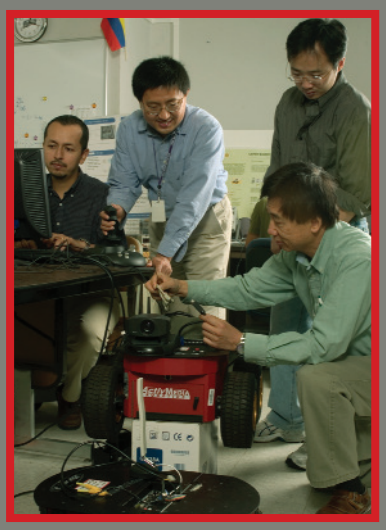
06/07



ANNUAL REPORT

GROVE SCHOOL OF ENGINEERING

the City College of New York

mission

To be an institution of national preeminence 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.

table of contents

letter from the dean

I am happy to report on an excellent year at the Grove School. It has been one in which we have remained faithful to City College's time-honored mission of access and affordability coupled with outstanding instruction and research. Our efforts have been rewarded by the complete accreditation of all our programs by ABET until 2011. The School of Engineering is proud of the engineering education provided to the students in the New York City area.

The revitalization which has been underway at City under the leadership of President Williams, and which has been spurred in our School by Andrew Grove's transformative gift, has brought other alumni back to reinvest. Notable among these is Harvey Kaylie '60 EE. The scholarship program he has created will provide six exceptional entering students with stipends of $10,000 per year for a five year period. This gift is one of the elements which are allowing us to strengthen our admissions standards. We are becoming increasingly selective while maintaining diversity. And, we are working on retention by recruiting counselors with social work backgrounds who can help our students, many of whom must balance study, work and family responsibilities, to remain at the Grove School, perform successfully and graduate with distinction.

We congratulate electrical engineering major Itamar Belisha on being named a 2007 Goldwater Scholar. And, we are proud of the continued participation and achievement of our students in programs such as Engineers Without Borders USA and the National Concrete Canoe, ASCE Regional Steel Bridge, and AUVSI International Aerial Robotics competitions.

Distinguished Professor Sheldon Weinbaum, whom we honor in this issue, exemplifies the excellence we strive for in our faculty. This year, we have recruited five junior faculty members with impressive credentials, and we are pleased to welcome Dr. William Rossow, a leader in earth and environmental science, who has come to the Grove School from NASA-GISS as CUNY Distinguished Professor.

We are building on our individual faculty and departmental strengths to solidify the research focus of the School. Our research program, which is increasingly interdisciplinary, is on an upward trajectory. In particular, I would like to point to biomedical engineering, materials sciences and environment research as areas where we are doing breakthrough work and enhancing our reputation.

You will find more about our accomplishments in the pages of this report. I hope that they will inspire you to join me, our faculty and students as we work towards ever greater excellence at the Grove School of Engineering.

Sincerely,

Joseph Barba, Dean

Sheldon Weinbaum at CCNY

From Political Firebrand to Faculty Icon

Distinguished Professor Emeritus Sheldon Weinbaum recently turned 70, and City College celebrated with a day of tributes from his research collaborators, former students and political soul mates. The portrait of Dr. Weinbaum which emerged is of a man whose political passion impacted the social fabric of the College as much as his brilliant research and exceptional teaching contributed to its academic reputation.

Dr. Weinbaum arrived at the Department of Mechanical Engineering in 1967, armed with a Ph.D. from Harvard. He had left a promising career at General Electric and turned down a teaching offer from Princeton. As CCNY President Gregory Williams said in his tribute, Dr. Weinbaum was almost fired one year later when, true to his beliefs, he led an anti-war demonstration in Steinman Hall. In the 1970s, when City College was at its financial nadir, Dr. Weinbaum was disillusioned by the abandonment of free tuition, but he realized that the school had the opportunity to become a pioneer in diversity, a cause which he embraced wholeheartedly. In 1992, this led him to spearhead a group of CUNY professors and students in a lawsuit against New York State, Weinbaum vs. Cuomo, which contended that the state's financing of public higher education was racially discriminatory, favoring the overwhelmingly white SUNY over CUNY which was two thirds minority.

Through it all, Dr. Weinbaum maintained a research career of exceptional breadth, brilliance and productivity. He is one of only six living Americans to be a member of the National Academy of Sciences, the National Academy of Engineering and the Institute of Medicine. In 2002 he became the first engineer to be awarded a Guggenheim fellowship in molecular and cellular biology.

Dr. Weinbaum's intuitive imagination has allowed him to posit revolutionary hypotheses on how organs and cells function. His breakthroughs, made with numer-

ous collaborators in the biological sciences, include the discovery of the pore through which LDL cholesterol crosses the endothelium, the role of cellular-size microcalcifications in the rupture of the fibrous caps of vulnerable plaque leading to thrombosis, and the Weinbaum-Jiji equation for bioheat transfer. He has generated new views of how osmotic forces function across the endothelium of capillaries, of how bones sense mechanical stress, of the role of brush border microvilli in sensing and regulating the flow in the renal tubules, and of how red cells can ski through our capillaries to greatly prolong their life.

