLEGE OF NEW YORK



ANNUAL REPORT
2005-2006

mission

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To be an institution of national pre-eminence among schools of engineering and computer science schools, recognized for the excellence of its research and instructional programs;

To provide readily accessible graduate and undergraduate education in a broad range of fields to a highly diverse student body, including traditionally underrepresented minorities, women, working adults and immigrants;

To maintain and expand a program of fundamental and applied research in areas of national interest, particularly in technologies with relevance to New York City, its metropolitan area and New York State;

To provide public service and continuing professional education to our local community, New York City and State, the engineering and computer science professions, and society at large.

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letter from the dean



It is with pride that I assume the leadership of my alma mater at this exciting point in its history. Our first year as the Grove School of Engineering has been one of great strength. Empowered by Andrew Grove's support, we are poised to play an important role in the renaissance taking place at The City College. This is exemplified by the redevelopment of the South Campus, which will soon be home to two new science research buildings.

This year we have continued to attract prestigious funding. This includes a matching grant to the Department of Biomedical Engineering from the Wallace H. Coulter Foundation, which pledges to double any gifts designated to the department over the next five years. The Department has already raised more than one million dollars towards the match.

Biomedical Engineering graduated its first class this spring, with a distinguished 3.30 GPA. The department's stellar faculty is making an important mark in translational research through the New York Center for Biomedical Engineering, which it leads. Another high point is our new program in Environmental Engineering and Science. It brings together faculty in remote sensing, and civil, chemical and electrical engineering. They are being joined by Dr. William Rossow of the NASA Goddard Institute for Space Studies, who has been named CUNY Distinguished Professor in Electrical Engineering. At the undergraduate level, enrollment in the new Multidisciplinary BE/BS in Earth System Science and Environmental Engineering is exceeding all expectations.

Our focus continues to be on producing students who can work in teams, communicate, innovate and, in the long run, adapt to changes in the profession. They and our faculty are prime candidates to do research in collaboration with peers at other universities, and we are a sought-after participant in national research partnerships. This year we have joined the new NSF Engineering Research Center in Mid-infrared Technologies for Health and Environment (MIRTHE), in which our partners include Princeton University.

Our students are involved in many other prestigious national and international activities. A Grove School team was chosen to participate in the NASA Reduced Gravity Program and is constructing an inflatable structure for deployment in space. Sixteen of our students traveled to the Junior Scientist Conference in Vienna, Austria, where biomedical engineering doctoral candidate Thomas Radman won an honorable mention for best poster. And, our newly-organized chapter of Engineers Without Borders USA is undertaking a water purification and distribution system for the village of Nueva Suiza, Honduras.

Details of many other accomplishments await you in the pages of this report. This is a year of which all of us at the Grove School, our alumni and friends can be truly proud.

Sincerely,

A handwritten signature in black ink that reads "Joseph Barba". The signature is written in a cursive, slightly slanted style.

Joseph Barba, Dean



The Grove School of Engineering at The City College of New York is home to an exceptional publicly supported engineering program in the heart of New York City.

Situated on a 36-acre campus in northern Manhattan, distinguished by some of the country's earliest and still most beautiful university gothic architecture, the Grove School benefits from the proud heritage and high record of achievement of The City College - one of the single most powerful avenues of access to the American Dream in our nation.

CCNY's School of Engineering was one of the first public institutions of its kind, and is still the only public school of engineering in New York City. The School's ties to engineering go back to 1853, when City College was known as the Free Academy of New York, and a course in civil engineering was required for all students. In 1919, the College's Board of Trustees approved the creation of a separate School of Technology with its own dean and faculty, and in 1962 it formally became the School of Engineering and moved to its current home in Steinman Hall.

The Grove School of Engineering holds a position of national standing among public schools of engineering, and is recognized for the excellence of its instructional and research programs, particularly in technologies with relevance to New York City and New York State. It also leads in the breadth of its offerings, with bachelor's, master's, and doctoral degree programs in seven engineering fields - biomedical, chemical, civil, computer, electrical and mechanical engineering, and computer science.

Continuing in the tradition of the City College mission, access and excellence, the Grove School proudly takes its place as one of the most diverse schools in the nation, consistently graduating high numbers of women and other underrepresented populations, working adults, and immigrants.

Mirroring the renaissance that has spread across City College in recent years, the Grove School has experienced a period of dynamic growth. Over 50% of the students who are admitted to the CCNY Honors Programs choose engineering as their major field of study. In addition, large numbers of graduates from the New York City special high schools, including Stuyvesant, Bronx Science, Brooklyn Tech, and City College's own High School for Math, Science, and Engineering, now make City College their first choice.

Some Statistics

Engineering consistently remains the choice of more freshmen than any other major at City.

More than half of all Honors College students at City are engineering majors.

In the past six years, three of City College's valedictorians have been engineering students.

The School of Engineering is the second most popular area for graduate study at City College.

Women account for 29% of undergraduate and graduate engineering majors, compared with 11% nationwide.

A Speech by Andrew Grove Inaugurates the School Which Bears His Name

This fall, Dr. Andrew S. Grove inaugurated the Grove School of Engineering with a speech which addressed the pressing problems of health care costs and energy independence. Dr. Grove, a co-founder and former chairman of Intel Corp., the world's leading producer of microchips, graduated from CCNY in 1960 at the top of his class in engineering, four years after leaving his native Hungary. President Gregory Williams has called him "the quintessential City College graduate."

In 2005, Dr. Grove made the largest gift to CCNY in the college's history. At the heart of the \$26 million gift is the Grove Endowment which will provide ongoing support to gifted engineering faculty and students. CCNY will use the gift to help the School of Engineering attract and retain new faculty, and renovate and equip laboratories for new faculty and rising stars. The gift will also support development of new interdisciplinary programs and will provide seed money for new research initiatives with high potential for external funding. It will fund improvements to the School of Engineering infrastructure including wireless Internet access throughout Steinman Hall, installation of a centralized e-mail server and renovation of new space as the School of Engineering expands.

In his address, Dr. Grove advocated "disruptive technologies" to tackle health care and energy problems. He described these as new ways of doing things that at first are usually dismissed by existing practitioners but eventually take over all or most of a market as their quality improves and the capabilities expand.



To address healthcare costs, Dr. Grove said "we simply need to be engineers and reduce costs step-by-step, item-by-item like our predecessors and colleagues do daily in many other lines of business." Innovations he advocated include in-store retail clinics, which he described as "an example of a disruptive phenomenon that comes out of the workings of capitalism in its best sense," the use digital technologies to help the elderly remain in their own homes, and the development of an Internet-based "shoebox" that would store all of a patient's medical records and provide healthcare providers with common access.

In the realm of energy, Dr. Grove cited the need for engineers to address the problems associated with alternative fuels including coal, nuclear and agri-fuels which we must resolve to free ourselves from our dependence on imported oil. "We need a Moore's Law for energy," Dr. Grove said, referring to the theory developed by Intel's Gordon Moore, which forecast the growth in complexity over time of silicon chips. "Once we drew that line and believed it, we couldn't do anything less than what that line said."



Ali Sadegh of Mechanical Engineering is named Outstanding Teacher of the Year

Dr. Ali Sadegh is an innovative teacher, a prolific researcher, and a consultant to industry. Binding these interests together is his devotion to his students and his determination to offer them an educational experience directly applicable to the practice of engineering. And, the results are stellar. Osagyefo Duberry '06 is now with Pratt Whitney, which will be putting him through graduate school at Rensselaer Polytechnic Institute. "Dr. Sadegh," he says, "creates a bridge between what you are learning and what you will be called upon to do as an engineer. I stuck with engineering because of Dr. Sadegh, and I owe him my success."

“As I learn new things from my research and consulting, I bring them to the classroom.”