Dr. Weinbaum's passion for biomedical engineering has translated into a new realm of expertise at City College. Working with Dr. Stephen Cowin, junior faculty, and, since 2003, the new Chair of Biomedical Engineering Dr. John Tarbell, he has leveraged three Special Opportunity Awards from the Whitaker Foundation and grants from the Sloan and Wallace Coulter Foundations and the National Institutes of Health to establish Biomedical Engineering in the university. These efforts have resulted in a full-fledged Department of Biomedical Engineering at the Grove School, a new CUNY Ph.D. program in this field, and the New York Center for Biomedical Engineering. This consortium, in which CCNY is the linchpin, brings together eight of New York City's most prestigious hospitals and medical schools in a hub for teaching and translational research. It gives CCNY students access to facilities and instructors which are unequalled and has catapulted the Grove School Department of Biomedical Engineering into a leadership position in the field.

Though Dr. Weinbaum is retiring from the classroom, he will continue to work full-time at the Grove School, doing research and advising graduate students.

Dr. Sheldon Weinbaum surrounded by his graduate students at his birthday celebration.

Five Young Faculty Members Hold the Coveted NSF CAREER Award

The National Science Foundation describes the CAREER Award as its "most prestigious award in support of the early career-development activities of those teacher-scholars who most effectively integrate research and education within the context of the mission of their organization. Such activities should build a firm foundation for a lifetime of integrated contributions to research and education." During the past year, five Grove School junior faculty members had active CAREER Awards, a remarkable number for an institution of the Grove School's size.

For each of these faculty members City College has provided the context in which they can do their best research and teaching. Bingmei Fu left a tenured position at the University of Nevada, lured by the possibilities for collaborative research provided by the New York Center for Biomedical Engineering, which City College spearheads. The Grove School offered Jizhong Xiao the opportunity to create a research program in robotics and intelligent systems. That initiative is an example of the rapid expansion into crucial new fields in science and engineering taking place at City. Ilona Kretschmar saw in City a college dedicated to teaching which was renewing its commitment to research in a very exciting way. "Much of that potential has been realized in the two and a half years I have been here," she says. For Kolluru V. Subramaniam, City College provided an environment in which he could further his commitment to helping economically disadvantaged students, while forging interdisciplinary collaborations with dynamic colleagues. And, Jackie Li found at City an exciting mix of students from young people straight out of high school to mature students, all of whom really want to expose themselves to research. These students provide an avid audience for her new course on smart materials and enhanced offerings in ferroelectricity.

Bingmei Fu
Biomedical Engineering
Understanding Acute Microvessel Hyperpermeability

Jizhong Xiao
Electrical Engineering
Advancing Mobile Robots to 3D

Ilona Kretzschmar
Chemical Engineering
Uniquely Functionalized Nanoparticles for Hierarchical Self-Assembly of Three-Dimensional Structures

Kolluru V. Subramaniam
Civil Engineering
Model-Based Microstructure Evaluation of Hydrating Cementitious Materials: Development of a Test System and Experimental Investigation

Jacqueline Ji Lie
Mechanical Engineering
An Integration of Research and Education on Ferroelectric Composites

From left to right: Bingmei Fu, Jizhong Xiao, Ilona Kretzschmar, Kolluru V. Subramaniam, and Jacqueline Ji Lie

William Brigance Rossow: A Leader in Earth and Environmental Science Comes to the Grove School

This year, the Grove School of Engineering has welcomed one of the nation's most prominent earth and environmental scientists to its faculty. Dr. William Brigance Rossow has been appointed CUNY Distinguished Professor of Electrical Engineering. He comes to the Grove from NASA Goddard Institute for Space Studies, where he was head of the Earth Observations Group, which included the Global Processing Center of the International Satellite Cloud Climatology Project (ISCCP). His presence further enhances the important role which the Grove is playing in Earth and Environmental Science through the NOAA Cooperative Remote Sensing Science and Technology (CREST) Center.

"Coming to the Grove School," says Dr. Rossow, "I have more freedom to take my research in new directions and the opportunity to help build something new in environmental remote sensing. Satellite remote sensing has reached a point where the easier stuff has been done. People need to be trained correctly to do the harder stuff and now I have the possibility of catalyzing a new way of training." Dr. Rossow, who holds a doctorate in Planetary Astronomy from Cornell University, explains, "Though I am not an engineer, I think that many of the crucial problems in climate and environment now require an engineering approach. Working with the multi-disciplinary group associated with NOAA CREST, I intend to foster a rigorous, non-linear, multi-stream approach to remote sensing of the Earth. This is what I plan to pass on to my students. I look forward to working with the wide range of new colleagues at City College."

Dr. Rossow has been a pioneer in his areas of research: cloud physics, atmospheric dynamics, atmospheric radiative transfer and satellite remote sensing of Earth's climate and other planetary atmospheres. He has published over 190 papers and reports and is the 10th most-cited geophysical scientist according to the Citation Index. He has been awarded the NASA Exceptional Scientific Achievement Medal and the American Meteorological Society's Verner E. Suomi Award. He is a Fellow of the American Geophysical Union and the American Meteorological Society.

His early work focused on the clouds and dynamics of the atmospheres of Venus and Jupiter. His later work focuses on clouds, radiation and the climate of Earth. Dr. Rossow has been a member of the science teams for six spacecraft missions, including most recently the CloudSat mission. He has served on many national and international committees, including the Science Integration Team for NASA's Energy and Water-cycle Study, and is currently the chairman of the Global Energy and Water Experiment Radiation Panel as part of the World Climate Research Program. In his work at City College, he is planning to expand his studies to include other components of the climate system and to focus more on climate variation effects on the environmental conditions.