Dr. Sadegh came to the Grove School of Engineering in 1982, with a doctorate in Mechanical Engineering from Michigan State University and several years of teaching and industrial experience. Since then, his impact on the teaching of engineering has been tremendous. He has transformed the Senior Design course into a cooperative program between the Department of Mechanical Engineering and industry, in which students undertake projects proposed by sponsoring companies. According to Jeffrey Gomes '06 who worked on a project for Con Edison and, as a result, joined the company, "Dr. Sadegh turned us from students into engineers. With his firm backing and guidance, we mastered the theoretical, commercial and financial aspects of engineering and came out with the skills to manufacture a good product."

In addition, Dr. Sadegh is the faculty advisor to the ASME, SAE, and AIAA chapters on campus. "I enjoy being with my students in the machine shop as much as the classroom," he says. For over a decade he has helped students succeed in the ASME Design Competition, the SAE Mini-Baja Car and Formula Car Competitions, and the AIAA Build and Fly Airplane Competition. He is also co-advisor to the team participating in the NASA Reduced Gravity Student Flight Opportunity Program and has worked with students in the Space Elevator Climbing Robot Competition. According to Seth Cutler '06, a recent member of the Mini Baja team, "Dr. Sadegh really helped us get the project done. He is willing to give you time regardless of his schedule. He really listens and he gives you feedback."

Dr. Sadegh is widely published in Mechanical and Biomechanical Engineering and has 10 US patents. Among many distinctions, he holds ASME's Melville Medal for the best paper in Biomedical Engineering research. He is a Fellow of ASME and SME. His current research centers on bone and implant integration and cervical spine and head injuries. A new course he has created, Automotive Safety Design and Injury Biomechanics, brings together these two research passions. "I am very interested in new research ideas and technologies," he says, "and as I learn new things from my research and consulting, I bring them to the classroom."

Fred Moshary: The Environment and the Changing Face of Engineering

“Meeting the needs of the 21st century means training engineers who can work collaboratively across disciplines to address complex problems. That is one of the things we aim to accomplish through CCNY’s new Multidisciplinary BE/BS in Earth System Science and Environmental Engineering. Students who come to us are passionate about environmental issues and seek education and training that will allow them to make a difference,” says Fred Moshary. Dr. Moshary is the degree’s Program Director, and also serves as Deputy Chair of the Electrical Engineering Department. He holds degrees from Cornell and Columbia and came to City after a post-doc at Harvard.

“Today,” he says, “science and engineering are responding to societal concerns. Global warming, air and water quality, land use, and municipal waste are salient public issues. At City College, we are in the forefront of environmental research, looking into innovative engineering and technological approaches to addressing these problems.”

Dr. Moshary, whose research interests are in optical sensing, remote sensing, and air quality monitoring, points out that City was on the ground floor in applying new tools such as optical remote sensing to environmental issues. “Dr. Sam Ahmed was a pioneer in the use of laser radar for environmental monitoring at CCNY, and today the technology and applications of such remote sensing techniques are coming of age,” he says. Drs. Ahmed, Barry Gross and Moshary make up the Optical Remote Sensing Laboratory at CCNY. “Our group works with and is supported by federal, state, and local agencies including NOAA Cooperative Remote Sensing Science and Technology Center (NOAA CREST), NASA Center for Optical Sensing and Imaging (NASA COSI), and the new NSF Engineering Research Center in Mid-infrared Technologies for Health and Environment (MIRTHE)”. Next fall, Dr. William Rossow from NASA GISS, an internationally recognized expert on remote sensing and cloud dynamics, will join the effort as the Distinguished Professor of Electrical Engineering.

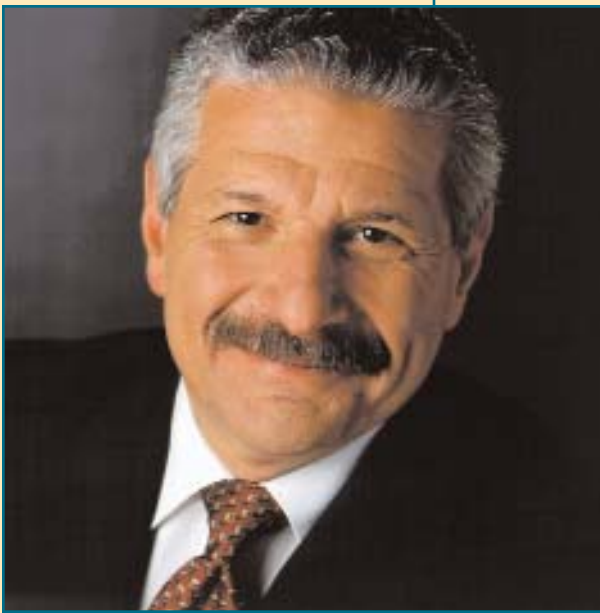
Teamwork, Dr. Moshary continues, is essential to CCNY’s success in making strides in environmental science and engineering. “We have teams of faculty in Electrical, Chemical, and Civil Engineering, Computer Science, Physics, Chemistry, and Earth and Atmospheric Science working together in this area, and the level of collaboration is impressive.”

“We benefit tremendously from our situation in New York City,” he continues. “CUNY is in a unique position to study urban environmental problems, and we have a responsibility to do so.” Fortunately, there is no dearth of prospective engineers interested in the field. Enrollment in the Multidisciplinary BE/BS in Earth System Science and Environmental Engineering is exceeding all expectations.

“Today, science and engineering are responding to societal concerns. At City College we are in the forefront of environmental research.”



“I look at CCNY today and I am proud of the opportunity that it provides the kids of New York who, if not for CCNY, would not be able to follow their dreams.”



John M. Dionisio '71 CE Receives the Alumni Career Achievement Award

John M. Dionisio is one of the country's most prominent engineers, and he is passionate about City College. "City College," he says, "meant success. For as long as I remember, I wanted to be an engineer, and I wanted to attend and graduate from CCNY. It was not an easy journey, but one well worth it. CCNY provided me with the knowledge and experience that set me on the course I have followed in my career for the past 35 years." And, what a career it has been. Today, Mr. Dionisio leads AECOM, a global design and management company with 27,000 employees and annual revenues of \$3.4 billion.

Over more than 30 years at AECOM, Mr. Dionisio's leadership has advanced the company's transportation and energy infrastructure business in the Americas. He oversaw the combination of three AECOM businesses to form DMJM Harris, AECOM's flagship transportation company, where he served as Chief Executive Officer and President and was instrumental in many notable projects. These include the Second Avenue Subway in New York, Tren Urbano transit rail system in San Juan, Puerto Rico, the State Highway 130 toll way in Texas, Southern California's Metrolink Commuter Rail System, and the new World Trade Center PATH Terminal in Lower Manhattan.

"Whatever success I may have achieved is founded on the training and education that I received at CCNY," he says. "I was very lucky that I had the opportunity to get such a wonderful education. I look at CCNY today and I am proud of the opportunity that it provides the kids of New York who, if not for CCNY, would not be able to follow their dreams."

When asked what advice he would give prospective engineers, he says, "This is truly a great profession and the work we do improves the quality of life for people. So the message that I would give those young engineers is to be proud of what you do and the profession that you have selected. You will make a difference in the world, and you will contribute in your own way to making the world a better place."

Mr. Dionisio is a devoted alumnus who serves on the Grove School of Engineering Advisory Board and holds CCNY's Milton Pikarsky Distinguished Leadership Award in Engineering. His other honors include the March of Dimes Man of the Year Award. He is a Board Member of the New York Building Congress. His professional affiliations include the National Society of Professional Engineers, ASCE, the Society of Military Engineers and the American Public Transportation Association. Mr. Dionisio earned an MS in Civil Engineering at Polytechnic Institute of New York and is a licensed professional engineer in five states.

Joseph Barba '75 EE: An Alumnus Takes the Helm at the Grove School

In 1975, Joseph Barba, a son of immigrants from Latin America, received his BEE from City College. Today, as Dean of the Grove School of Engineering, he leads the school which educated him. In between, he received his MEE from City and his PhD from CUNY, and, over a 24-year career, served City College and its students as a teacher, mentor, researcher and administrator of note.

“My background at CCNY gives me a unique opportunity to know the issues faced by students, faculty and administrators,” he says. “I think that I have a fairly good sense of what it takes to achieve a balance and meet those needs.”

Dean Barba joined the electrical engineering faculty in 1982. In 2004, he was named Acting Dean, having served as Associate Dean for Academic Affairs and Deputy Provost. Dr. Barba's research interests focus on the development of image and signal processing algorithms for biomedical applications. He has authored or co-authored over 50 scientific papers and has been Principal Investigator for major research and institutional grants. In addition, for 22 years, Dr. Barba has been faculty advisor for the Latin American Engineering Student Association-Society of Professional Engineers (LAESA-SHPE), helping CCNY become one of the leading producers of Hispanic engineers in the United States. He is also director of the New York STEM Institute, a summer enrichment program for New York City high school students interested in math, science and engineering careers.

When asked about his goals as Dean, Dr. Barba cites four areas. “First,” he says, “we must continue to recruit outstanding students while maintaining our diversity. Second, we must recruit the best faculty who will engage in interdisciplinary research across the school and the college. Third, we should continue to develop areas of interdisciplinary research such as biomedical engineering and technology, environmental engineering science, and materials science. And, finally, we must address the infrastructural needs of the school. This is essential to attracting the finest students and faculty. In these areas, the Grove gift is transformative.”

Dean Barba sees this as a moment of great opportunity for City College. “President Williams,” he says, “is attracting significant new resources, and he has fashioned a working team, consisting of the provost and deans, which is in synch in terms of philosophy and focused on common goals which will take us forward.” The Dean's message for those who follow in his footsteps as City College students is that they are on the right track, but there is no magic bullet. “Succeeding in engineering is hard work,” he says. “Look at Andy Grove and what he has become. City College offers today's students the same opportunity it offered him. To be successful they need to work and strive as he did.”



“City College offers today's students the same opportunity it offered Andy Grove. To be successful they need to work and strive as he did.”



A. Ramona Brown: Grove Students' Success is her Mission

For 19 years Dr. A. Ramona Brown, the Grove School of Engineering's Assistant Dean for Student Development, has worked to create and institutionalize programs which support students in their quest for success. Her educational background, in elementary education and counseling and guidance, prepared her for a career in the helping professions. When she came to City College she saw students passionate about a better life and committed to getting an education. She set about helping them reach those goals.

Today, Dean Brown is responsible for the planning, implementation, and management of comprehensive academic support and career development programs and services for the School's approximately 2,300 students. The scope of her mandate is the result of her pioneering efforts in the field of student support. "I worked within the framework of a major national initiative in the field of minority engineering education, supported by the National Science Foundation, major corporations, and organizations such as NACME," she says. With the backing of the City College administration, she convinced the institution that even students who had the potential to become successful engineers needed help in navigating their academic careers and fulfilling their promise.

One of Dean Brown's major accomplishments was designing PRES, the Program for Retention of Engineering Students. It is a nationally recognized model for which she has been honored with the White

House Presidential Award for Excellence in Science, Engineering and Mathematics Mentoring and the Noel-Levitz National Award for Excellence in Retention Programming. Following PRES, Dean Brown introduced a host of other programs, including TRACC (Transfer, Recruitment, and Achievement at City College), ELP (Engineering Leadership Program) and the Women in Engineering Initiative. In 1987, Dean Brown's original Office of Recruitment and Retention served 45 students. Today, the Office of Student Development, which she heads, is a major component of the Grove School and has been replicated in other divisions.

Dean Brown received a doctorate in Organization and Leadership/Higher Education Administration from Columbia University Teachers College, where she was inducted into Kappa Delta Pi. Her thesis became an article in the Journal of Engineering Education and Annals of Research on Engineering Education. "I felt that because I kept urging students to reach their full potential, I had to reach mine," she says. "Like many engineering students, I confronted the enormous challenge of juggling work, study, and parenting on a full-time basis. But, if I had to do it over again, I would. My years in engineering education and my doctoral studies have helped me better understand the theoretical framework needed to bridge the academic and student development sides of the educational experience, as well as the ongoing complexity of students' lives at CCNY and nationally."

Jane Chmielinski Addresses PRES: A Leader in the Engineering Profession Comes to The City College

The PRES dinner is an opportunity for newly-minted engineers to hear from a leader in the profession, and this year they found themselves in exceptionally distinguished company. The speaker was Jane Chmielinski, President and COO of DMJM Harris. Ms Chmielinski is responsible for directing all technical management activities of this leading architecture-engineering firm and oversees all project activities in the transit/rail, highway/bridge, marine/aviation, planning, design/construction and energy business lines. She also serves on the core management group of AECOM, DMJM Harris' parent company.

Ms. Chmielinski has served as a member of the School of Engineering's Diversity in Engineering Advisory Board and is deeply committed to City College and to the PRES mission of helping students to excel. "I have always believed that companies like DMJM have an obligation to support CCNY," she says. "Much of our best talent comes from the Grove School of Engineering." Ms. Chmielinski is a product of the University of Massachusetts in Boston. "A state school was what I could afford," she says, "and every step of the way there was someone helping me. The position I now hold gives me the opportunity to do the same for others."

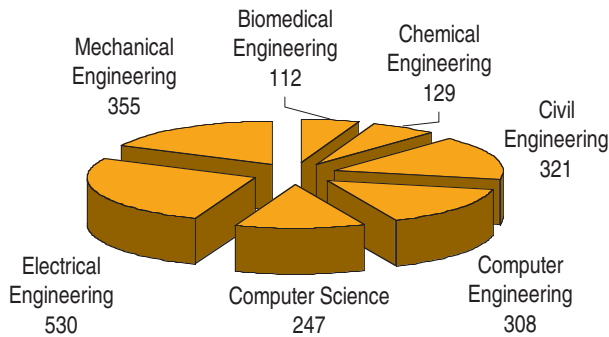
When speaking to young engineers at the dawn of their careers, Ms. Chmielinski's message is one of pride and of patience. "Engineers shape the world," she says, "and our work calls on every skill set from the technical to the collaborative. Though other careers may offer a faster path to financial success, we have the exciting opportunity to be real change-makers and to travel the world, building the infrastructure which people use everyday."



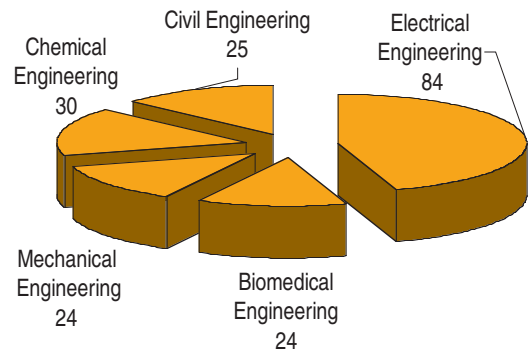
“Successful engineers should give back to those coming up in the profession.

Supporting City College is a great way to do so.”

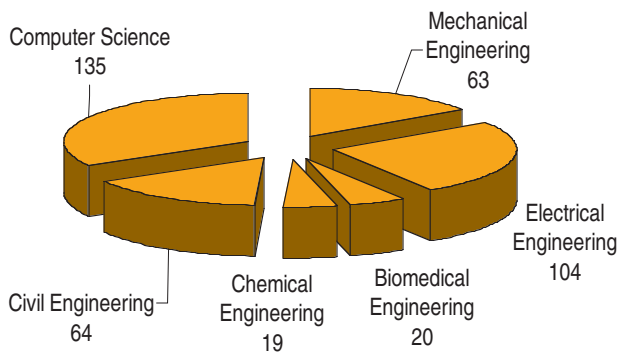
Undergraduate Enrollment Spring 2006
Total: 2002



Ph.D. Enrollment Spring 2006
Total: 187



Master's Enrollment Spring 2006
Total: 405



Degrees Granted 2005–2006

Bachelor's degrees	Master's degrees	Ph.D. degrees
206	174	26

Tuition and Fee Schedule Fall 2005		New York City & State Residents	Out-of-State Residents*
Undergraduate	Full-time	\$2,000 per semester	\$360 per credit
	Part-time	\$170 per credit	\$360 per credit
Master's in Engineering	Full-time	\$3,750 per semester	\$555 per credit
	Part-time	\$315 per credit	\$555 per credit
Doctorate	Level I full-time	\$2,435 per semester	\$475 per credit
	Level I per credit	\$275 per credit	\$475 per credit
	Level II	\$1,525 per semester	\$3,390 per semester
	Level III	\$605 per semester	\$1,210 per semester

*Includes international students who have lived in New York State for less than one year

Teamwork Is the Key: Grove Students Make their Mark in Robotics, Reduced Gravity and Water Treatment

To perfect a mobile robot with climbing capability, Dr. Jizhong Xiao, who started the Grove School's robotics program, put together a team of students from Electrical and Mechanical Engineering. Together they designed and built the City-Climber rover, which can move on virtually any kind of smooth or rough surface. Its applications include inspection and maintenance of high-rise buildings, and Dr. Xiao has an E-team grant from the National Collegiate Inventors and Innovators Alliance to commercialize the technology for the building inspection industry. A video on the project "City-Climber: the new generation of wall-climbing robots" was a finalist for the Best Video Award at the 2006 IEEE International Conference on Robotics and Automation.