"Coming to the Grove School, I have more freedom to take my research in new directions and the opportunity to help build something new in environmental remote sensing."

"The engineering education which I got at City was very thorough and strong on the basics. It shaped the hands-on way in which I practice engineering to this day."

Grove School Alumni Honor Karl Rubenacker '65 CE

Karl Rubenacker, a Senior Principal at Stantec (formerly Vollmer Associates) has been honored by the Grove School of Engineering Alumni with their 2007 Career Achievement Award.

Known throughout the industry for his management of major high-profile and environmentally sensitive transportation projects in the New York metropolitan area, Mr. Rubenacker is adept at solving the most complicated highway design and operational issues and continuously identifying design solutions and converting them into reality. The highway projects he has spearheaded have been highly acclaimed for their outstanding design and construction and cited for their engineering excellence. Notable among these are the Long Island Expressway/Seaford Oyster Bay Expressway and the Long Island Expressway/Cross Island Parkway interchange improvements and the Nassau Expressway/JFK Expressway/Southern Parkway/Van Wyck Expressway interchange complex. Currently, Mr. Rubenacker is serving as Stantec's project director for the $250 million post 9/11 Route 9A/West Street redevelopment project in Lower Manhattan.

"I went through the New York City public schools and was the first in my family to go to college," he says. "City gave me an opportunity I would not otherwise have had." Mr. Rubenacker's father had been in construction, a path followed by his older brothers, so civil engineering seemed a natural to him. After graduating from CCNY in 1965, he joined Vollmer Associates where he rose from a summer intern and Junior Engineer to Chief Engineer and joined the Vollmer partnership in 1987. In his 40 years with Vollmer Associates, Mr. Rubenacker has been instrumental in helping it grow from a 35 person firm to one with over 650 people in 23 offices. "The engineering education which I got at City was very thorough and strong on the basics," he says. "It shaped the hands-on way in which I practice engineering to this day. It is an engineer's responsibility to have a vision of the project and to look at the big picture. I believe in staying close to the field and thinking three-dimensionally. Today's new technologies are wonderful tools, but you have to make sure that the input they are giving you makes sense within the total context. Then you won't go wrong."

In addition to his BE from City, Mr. Rubenacker holds an MS in Engineering from Polytechnic Institute. He is a licensed professional engineer in 12 states, a life member of the American Society of Civil Engineers and a member of the Institute of Transportation Engineers. As he contemplates the future, he says, "I look forward to continuing to work with young engineers. I want to pass on what I know and see them grow."

Harvey Kaylie ’60 EE
Creates Scholarships at the Grove School

“I feel an obligation to CCNY,” says Harvey Kaylie. “The opportunity it offered me was exceptional, and the level of education was superb.”

In 1968, Mr. Kaylie founded Mini-Circuits, a worldwide leader in the design, manufacturing, and distribution of RF and Microwave signal processing components. His formula for success was simple: manufacture products people want, sell them for a better price, but never at the expense of quality, and provide fast delivery. Along the way, he has made high-tech history. As president of Mini-Circuits, Mr. Kaylie has pioneered many technical breakthroughs of high volume and high quality component manufacturing for use in wireless, telecommunication and communication products. In 2006, the publication *Microwaves and RF* included Mr. Kaylie in its list of Microwave Legends, putting him in the same company as Guglielmo Marconi and David Sarnoff. Mini-Circuits is a star in the industry and has been recognized by Lucent, Alcatel and AT&T, among others, for supplying products which are the best in their class.

Over the past forty years, Mr. Kaylie has nurtured both his staff and his company. “I have been associated with an exceptionally fine group of people,” he says. “In this industry when you define a product or its performance, you can’t see it. It is all in the integrity of the measurements. It is the exceptional quality and honesty of our engineers which has allowed me to build Mini-Circuits into what it is today.”

Now, it is Mr. Kaylie’s mission to help CCNY do for other aspiring engineers what it did for him. “It is very important for gifted students to be able to attend CCNY even if they do not have the means,” he says. “In speaking to Chancellor Matt Goldstein, I learned that CCNY was being reborn, and that it is recapturing the unique qualities it had when I was a student. I decided that it was my duty to be part of that rebirth.” To that end, Mr. Kaylie is funding six five-year scholarships which will provide each of the recipients with ten thousand dollars a year. “In today’s times,” he says, “having resources is essential to the quality of the curriculum and to attracting the best faculty and students. It is also important to have momentum at the right time. I feel that at CCNY the momentum is accelerating. This gift is only the beginning of my commitment

.

Mr. Kaylie holds a master’s from NYU. He has written numerous papers regarding communication components and subsystems and holds patents on various RF circuit and subsystem designs. He is a member of IEEE and a sponsor of many radio amateur and IEEE chapter events

“It is important to have momentum at the right time. I feel that at CCNY the momentum is accelerating.

This gift is only the beginning of my commitment.”

A Stellar Alumnus Helps the Grove School Welcome Its Incoming Class

"The School of Engineering was the key to my success.

It involved me in research early, so that I made contacts in the industry.

It provided a low cost alternative with the rigor of a first class institution.