An interdisciplinary group of City College students, advised by Dr. Ali Sadegh and Alexis Pieridis of Mechanical Engineering, is working on an inflatable, lightweight, low-cost structure that could serve as an emergency shelter for

"City College is an excellent place for a professional transition because all the students, no matter their ages, are equally motivated and hardworking. We spur each other on."

City College offers mature students the chance to start over, and Mitza Zobenica is a perfect example. A professional ballerina who danced for 12 years, Mitza found her interests expanding, and her love of math and engineering took over. Following science and engineering classes at Cleveland State University, she enrolled at City in 2002. A recipient of the Moles Scholarship, presented by an association of engineers engaged in heavy construction, Mitza has had internships in façade restoration and roofing at the Rand Corporation and in foundation engineering at Underpinning and Foundation, Skanska. "I feel that my career has already started," she says. "After I graduate, I intend to continue addressing the infrastructure needs of New York."



astronauts in space. They call themselves Xtreme Concepts, and they are one of 50 teams chosen by NASA to participate in its Reduced Gravity Student Flight Opportunities Program. Their brief is to design, fabricate, and evaluate a reduced gravity experiment which is flown in a NASA aircraft that experiences 25 seconds of zero gravity at 32,000 feet. In addition they will be part of an outreach program to inform the public about their work.

The newly-organized chapter of Engineers Without Borders USA at the Grove School brings together 40 dedicated students and professional mentors determined to use their engineering expertise to serve communities in need. Their first project, suggested by Cliff Gold '51 CE, will create a water purification and distribution system for the village of Nueva Suiza, Honduras, population 250. While Civil Engineering students are a majority of the chapter, members include Chemical, Computer, Biomedical and Electrical Engineering students. Their advisor is Dr. Beth Wittig of Civil Engineering.



Mitza Zobenica
Civil Engineering

undergraduates

“At City, I got an education, and I became an entrepreneur.”

Thomas Cheriyan was working his way through college as a computer consultant, when it occurred to him that he could start his own company and employ his fellow students to provide computer hardware and software services. PC Mercenaries was born and was soon followed by another company, Graphic Mercenaries. “City College has given me the scope to be self-motivated,” he says. “You can’t get a job without real world experience, and that is what these companies provide. I am also building a great network of friends who will be colleagues after college.” Thomas sees an MBA and larger companies in his future. He has also invented an electronic chessboard for the blind which uses refreshable Braille instead of chess pieces and has been provisionally patented under the City College name. “I would love to be a professional inventor,” he says. “I have a million ideas.”



Thomas Cheriyan
Computer Engineering

“Technology and public policy are inseparable.”

Robert Clarke chose mechanical engineering because of its wide-ranging applications. He has participated in building the 2006 amphibious mini-Baja car, collaborated on the design of a micro turbine with domestic applications, and, as part of the NASA City College Xtreme Concepts team, worked on a structure that could serve as an emergency shelter for astronauts in space. He has also studied the humanities in the CUNY Honors College. And, his passion for public policy has won him a coveted fellowship in the Colin Powell Leadership Program. His internships reflect his broad interests. At the National Black Caucus, he compiled legislators’ briefing notes on the energy crisis, at the Cusip Service Bureau, he worked on a data base tool to track corporate funds in the post Enron environment; at KeySpan he designed a control screen for a power plant; and at Merck he worked in quality control for the manufacturing division.



Robert Clarke
Mechanical Engineering

“I want to use my knowledge of computer science to do something for humanity.”

James Hocine Faghmous came to The City College following 14 years in Algeria with two years at an Algerian university behind him. “City College,” he says, “had the expertise to understand my foreign transcript and made the effort to do so.” From his work in the after school enrichment program, One Step Ahead America, and in CCNY’s Muslim Student Organization to his determination to apply his computer science skills to biomedical research, James is engaged in helping others. At City, he developed his knowledge under Professor George Warburg in the Computer Imaging Laboratory. In the NIH-NSF Bioengineering and Bioinformatics Summer Institute at Clemson University, he did research on non-invasive cancer detection. After City, his path will take him to an NIH Graduate Fellowship in the University of Minnesota’s Computational Neuroscience Program, where he will focus on Alzheimer’s, the disease which felled his grandmother.



James Hocine Faghmous
Computer Science

“My goal is to be in senior management. I plan to combine my engineering qualifications with an MBA.”

Dencil Jimenez is a classic City College success story. A graduate of South Bronx High School, she is the first member of her family to go to college. Today, she looks forward to starting her career as an electrical engineer. Dencil fleshed out her academic experience with internships in programming at IBM and manufacturing at Procter and Gamble, taking off a semester to do a coop. After graduation, she will join Turner Construction as a field engineer. While at City, Dencil served as president of the Society of Women Engineers and LAESA-SHPE, where she chaired the High School Student Leadership and Regional Leadership Conferences. She credits Dean Ramona Brown, the Office of Student Programs and Dean Joseph Barba with providing crucial support during her college career.



Dencil Jimenez
Electrical Engineering

“I am interested in the engineering and business aspects of the pharmaceutical industry, and I have always wanted a PhD for my own academic satisfaction.”

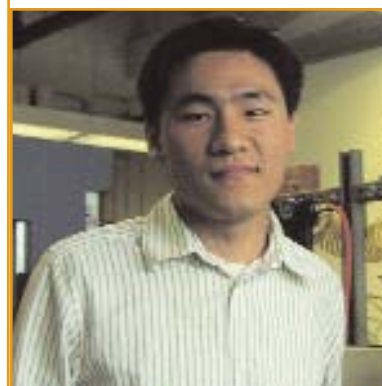
Since arriving at City in 2002, Francisco Saenz has racked up academic honors in biomedical engineering, including the Howard Shames Award for Undergraduate Academic Excellence and membership in the Gold Key International Honour Society. He also developed a remarkable research background. In CCNY’s Physical Chemistry Laboratory, he investigated the formation of microemulsions; at Mount Sinai School of Medicine, he identified ultrasound parameters for assessing the effects of damage accumulation in bone; at Merck, he worked on improving manufacturing processes in the production of the Varicella vaccine. During his senior year at City, Francisco held a Merck Technology and Engineering Fellowship. After graduation he joins Merck’s Manufacturing Development Program, where during his first rotation he will work on the cervical cancer vaccine, Gardasil.



Francisco Saenz
Biomedical Engineering

“City’s small classes help you make friends, and thanks to its great diversity, you get to know other cultures.”

Seven years ago, Tommy Tong moved to the United States from China. Today, he is embarking on a PhD in chemical engineering at Johns Hopkins University. The crucial link was The City College, where, as an undergraduate, Tommy did research in rheology on a project headed by Dr. Morton Denn, director of the Benjamin Levich Institute for Physico-Chemical Hydrodynamics. Tommy, who chose chemical engineering because it melded physics, chemistry and math, is interested in the discipline’s biological applications, and plans to do his doctoral work on how principles of mass transport and diffusion affect drug delivery within the body. In addition to giving him an excellent education, he says that City developed his leadership skills. He served as president of Omega Chi Epsilon and vice president of Tau Beta Pi.



Zi Qiu (Tommy) Tong
Chemical Engineering

graduates

“My master’s studies are developing the practical skills I will need to make me competitive in the job market.”



Clifford A. Bishop
Computer Science

A February 2006 graduate of The City College, Clifford Bishop plans to go into application development in the financial markets. He has chosen to continue his studies in City’s Computer Science department, where the hands-on, project-oriented approach has been preparing him well. Clifford has been focusing on encryption and computer security, studying with Drs. Michael Anshel and Izidor Gertner. He is building on several undergraduate projects including his Senior Capstone course, in which he served as leader of a team which created a Secure Communication application for wireless devices using J2ME. Over the summer, Clifford fleshed out his experience, working as an Application Developer for the MTA New York City Transit. There he wrote Java applications that work alongside of third party software, so that employees can easily perform their tasks.

“My experience at City College has taught me that anything is possible.”



Leona Charles
Electrical Engineering

Leona Charles’s goal is to do research at NASA or NOAA. She has been excelling since she entered The City College as an undergraduate. When close to completing her bachelor’s degree in computer science, Leona’s focus changed to electrical engineering. The catalyst was joining NOAA CREST, where she began the research in atmospheric remote sensing which she continues as a PhD student. Leona is working in the area of air quality, where she has been involved in LIDAR measurements, using data from satellite and ground based instruments to study the properties of aerosols and their transport across the northeastern US. She hopes that her research will lead to practical solutions to health and environmental issues and that she will inspire other minority students to engage in science. She is currently involved in the new NSF Mid-InfraRed Technologies for Health and the Environment (MIRTHE) collaboration.

“Whatever I decide to do in engineering, I know that I can find a mentor at City College.”



Nathan Hosannah
Mechanical Engineering

Nathan Hosannah has always been steeped in engineering. Because of his uncle’s passion for aviation and avionics, he went to Aviation High School in Queens and is a licensed airframe and powerplant technician. When he enrolled at City, mechanical engineering was a natural choice because of his experience with airplanes. He earned his bachelor’s and his master’s cum laude, and his engineering interests diversified through research. As an undergraduate, he worked at Princeton University on ways of strengthening refractory ceramic bricks used in steel furnaces with Dr. Wole Soboyejo and at City on the biomechanical problem, Heat Transfer from the Pinnae (ears) of an Elephant, with Dr. Latif Jiji. Currently he is doing research with Drs. Charles Watkins and Yannis Andreopoulos on shockwave interaction with turbulent flow. Nathan plans to work in industry, consult, and, eventually, teach.

“The study program at the Grove School has always challenged me. It has also provided me with the facilities and resources to meet those challenges. I feel prepared to jump into the real world. I am grateful for the confidence I have developed at The City College.”

Ying Pan came to The City College armed with a master's in civil engineering from Hunan University in China. Her doctoral dissertation “Seismic Fragility and Risk Management of Highway Bridges in New York State” grew out of a project supported by the NSF and the US DOT. She also worked on developing a smart bridge bearing system for the NYSDOT and an evaluation and asset management system for force mains at NYCDEP pump stations. While at City she was honored with a City University Research Grant. Ying now looks forward to starting her career with a consulting company and working on structural analysis, design and renovation.



Ying Pan
Civil Engineering

“Engineers are the world’s problem solvers. We have to be open to all possibilities.”

After he graduated from Wesleyan University, Makonnen Payne’s path took him to Playtex Products where he gained experience in surfactant technology. At the same time he took classes at City, and the company encouraged him to pursue his PhD. In 2004, Makonnen received his MPhil in Chemical Engineering. He is a Sloan Foundation/NACME Fellow and an NSF IGERT Fellow in nanotechnology, multiscale phenomena and soft materials. While at City, he has taken courses at Columbia University and worked with Dr. Morton Denn of the Levich Institute. His continuing research in the area of surfactants has broad applications in the agricultural, automotive and aerospace industries. “My advisor, Dr. Alexander Couzis, gives me the leeway to figure things out myself,” he says. “That makes you a better engineer and a better scientist.”



Makonnen Mateos Payne
Chemical Engineering

“People come to City’s BME department to help make the world a better place.”

Thomas Radman arrived at City with a BE in computer engineering and five years of professional experience as a mechanical, field service and electronics engineer. “I gave up my job to study biomedical engineering, and I came in with my own research goals.” he says. “Biomedical engineering attracts all kinds of engineers who can apply the skills they already have to the fields of biology and medicine.” Thomas’s first year at City has been extremely productive. He is doing research with Drs. Lucas Parra and Marom Bikson on the physiological effects of electric fields with emphasis on the timing of neural signals. He presented a poster on their work entitled *Amplification of Small Electric Fields in Neurons; Implications for Environmental Risks* at the Vienna University of Technology Junior Scientist Conference, and won an honorable mention. Thomas enjoys teaching and serves as an NIH Teaching Fellow for Electronics Circuits and an NIH Student Mentor.



Thomas Radman
Biomedical Engineering



CCNY in Vienna: Distinction for Graduate Students and a Prestigious Award for the College President

This April, CCNY President Gregory Williams led a delegation of 26 CCNY students, 16 from engineering and 10 from the sciences, to The Junior Scientist Conference, held at the Vienna University of Technology in Austria. They were accompanied by five CCNY deans including Joseph Barba of the Grove School.

The aim of the conference was to offer young scientists a first opportunity to present their research results. Speaking of the experience, Thomas Radman, a Ph.D. student in Biomedical Engineering, said, "I was able to have detailed discussions with other students who are doing research in my field. I connected with a community of people who really understand what I am doing. We are part of the same scientific microcosm."

CCNY students relished the exposure to peers from other countries, and they shone. Mr. Radman's poster *Amplification of Small Electric Fields in Neurons;*

Implications for Environmental Risks won an honorable mention for best poster. According to Dean Barba, "What the Vienna conference showed is that our students can compete with the best student researchers anywhere. They are outgoing, mature and did CCNY credit. They interacted easily with people from all over the world."

During the trip to Vienna, President Williams was presented with the Austrian Cross of Honor for Science and Art, 1st Class, one of Austria's highest civilian honors. The award recognizes his strong commitment to educational cooperation between Austria and New York City. The Junior Scientist Conference was one of the initiatives developed on his watch. In accepting the award, President Williams said that as an educator he believed it was his sacred responsibility to develop the "habits of mind of both the scientist and the artist in the young men and women who will become the leaders of our world."

Biomedical Engineering

Cardoso-Landa, Luis

New Investigator Recognition Award, Orthopaedic Research Society 2006. Chicago IL.

Fu, Bingmei

Session Chair, 12th International Congress of Biorheology and 5th International Conference, May 28-June 3, Chongqing, China

Tarbell, John M.

Keynote lecture: The Glycocalyx and Mechanotransduction at the Workshop on Mechanotransduction and Translational Medicine, Lake Como, Italy, September, 2005.

Plenary lecture: Haemodynamic Forces and Vascular Transport at the Cardiovascular Haemodynamics and Modeling meeting of the Physiological Flow Network in Edinburgh, Scotland, September, 2005

Chemical Engineering

Morris, Jeffrey F.

Visiting Professor (Professor Invité), Université de Paris Sud, CNRS Laboratoire FAST, 2005-2006.

Shinnar, Reuel

Shinnar, R., Citro, F., "Decarbonization of the U.S. Energy Mix. The Potential Impact of Solar Thermal Energy," Invited Presentation, AAAS Symposium on the Decarbonization of The U.S. Energy Mix, St. Louis, MO, 16-20 February (2006).

Civil Engineering

Gedira, Hosni

Chairman, technical session on Image Classification Methods, 9th International Symposium on Physical Measurements and Signatures in Remote Sensing sponsored by NASA, October 17-19, 2005, Beijing, China.