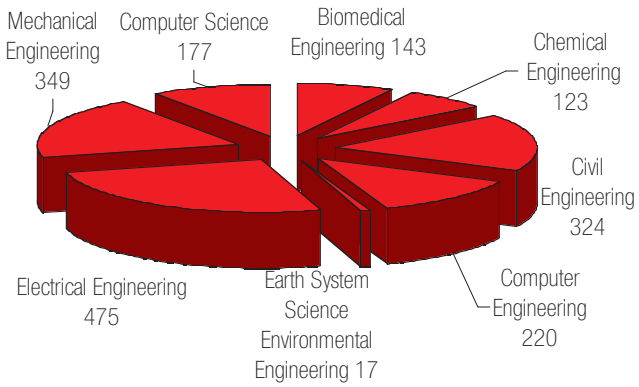
And, it gave me access to alumni who inspired me."

To welcome this year's accepted students and their families, Dimitrios Katehis '93 CE joined Dean Joseph Barba and Grove School department chairs at a dinner organized by the Office for Student Development. The students whom Dr. Katehis addressed have backgrounds which reflect every corner of the globe. "They exemplify the international energy which has always made New York a great city," says Dr. Ruth Sinton of the Office of Student Development. The group included some of the best students in the metropolitan area including the valedictorians of Sewanhaka High School in Nassau County and John Adams High School in Queens. "What they have in common," says Dr. Sinton "is the conviction that they can find the best possible engineering training at the Grove School."

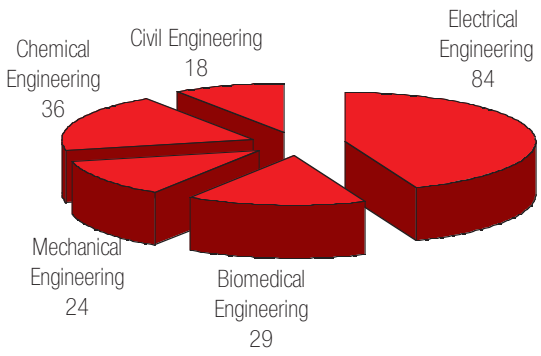
Dr. Katehis is a CCNY product through and through. He earned his BE, ME and PhD at the School of Engineering, and he is a stellar example of what incoming students can hope to accomplish with a Grove School education. Today, Dr. Katehis is a Regional Technology Leader and Principal Technologist at CH2M HILL, a worldwide leader in full-service engineering, construction, and operations. There, he provides global wastewater treatment design and operations support. His specialty is treatment process integration that achieves sustainable solutions with respect to treatment capacity, energy optimization and minimization of air emissions.

In his speech, Dr. Katehis enjoined the students to embrace the challenge of an engineering education and to use the immense resources of the Grove School to ensure their success. In particular, he cited the cultural, racial and economic diversity and the opportunities for networking, as well as the support provided by the Office for Student Development and the rich array of professional and honor societies based on campus.

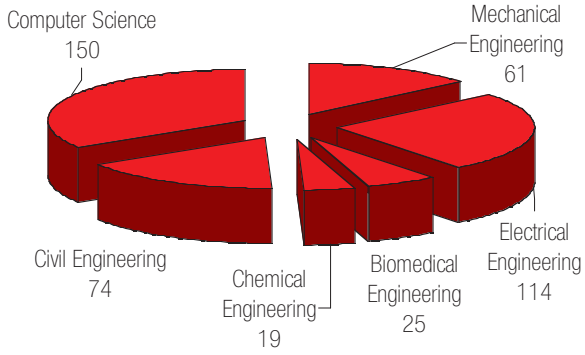
Undergraduate Enrollment Spring 2007
Total: 1828



Ph.D. Enrollment Spring 2007
Total: 191



Master's Enrollment Spring 2007
Total: 443



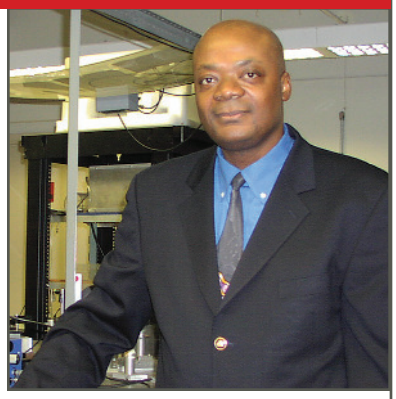
Degrees Granted 2006–2007

Bachelor's degrees	Master's degrees	Ph.D. degrees
219	171	20

Tuition and Fee Schedule Fall 2006		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
Graduate	Full-time	$3,750 per semester	$555 per credit
	Part-time	$315 per credit	$555 per credit

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

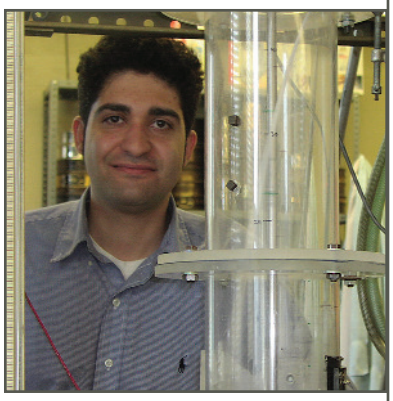
graduates



Michelet Jeanty
Electrical Engineering

"My mentors at the Grove School have believed in me. I want to do the same for my students."