Computer Science

Gertner, Izidor

Working Group, IEEE P1672 TM Standard (AES) Ultrawideband Radar Definitions, 2005-Present. Photograph featured on IEEE (AES) Systems Magazine Title Page, August 2005

Electrical Engineering

Ali, Mohamed

Keynote Speaker: Communication, Internet & Information Technology, CIIT 2005, Cambridge, MA, October 31 – November 2, 2005.

Habib, Ibrahim

Distinguished Lecturer of the IEEE Communications Society (2005 - Present).

Lee, Myung

Best Paper Award, IEEE Consumer Communication and Networking Conference (CCNC 2005) (with Zhu and Saadawi).

Uyar, Umit M.

Co-editor for Proceedings of 18th IFIP International Conference on Testing Communicating Systems, Lecture Notes in Computer Science Series, Springer, ISBN 3-540-34184-6, 2006.

Xiao, Jizhong

Finalist for the Best Video award at 2006 IEEE International Conference on Robotics and Automation, (ICRA 2006)

Mechanical Engineering

Andreopoulos, Yiannis

Distinguished Lecturer Series, Nanjing University of Science & Technology, R. China, October 2005.

Cowin, Stephen C.

General Lecturer, 20th Canadian Congress of Applied Mechanics - CANCAM 2005, Montreal, May 31 – June 2, 2005.

Invited Lecturer, ICCB2005 – International Conference on Computational Bioengineering, Lisbon, Portugal, 14-16 September 2005.

Li, Jackie

Organizer, Symposium on Characterization and Constitutive Modeling of Nanostructured Materials Constitutive Relations of Advanced Materials, International Mechanical Engineering Congress and R&D Expo, November 5-11, 2005, Orlando, FL.

Invited speaker at the T.H. Lin 95th Birthday Symposium on Computational Mechanics and Materials, 7th World Congress on Computational Mechanics, July 16-22, 2006, Los Angeles, CA.

Rishi, Raj

US Congressional Award for Professional Services to US NAVY for discovering GIBBS Time and GIBBS Number for estimating implosion and explosions under water.

Sadegh, Ali

Outstanding Teacher Award, the GSOE, 2005-2006.

The Grove School's exceptional faculty is its heart and soul. At the senior level, faculty are internationally respected leaders in their fields who hold their profession's highest honors. Thanks to them, the School continues to attract the best young faculty. Junior members hold doctorates from prestigious institutions the world over and mirror the qualities of the instructors who have come before them: innovation and excellence in the laboratory and the classroom and a deep commitment to mentoring their students.

In 2005-2006 the Grove School's 100 full-time faculty members:

Served in an editorial capacity on 19 archival journals

Delivered lectures and presentations at 13 conferences and 8 universities

Chaired and organized 5 conferences and 3 symposia

Chaired and organized 11 conference sessions

And produced:

4 book chapters

221 journal articles

101 conference papers

new faculty



Noemie Elhadad

Associate Professor of Computer Science
Ph.D. Columbia University

When Noemie Elhadad finished her PhD, she wanted to join a university with a strong linguistic community. She is also a firm believer in publicly-funded education. CUNY and the Grove School fit the bill. Dr. Elhadad's field is natural language processing, with an emphasis on statistical text generation, text summarization and user modeling. "The Grove School is investing in this area and hiring new people," she says. "And, the cross discipline cooperation between linguistics, computer science and cognitive science is very effective." Not long ago Dr. Elhadad's research would have seemed totally futuristic. She is working on computer systems which act like human beings and can perform tasks such as translating technical medical information into language accessible to the layman. Her graduate course in natural language processing is very well attended, and the students, she says, are engaged and diligent.

While doing his post-doc at the Department of Orthopaedics at Mount Sinai School of Medicine, Luis Cardoso-Landa worked with Dr. Mitchell Schaffler, a collaborator in the New York Center for Biomedical Engineering, and became acquainted with the exciting work being done in City College's new department. "My background is in biomechanics," says Dr. Cardoso-Landa, "and my research is closely related to that of Stephen Cowin. The possibility of working with him, Sheldon Weinbaum and Susannah Fritton drew me to City." Additionally, he was impressed by the department's diversity and its commitment to minority education. Dr. Cardoso-Landa's work centers on bone quality, integrating musculoskeletal biomechanics, signal/images processing, bioinstrumentation and mechanotransduction in bone. His current projects include new ultrasound approaches to the assessment of bone density for the diagnosis of osteoporosis and examining the role mechanical stimulus plays in maintaining bone quality at the cellular level.



Luis Cardoso-Landa
Assistant Professor of Biomedical Engineering
Ph.D. Paris University, France

Engineering molecules that mimic nature is the theme of Raymond Tu's research. "Nature has evolved the ability to self-assemble molecules into functional architectures capable of specifically binding a diverse set of ligands," he explains. "Our research aspires to mimic aspects of this process by designing a set of peptide-based building blocks. These multifaceted molecules conjugate elements that direct assembly to components responsible for specific binding." The methodology he is working on is proving to be an effective tool for engineering drug delivery vehicles, biosensing, and molecular medicines. Dr. Tu came to City following a post-doc at the Georgia Institute of Technology. He lauds the Grove School of Engineering for the collegiality of its faculty and the dedication of its students. "They are here because they really want to be," he says, "and they make sure they get what they want out of their classes."



Raymond Tu
Assistant Professor of Chemical Engineering
Ph.D. University of California at Santa Barbara

For her first doctorate Iona Voiculescu specialized in Precision Mechanics, but when she came to the United States for her second, her focus changed to the emerging field of Microelectromechanical Systems (MEMS). Dr. Voiculescu has many publications and a patent to her credit and is a reviewer for the IEEE Sensors Journal. She chose to teach at the Grove School because it gave her the opportunity to develop a MEMS laboratory and further her work in the fabrication, design and development of technology for integrated circuitry. "At the Grove School," she says, "I feel that I am building something. Being the only MEMS person in Mechanical Engineering, I am bringing a new dimension to the department. Mechanical Engineering is becoming increasingly interdisciplinary, and I am working with a strong group of PhD students, including one from Electrical Engineering. This helps me to grow."



Iona Voiculescu
Assistant Professor of Mechanical Engineering
Ph.D. Technical University "Politehnica", Timisoara, Romania; ScD The George Washington University

In 2005-2006 awards for sponsored research at City College's Grove School of Engineering totalled \$16,189,920.

In addition to the grants listed in the following pages, it should be noted that Distinguished Professor of Science and Engineering Dr. Robert Alfano administers over \$15 million in grants (\$4.5 million in 2005-2006), and faculty and students of the Grove School of Engineering are among the collaborators in his sponsored research. Also, Kayser Professor of Civil Engineering, Dr. Neville Parker, administers approximately \$12 million dollars of research money awarded on a university-wide basis. Faculty and students of City College are among the beneficiaries of these grants as well.

Centers and Institutes

The School of Engineering hosts a number of organized Centers and Institutes. Each of these serves as a focal point for concerted research efforts and competes for external research funding.