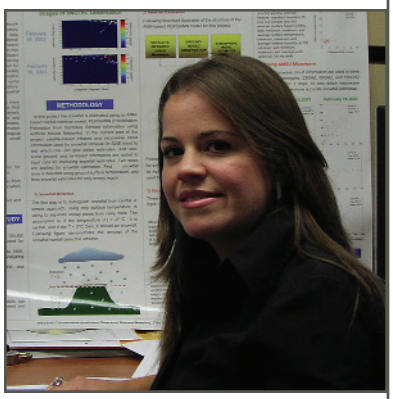
A mature student who came to City College in his thirties, Michelet Jeanty has earned his bachelor's and master's degrees and is close to completing his doctorate, all in electrical engineering. Throughout his graduate studies, Michelet has taught in the New York City public school system, where he is a tenured teacher of mathematics. "My purpose is to show high school students how to succeed," he says. "At City, Dean Kassir and my mentors, Drs. Lenzner and Alfano, believed in me. I want to do the same for my students. Part of that is getting them involved in research early, so that they have the tools for college." Michelet's Ph.D. thesis is on the generation of ultrashort pulses from the chromium-doped Cunyite laser. He plans to continue this work, doing a post-doc with Dr. Alfano, while pursuing his educational mission in the high school classroom.



Mehrdad Kheripour Langroudi
Chemical Engineering

"I came to the Grove School to do my Ph.D. under Professor Gabriel Tardos's supervision. Being in New York City is the bonus."

When Mehrdad Kheiripour Langroudi was doing his master's in chemical engineering at the University of Calgary, he entered into correspondence with Professor Gabriel Tardos at City College. He determined that he wanted to study under Professor Tardos for his doctorate, and that brought him to City. "I would have gone to any university where Dr. Tardos was a faculty member," he says. "Coming to New York City was the bonus. Words cannot express my enthusiasm for this city." Mehrdad, who holds the Department of Chemical Engineering's Acrivos Fellowship, is thrilled with the friendliness and helpfulness of his department, as well as with its prestige and reputation. His research into powder flow and the rheology of powders has broad applications in the pharmaceutical industry. That is where he is headed when he finishes his doctorate.



Yajaira Mejia
Civil Engineering

"My experience at NOAA-CREST and City helped me to mature as a person and as a student and to become a scientist."

When Yajaira Mejia got her civil engineering degree from the University of Medellin in Colombia, she thought that her career would be as an administrator. However, when she undertook her master's at the Grove School, the world of research science opened up for her. She discovered the field of water resources and became part of NOAA-CREST. Now she is finishing her doctorate, doing research on snowfall detection and estimation using satellite information. "My experience at NOAA-CREST and City helped me to mature as a person and as a student and to become a scientist," she says, and she lauds the material and mentoring support which she has found at the Grove School. Yajaira, who is headed for a post-doc, has been a teaching assistant in hydraulics and fluid mechanics and enjoys interacting with students. Her long-range plan is to stay in academia, combining teaching and research.

"If you are interested in your studies and want to get ahead, your professors will help you."

Now on the verge of finishing her Ph.D., Karla Morris began her educational journey at Borough of Manhattan Community College, where she earned her A.S. degree in Engineering Science. In 2002, she graduated from City College Summa cum Laude and valedictorian of her class. She stayed at City for her master's and was convinced by her professors to pursue a Ph.D. "Throughout my studies, my professors have been there to support me," she says. "The Mechanical Engineering department provided me with scholarships and pointed me towards internships, and tutoring provided the extra income I needed." Karla's research is on direct numerical simulation of superfluid turbulence, first under the mentorship of Damian Rousson and then of Joel Koplich. Upon completion of her doctorate, Karla, who has a young family, plans to teach and hopes to stay at City or return to BMCC. In due course, she sees a future in engineering consulting.

Karla Morris
Mechanical Engineering

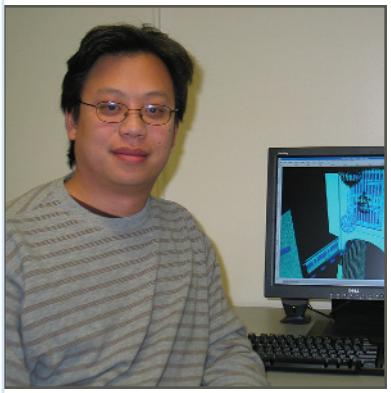
"The Department of Biomedical Engineering has really helped me move my career along."

Since she has been at the Grove School, Yuliya Vengrenyuk has racked up honors. She received the Wallace H.Coulter Outstanding Biomedical Engineering Graduate Student Award and is a lead teaching fellow under the NIH grant, "A National Urban Model for Minority Undergraduate Biomedical Education." Yuliya, who started her career as a mechanical engineer in Ukraine, says that making the transition to biomedical engineering is a dream come true. She is working with Dr. Sheldon Weinbaum on developing a new model for vulnerable plaque rupture due to the presence of microcalcifications in the fibrous cap and is doing theoretical and experimental work on the influence of these calcific inclusions on coronary plaque stability. "Dr. Weinbaum," she says, "is an amazing mentor. He motivates and challenges you. People in the department are extremely generous. I have learned a lot from the young professors as well."

Yuliya Vengrenyuk
Biomedical Engineering

"One of the challenges of the doctorate is figuring out how to make a real scientific contribution."

As an English major at Brown University, Gene Yu worked with hypermedia, and that got him interested in computer science. Upon graduation, he came to City to learn more about the subject, first as a non-matriculated student and then in the master's program. During a five-year break from his studies, Gene started several companies and worked as a research scientist. Finally he decided to deepen his knowledge of the scientific side of computer science and pursue his doctorate. "Students here have worked and been out in the world," he says, "that is one of the things I like about CUNY, and faculty members in image processing and graphics are excellent." Gene's research is in computer vision, specifically algorithm processing in 3D photography. "Implementing other people's algorithms is one thing," he says, "but making a real scientific contribution is different."