Benjamin Levich Institute for Physicochemical Hydrodynamics

New York Center for Biomedical Engineering

Center for Networking and Telecommunications

CUNY Institute for Urban Systems

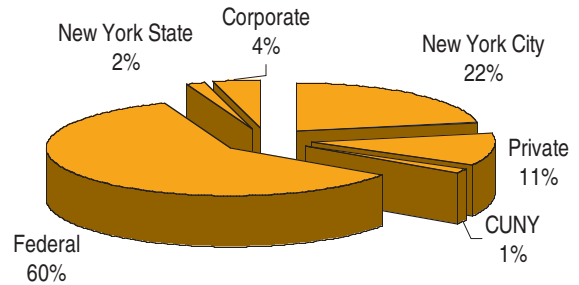
Institute for Transportation Systems

Center for Water Resources and Environmental Research

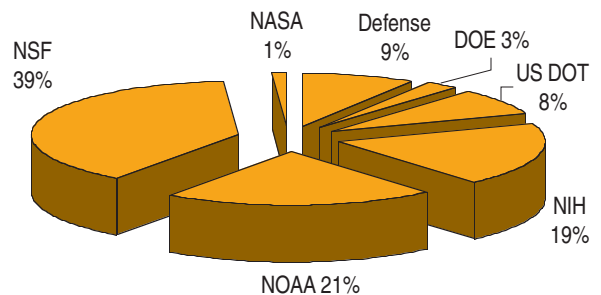
Municipal Waste Center

Center for Advanced Engineering Design and Development

Funded Research Distribution by Sources
Total: \$16,716,197



Federal Research Funding Distribution by Agencies
Total: \$9,961,877



- Acrivos, A.**, Support of IUTAM Symposium “Recent Advances in Multiphase Flows: Numerical and Experimental,” NSF, 10/1/2006-9/30/2007, Portion funded in 2005: \$20,000.
- Agrawal, A.** and Kawaguchi, A., “Bridge Element Deterioration Rates,” Cornell Univ., 6/10/2003-12/31/2006, Portion funded in 2005: \$45,065.
- Agrawal, A.**, “Multi-hazard Research and Education on Engineering and Effects of Earthquakes and Blast Loads,” RF SUNY, 10/1/2005-9/30/2005, \$17,500.
- Agrawal, A.** and Subramaniam, K., “Corrosion Resistance of Stainless Clad High Performance Steel through Long Term Corrosion Monitoring,” NYC DOT, 6/22/2005-6/14/2010, \$360,000.
- Arend, M.**, “Quantum Information Processing,” Corning Inc, 12/20/2005-12/20/2006, \$58,330
- Arend, M.** and Dorsinville, R., “Quantum Information Processing,” NYS Office of Science, Technology, and Academic Research, 7/01/2005-6/30/2007, 9,000.
- Arend, M.** and Dorsinville, R., “Quantum Information Processing,” NYS Office of Science, Technology, and Academic Research, 7/01/2005-6/30/2007, 2,666.
- Barba, J.**, “Einstein in the City: A Student Research Conference at CCNY,” NSF, 9/15/2005-2/28/2006, \$20,000.
- Barba, J.** and Delale, F., Bridges to “Engineering Success for Transfer,” NSF, 10/1/2005-9/30/2009, \$1,200,000.
- Benenson, G.**, “Teenage Designers of Learning Places for Children,” St Louis Science Center, 7/1/2005-8/31/2009, \$248,929.
- Bloom, G.**, “Two Graph Labeling Problems,” PSC CUNY, 7/1/2006-6/30/2007, \$3,176.
- Brown, R.**, “Internship Program for Underserved Undergraduate and Masters Students in Engineering and Computer Science,” NASA, 8/1/2005-7/31/2006, \$56,000.
- Chen, C.** and Paaswel R., “UTRC - Public Transit in New York City - Keeping up with the Trend,” US DOT, 7/1/2005-6/30/2006, \$23,739.
- Chen, C.**, “Role of the Built Environment in People’s Mode Choice Decision,” PSC CUNY, 7/1/2006-6/30/2007, \$3,563.
- Couzis, A.** and Maldarelli, C., “Sensors: Biosensor Arrays from Intact Receptor Proteoliposomes Immobilized onto Surfaces,” NSF, 7/15/2004-6/30/2007, \$124,634.
- Cowin, S.** and Whitaker F., “A Book on Tissue Mechanics,” 1/1/2003-12/31/2006, \$35,000.
- Crouse, D.** and Chen, X. “Semiconductor Heterostructure Quantum Wire Multiwavelength IR Photodetectors for Focal Plane,” Phoebus Optoelectronics Arrays, 5/23/2005-5/22/2006, \$32,806.
- Crouse, D.**, “Surface Plamon Enhanced Silicon-on Insulator MSM Photodetectors,” Cornell Univ, 4/1/2005-4/30/2006, \$62,245.
- Crouse, D.** and Scheinberg, N., “The Use of Light Channeling and Localization in Micro/nanofabricated Structures for the Development of High Performance Pho,” Phoebus Optoelectronics, 3/9/2006-6/30/2006, \$30,000.
- Delale, F.** and Benenson, G., Hammonds, J., “Redefining Mechanical Engineering: Systemic Reform of the Mechanical Engineering Program a City College,” NSF, 9/15/2003-8/31/2006, \$5,000.
- Denn, M.**, “Interfacial Effects and Mechanics of Liquid Crystalline Dispersions,” NSF, 9/1/2005-8/31/2006, \$120,116.

- Denn, M.** and Morris, J., "Computational Design Tool for the Synthesis and Optimization of Gel Formulations," CFD Research Corp, 9/1/2005-1/20/2006, \$30,000.
- Denn M.**, "IGERT: Multiscale Phenomena in Soft Materials (Supplement)," NSF, 12/1/2002-11/30/2006, \$110,160.
- Denn, M.**, "IGERT: Multiscale Phenomena in Soft Materials (Supplement)," NSF, 12/1/2002-11/30/2006, \$542,000.
- Diyamandoglu, V.**, "Materials Exchange, Reuse and Sustainability in New York City," NYS Dept of Sanitation, 7/1/2004-6/30/2005, \$138,392.
- Diyamandoglu, V.**, "Materials Exchange, Reuse and Sustainability in New York City," NYC Dept of Sanitation, 7/1/2005-6/30/2006, \$430,400.
- Dorsinville, R.**, "Characterization of Carbon Composites," 8/1/2004-6/30/2007, \$20,000.
- Dorsinville, R.**, "Characterization of Carbon Composites," Corning Inc, 8/1/2004-6/30/2007, \$25,000.
- Dorsinville, R.**, "Nonlinear Optical Characterization of Materials for Broadband Large Dynamic Range Optical Limiters," PSC CUNY, 7/1/2006-6/30/2007, \$1,425.
- Dorsinville, R.** and Walsler, A., "Two Photon Absorption Spectroscopy and Imaging of Glasses and Crystals," Lawrence Livermore Nat'l Labs 7/14/2005-9/30/2005, \$20,051.
- Dorsinville, R.**, "Characterization of Stress Separation Relation for Fracture Process using Photoelastic Technique," Corning Inc, 8/1/2004-7/31/2006, \$20,000.
- Fillos, J.**, "Nitrogen Technical Advisory Committee," NYC DEP, 2/1/2006-1/31/2011, \$749,916.
- Fillos, J.**, "DEP Process Performance," NYC DEP, 6/1/2006-5/31/2009, \$1,950,000.
- Fritton, S.**, "Role of Fluid Flow in Bone's Response to Applied Loading," NIH, 5/1/2006-2/28/2007. \$216,516.
- Gilchrist, L.**, "Biomembrane-Nanoparticle Hybrid Systems via Membrane Protein Anchoring," PSC CUNY, 7/1/2006-6/30/2007, \$3,563.
- Ghosn, M.** and Agrawal, A., "Planning for information technology budget," NSF, 9/01/2005-8/31/2007, \$100,000.
- Grossberg, M.**, "Compression of Airs Data Using Empirical Mode Decomposition," NOAA, 6/15/2005-12/31/2006, \$110,000.
- Habib, I.**, "Fast File Transfer Across Optical Circuit Switched Networks," Polytechnic Univ., 9/1/2003-8/31/2006, \$38,437.
- Habib, I.**, "EIN: Collaborative Research: End to End Provisioned Network Tested for eScience Application," NSF, 1/1/2004-12/31/2006, \$90,000.
- Jiji, L.**, "Viscous Dissipation Effects on Heat Transfer in Microchannels," PSC CUNY, 7/1/2006-6/30/2007, \$1,781.
- Kawaguchi, A.**, "A Computerized Navigation Support for Maneuvering Clustered Ship Groups in Close Proximity," PSC CUNY, 7/1/2006-6/30/2007, \$3,176.
- Khanbilvardi, R.**, "Forward Model Refinement and Measurement," NOAA, 9/2/2005-6/15/2006, \$20,000.
- Khanbilvardi, R.** and Ahmed, S., "NOAA Cooperative Center for Remote Sensing Science and Technology," NOAA, 10/1/2004-9/30/2006, \$1,897,500.