Gene Yu
Computer Science

undergraduates

Anisa Dhimarko
Civil Engineering

"If I had it to do over again, City would still be my college of choice."

CUNY Honors College student Anisa Dhimarko comes from a family of chemical engineers who stressed the importance of science and technical subjects early in her education. Originally interested in architecture, she found the technical side of the discipline most appealing and decided on structural engineering. While at the Grove School, Anisa has worked as a junior engineer at Wexler and Associates. "In design consulting, the emphasis is on getting things done and satisfying many constituencies," she says. "In my studies, the emphasis is on thoroughly understanding how and why processes work. The experiences are complementary." Anisa has also served as president of the Engineers Without Borders chapter at the School and took part is designing a water treatment and distribution system for a village in Honduras. "I enjoyed the interdisciplinary nature of the project," she says. "You need lots of skills to get something like this done."

George P. Giamos
Electrical Engineering

"City College fosters a spirit of self-motivation. I have been able to learn so much and to apply it in the real world. The Grove School experience is invaluable."

As a high school student in Queens, George P. Giamos participated in the Science Olympiad, and the experience got him hooked on engineering. "My interest in robotics pushed me to develop skills in both mechanical and electrical engineering," he says. At City, this culminated in leading a team of undergraduate and graduate students from four engineering disciplines which constructed an autonomous vehicle for competition in the 2007 Intelligent Ground Vehicle Competition. George credits the Grove School's Office of Student Development with helping him land two internships with Fortune 20 companies. His impressive resume has led to a job as a design engineer with Syska Hennessy which he is taking up after his 2007 graduation. George's four-year goal is to become licensed as a professional engineer and to earn an MBA.

Leah Kelley
Mechanical Engineering

"The course load at the Grove School is demanding, and the professors are very supportive while maintaining high standards for our achievement."

Leah Kelley is a returning student who has made the transition from a career in dance to the study of mechanical engineering. A summa cum laude graduate of the Boston Conservatory, her passion is now robotics, and she is distinguishing herself as much in engineering as she did in dance. Leah is a founding member of the CCNY Robotics Club, which is taking part in the AUVSI International Aerial Robotics Competition (IARC). The club will design a model-sized helicopter that will learn to fly itself. "This is a very complex undertaking," she says, "and the research could keep us busy into graduate school." The project brings together the expertise Leah has acquired at the Grove School in mechanical and electrical engineering and computer science. "I am finding an immediate application for what I have been learning in courses such as Mechatronics and System Dynamics and Control," she says.

"City is full of people who want to learn and grow, and they make great friends."

"When I find a course with real world applications," says Joel Kemp, "I live that course." Joel came to the Grove School looking for a discipline that would challenge him, and he found it in computer science. He has applied his expertise as he has acquired it, working as a PC technician and then as a software developer during the summers in Belize. "The Grove School has given me the technical know-how which I need for the workplace," he says. As president of the Association of Computing Machinery chapter on campus, Joel has found an outlet for his gregarious nature and has developed his leadership skills while strengthening the organization through speakers, lectures from students, and workshops. "City," he says, "is full of people who want to learn and grow, and they make great friends. If you are surrounded by people who are determined, you become determined yourself."

Joel Kemp
Computer Science

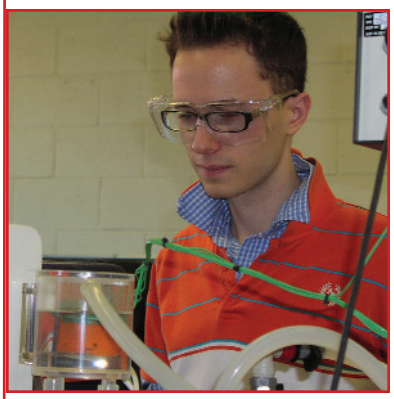
"I will be the first member of my family to graduate from college. The City College Fellowship Program has shown me that I can also aspire to the doctorate."

In high school, Adriana Larriera liked biology, but knew that she did not want to be a doctor. An open house at the Grove School offered an alternative: majoring in biomedical engineering. Adriana is doing research in biomechanics with her mentor, Dr. Susannah Fritton. She has been part of a team obtaining osteocyte images through confocal microscopy and has performed calibrated measurements using Amira reconstruction software. "I love the research," she says. She calls a course which she took with Distinguished Professor Sheldon Weinbaum "inspirational" and voices appreciation for her interaction with the Department of Biomedical Engineering's doctoral students and the opportunity to play a leadership role in the Biomedical Engineering Society. A member of the CUNY Honors Program and a City College Fellow, Adriana has her sights on a doctorate and research into the biomechanics of spinal injuries.

Adriana Larriera
Biomedical Engineering

"The professors at the Grove School are world-class. When I was applying to graduate schools, the most prestigious institutions knew their work."