- Khanbilvardi, R.**, "ECSC Chesapeake Measurements Campaign," Florida A&M, 5/1/2005-9/30/2006, \$125,000.
- Khanbilvardi, R.**, "CUNY Direct Broadcast Satellite Receiving Station and REST Earth and Environmental Regional Observations (CEERO) Center," NOAA, 9/1/2005-8/31/2006, \$95,000.
- Koplik, J.**, "Molecular Dynamics of Fluid-Solid Systems," NASA, 12/4/2003-11/30/2007, \$53,000.
- Kretzschmar, I.**, "Seed Funding from Columbia's NSEC," Columbia University, 9/1/2005-8/31/2006, \$15,300.
- Kretzschmar, I.**, "Electrochemical Decoration of Nanoparticles," PSC CUNY, 7/1/2006-6/30/2007, \$3,207.
- Lee, J.**, "Design for Enhancing Reaction Selectivity via Reactive Distillation," Am Chem Soc, 9/1/2004-8/31/2005, \$40,000.
- Lee, J.**, "Novel Techniques for Natural Gas/H₂ Storage and CO₂ Separation Using Hydrate Formation," Sung IL Co., 4/1/2005-3/31/2008, \$148,457.
- Lee M.**, "SAIT - CUNY Joint Laboratory," Samsung Electronics, 12/16/2004-12/15/2006, \$105,582.
- Lee, M.**, "SAIT - CUNY Joint Laboratory," Samsung Electronics, 12/16/2005-12/15/2006, \$82,905.
- Levin, E.**, Gertner, I., and Wie, J., "Using LSA to Compute Word Sense Frequencies," AFRL, 8/23/2005-10/22/2006, \$76,387.
- Li, J.**, "Effective Properties of Carbon Nanotube-Reinforced Composites," CUNY Collaborative Grant, 9/5/2005-9/8/2007, \$68,000.
- Liaw, B.**, "Damage Study in Hybrid Composites due to Foreign-Object Impact," PSC CUNY, 7/1/2006-6/30/2007, \$1,781.
- Lin, F.**, "Modeling of Nonlinear Fracture Behavior of Cementitious Materials," PSC CUNY, 7/1/2006-6/30/2007, \$2,316.
- Liaw, B.**, "Damage Study in Hybrid Composites due to Foreign-Object Impact," PSC CUNY, 7/1/2006-6/30/2007, \$1,781
- Lin, F.**, "Modeling of Nonlinear Fracture Behavior of Cementitious Materials," PSC CUNY, 7/1/2006-6/30/2007, \$2,316
- Makse, H.**, "Stress-dependent Acoustic Propagation and Dissipation in Granular Materials," DOE, 9/1/2005-8/31/2009, \$85,000
- Makse, H.**, "CAREER: Statistical Mechanics of Particulate Systems Far from Equilibrium," NSF, 5/15/2003-4/30/2007, \$80,000
- Makse, H.**, "Nonequilibrium Thermodynamics of Densely Packed Granular Matter and Compressed Emulsions," DOE, 3/1/2006-2/28/2007, \$80,000
- Morris, J.**, "Particle Motions in Closed Streamline Flows of Suspensions: Influence on Mixing and De-Mixing Processes," No. Amer. Mixing Forum, 4/1/2005-3/31/2006, \$10,000
- Moshary, F.**, Wittg, B., Gross, B., Ahmed, S., Tamargo, M., "Mid-Infrared Technologies for Health and the Environment (MIRTH)," Princeton University, 5/1/2006-4/30/2007, \$300,000
- Nguyen, T.**, "Collaborative Research: Foundations on Coarsely Quantized Overcomplete Signal Expansions," NSF, 8/1/2005-7/31/2008, \$157,671
- Paaswell, R.**, "Speed Project Closeout/Streamline Local Financing," NYS Dept of Transportation, 2/15/2005-12/31/2005, \$64,341
- Paaswell, R.**, "University Transportation Research Center - Administration," US DOT, 10/1/2005-9/30/2007, \$780,000

- Paaswell, R.**, "Sept 11th Memorial Program for Regional Transportation Planning," NYS DOT, 10/1/2005-9/30/2007, \$37,500.
- Paaswell, R.**, "Frequency of Work Zone Accidents," NYS Dept of Transportation, 3/1/2003-2/29/2004, \$13,651.
- Paaswell, R.**, and Chen, Cynthia "Evaluation and Testing of Regional Models," NYS DOT, 4/24/2006-12/31/2006, \$59,094.
- Paaswell, R.**, "UTRC - Technology Transfer - Yr. 18," NJ DOT, 1/1/2006-12/31/2006, \$50,000.
- Pach, J.**, "Geometric Arrangements: Motion Planning and Graph Drawing," PSC CUNY, 7/1/2006-6/30/2007, \$3,176.
- Pach, J.**, and Sharir, m "Geometric Arrangements & Applications", US-Israel Binational Sci. Fond., \$16,470.
- Parker, N.**, "Performance Evaluation of Construction and Demolition Debris as Substitute for Aggregate in Hot Mix," PSC CUNY, 7/1/2006-6/30/2007, \$1,782.
- Parker, N.**, "The Great Cities' Universities Transportation Initiative," Univ of Alabama, 9/1/2005-8/1/2006, \$32,537.
- Parker, N.**, NJDOT \$135,758.
- Parker, N.**, UAB \$32,537.
- Parra, L.**, "Cortically-coupled Computer Vision: C3-Vision," Columbia University, 9/30/2005-9/29/2006, \$68,551.
- Parra, L.**, "Cortically-coupled Computer Vision: C3-Vision," Columbia University, 9/30/2005-9/29/2006, \$196,905.
- Potasek, M.**, Dorsinville, Roger, "Hybrid Semiconductor- Organic Nanostructures for Optical Limiting," ARO, 8/16/2004-2/15/2007, \$100,000.
- Price, T.**, "Effect of Soil Improvement on Lateral Pile Stiffness and Capacity," PSC CUNY, 7/1/2006-6/30/2007, \$3,563.
- Ravindran, K.**, "Dynamic Protocol Plug-In: A Software Engineering Approach for Adaptive Network Applications," PSC CUNY, 7/1/2006-6/30/2007, \$3,176.
- Ravindran, K.**, "QOS-Dimension in Distributed Voting Algorithms for Information Assurance Applications," ITT, 10/1/2002-10/31/2006, \$39,500.
- Saadawi, T.** and Lee, M., "Telcordian Consortium: Collaborative Technology Alliance for Communications and Networking," Telcordia Tech, 6/1/2001-9/30/2006, \$35,000.
- Saadawi, T.**, "Telcordian Consortium: Collaborative Technology Alliance for Communications and Networking," Telcordia Tech, 6/1/2001-9/30/2006, \$75,000.
- Saadawi, T.**, "Telcordian Consortium: Collaborative Technology Alliance for Communications and Networking," Telcordia Tech, 6/1/2001-9/30/2006, \$90,000.
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Drs. Sheldon Weinbaum and John Tarbell join students during the poster session.

Biomedical Engineering Day at the Grove School

Translational research is one of the hallmarks of the Biomedical Engineering Department at the Grove School.

Thanks to partnerships forged with New York’s leading hospitals through the New York Center for Biomedical Engineering, the department’s research is closely allied to applications which serve patients’ needs. This April, BME Day at the Grove School focused on another way in which theory meets practice. The subject was “Future Directions in BME:

From DNA to FDA”. “BME Day provides a meeting ground for BME students, medical practitioners and industrial leaders to share their excitement about the field,” says Dr. John Tarbell, Chairman of the Department of Biomedical Engineering.

The event brought companies developing high-tech solutions to today’s pressing medical problems to City College to share their work with faculty and students. Industry presenters from Genzyme Corp, Boston Scientific, Gilead Sciences, and Greatbatch Technologies spoke of the technological advances which are improving patients’ lives and the careers awaiting Grove School BME graduates in their companies. In addition, roundtable discussions on “Biomedical Engineering and the Future Workforce: Diversity Challenges” and “Scientific Challenges in Biomedical Engineering” were mediated by Paul Citron, a former vice president of Medtronic Inc. The event also featured student poster presentations and company exhibits.

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