Kevin J. Wallenstein was introduced to City through a summer program which he attended at the college while in high school. A chemical engineering major, he has been a scholar in the CUNY Honors College. "The material support in the Honors College has been tremendous," he says, "and so has the opportunity to meet students in other disciplines and pursue all my interests." He went to the last Democratic National Convention with students in political science and lauds the cultural opportunities which the Honors College provides. Kevin's main research interest is particle self-assembly, and he is bound for doctoral studies at Princeton University. "At the Grove School I have had phenomenal research opportunities," he says. These included summer experiences at the Nano-Particles Lab at the New Jersey Institute of Technology and Brookhaven National Laboratory.



Kevin J. Wallenstein
Chemical Engineering

Richard Agudelo
Computer Engineering

"My experience at the Grove School gave me the confidence to start my own company."

Originally, Richard Agudelo planned to be a mechanical engineer. Following studies at Pontificia Bolivariana University, he interned with a cement manufacturing and a liquor distilling company in his native Colombia. When his interests veered towards computer engineering, he came to the Grove School. While at the School, Richard has been balancing his studies with his responsibilities as a TSA officer with the U.S. Department of Homeland Security and his work for Lestoree.com, the web design company which he started. "The skills I acquired at the Grove School and my experience in the Honor Society of Computer and Electrical Engineers gave me the confidence to start the company," he says. Richard's immediate future includes a job in the Information Systems Department of General Mills in Minneapolis. In the longer term, he is thinking about a master's degree in computer engineering.

City College Boasts Two Goldwater Scholars

In 2007, two CCNY undergraduates were among 317 mathematics, science, and engineering students chosen from a national field to receive the coveted scholarship awarded by the Barry M. Goldwater Scholarship and Excellence in Education Foundation. They are Itamar Belisha of the Grove School of Engineering and David Bauer of the Macaulay Honors College. The Goldwater Scholarship is America's premiere award for undergraduates majoring in math, science and engineering.

Itamar Belisha hopes to pursue a joint M.D./Ph.D. in biomedical engineering with the goal of conducting research on neurological disorders. "My motivation for combining engineering and medicine is the great potential I find in biomedical engineering to impact the quality of treatment for various neurological disorders by innovative techniques," he said.

David Bauer aspires to a Ph.D. in Chemistry. He intends to conduct research applying fundamental principles of bioorganic chemistry to the larger fields of structural biology and medicinal chemistry in an academic research setting. "Science has led me to a global consciousness, a realization that my reach could extend beyond my own small existence," he said. "Keeping the global context of science in mind has been a powerful motivator in my work."

"As the home of The City University of New York's flagship science and engineering programs, everyone at The City College joins me in saluting David and Itamar's achievements," said CCNY President Gregory H. Williams. "Their scholarship and research epitomize what our students can achieve."

From left to right: Itamar Belisha and David Bauer.

The Grove School continues to build on the strengths of its exceptional faculty. Senior faculty members are internationally respected leaders in their fields who hold their profession's highest honors. This year, another CUNY Distinguished Professor, Dr. William Rossow, has joined their ranks. Thanks to the example they set, the School continues to attract superb faculty. In 2006-2007, the Grove School added five junior faculty members who hold doctorates from prestigious institutions the world over. Their expertise will enhance the Grove School's growing prestige as a research institution. They continue the Grove School's tradition of innovation and excellence in the laboratory and its deep commitment to classroom teaching and the mentoring of students.

In 2006-2007 the Grove School's 101 full-time faculty members:

Served in an editorial capacity *on 17 archival journals*

Delivered *25 lectures at conferences and universities*

Chaired and organized *3 conferences and 8 conference sessions and task groups*

Contributed to *14 books*

And produced *247 journal articles and 122 conference papers*

Agrawal, Anil CE
Associate Editor, Journal of Structural Engineering, ASCE

Executive Committee Member, U.S. panel on Structural Control and Health Monitoring, International Association of Structural Control and Health Monitoring.

Secretary, ASCE Committee on Structural Control

Steering Committee Member, 18th Analysis & Computation Specialty Conference, April 2008 Vancouver, BC, Canada

Ali, Mohamed EE
Chaired/TPC of technical sessions in international telecom conferences, including IEEE GLOBECOM and ICC.

Andreopoulos, Yiannis ME
Chair, Session LI: Experimental Techniques II, American Physical Society, 59th Annual Meeting of the Division of Fluid Dynamics, November, 2006, Tampa, FL.

Benenson, Gary ME
2006 Mary Margaret Scobey Award for Sustained Contributions in Elementary School Technology Education, Technology Education for Children Council of the International Technology Education Association

2007 Award for Excellence in Teaching, Learning and Technology, 18th International Conference on College Teaching and Learning, Jacksonville, FL

Cowin, Stephen C. BME & ME
Invited Lecturer, Knee 2006, Berlin, Germany, June 2006

Keynote Speaker, III International Congress on Computational Bioengineering (ICCB 2007), Margarita Island, Venezuela, September 2007

Editorial Board, International Journal of Biomechanics and Modeling in Mechanobiology

Editorial Advisory Board, Journal of Biomechanics

Editorial Board, Mechanics Research Communications,

Fu, Bingmei BME
Editorial Board, Journal of Biomedical Engineering

Nominated Council Member of the World Association of Chinese Biomedical Engineers (only woman nominated)

Session Chair, 28th Annual International conference of IEEE-EMBS, Aug-Sept. 3, 2006, New York City

Habib, Ibrahim EE
Distinguished Lecturer, IEEE Communications Society

General Chairman of the following conferences:

IEEE WIMOB 2007 Conference, New York, October 2007;

IEEE High Performance Networks Symposium, Globecom, December 2006; I

IEEE WRECOM 2007 conference, Rome, Italy, September 2007.

Co-chair, technical program committee, IEEE Broadnets Optical Networks Symposium, September 2007.

Kretzschmar, Ilona ChE
NSF CAREER Award, 2007

Li, Jackie ME
Co-organizer, mini Symposium on Nanocomposites and Nanomechanics, 7th World Congress on Computational Mechanics, July, 2006, Los Angeles, CA.

International Organizing Committee Member, Plasticity'08

Morris, Jeffrey F. ChE
Invited Lecture, Gordon Research Conference "Granular and Granular-Fluid Flow," July 2006; Oxford, England.

Invited lecture, IUTAM Symposium "Recent Advances in Multiphase Flow: Numerical and Experimental," June 2007, Istanbul, Turkey.

Pach, János CSc
Plenary Speaker, 13th International Conference on Random Structures and Algorithms, Tel Aviv, Israel, May 2007.

Plenary Speaker, 1st Canadian Discrete and Algorithmic Mathematics Conference, Banff, Canada, May 2007.

Co-editor-in-chief, Discrete & Computational Geometry

Editorial Board Member of the following publications:

Applied Mathematics Research eXpress: Combinatorica; Computational Geometry: Theory and Applications; Geombinatorics; Graphs and Combinatorics; International Journal of Computer Mathematics;

SIAM Journal on Discrete Mathematics

Guest Editor, Special Issues on Graph Drawing, Algorithmica, volume 47, number 4, 2007.

Plenary Speaker, International Conference on Computational Geometry and Graph Theory, Kyoto, Japan, June, 2007.

Keynote speaker, satellite conference of the International Congress of Mathematicians, Trends and Topics in the Future of Combinatorial and Computational Geometry, Alcalá de Henáres, Spain, August 31 – September 5, 2006.

Ravindran, Kaliappa ME
ASEE Summer Faculty Fellowship, US Air Force Research Lab, June-Aug. 2006.

Tarbell, John M BME
ASME BED, Chair of the Van Mow Award Committee

AIMBE Academic Council, Secretary

Invited Lecture: Mechanotransduction and the Glycocalyx, Experimental Biology Meeting, Washington, April 2007.

NIH Study Section, Hypertension and Microcirculation Study Section, adhoc reviewer October 2006

Uyar, Umit EE
Organizing Committee Member and Technical Program Vice-Chairman: IEEE Intl. Conference on Communications 2006

Weinbaum, Sheldon BME & ME
10th Ascher H. Shapiro Lecture in Fluid Mechanics, M.I.T. April 3, 2007.

Elected Chair Bioengineering Section of National Academy of Engineering, 2007-2009.

Keynote Lecture, ASME Applied Mechanics and Materials Conference, Austin Texas, June 4, 2007.

Opening Keynote Lecture, Northeast Conference in Bioengineering, Stony Brook, March, 2007.

Woodruff Lecture, School of Mechanical Engineering, Georgia Institute of Technology, February, 2007.

Plenary Lecture, Frontiers in Applied and Computational Mathematics, New Jersey Institute of Technology, May, 2007.

Xiao, Jizhong EE
Guest Editor, Special Issue on Swarm Robotics, International Journal of Intelligent Control and Systems, September 2006.

Certificate of Appreciation, New York Academy of Sciences, for mentoring high-school interns in NYAS Science Research Training Program in Summer at CCNY Robotics Lab.

NSF CAREER Award, 2007

Zahran, Mohamed EE

Co-organizer, first Reconfigurable and Adaptive Architecture Workshop, December 2006.

Keynote speaker, 2nd International Computer Engineering Conference, Egypt, December 2006.

Zhu, Zhigang EE
Promoted to Senior Member of the ACM

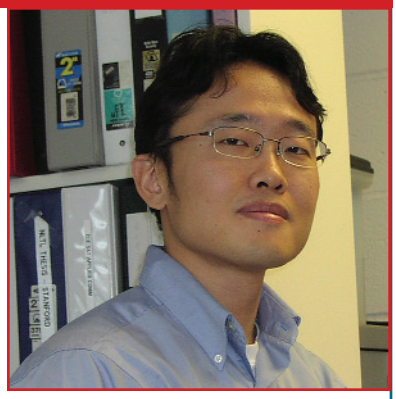
Co-General Chai,r 2007 IEEE Workshop on Multimodal Sentient Computing, June, 2007

Member, International Program Committee, IASTED Human-Computer Interaction, March, 2007, Chamonix, France.

Member, program committee, ICCIT'2006 (9th International Conference on Computer and Information Technology), Dhaka, Bangladesh, December, 2006

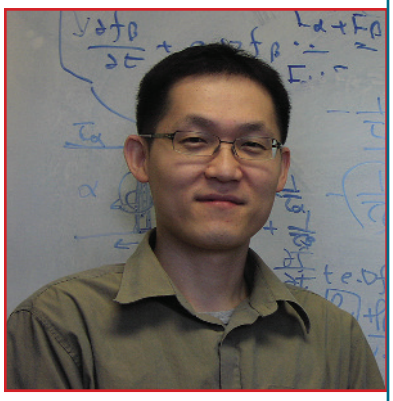
Invited Speaker, Sensor and Vision Research in the CCNY Visual Computing Lab, Pathways Bioinformatics and Biomolecular Center & CollegeNow Summer Academy Primary Time Lecture, CCNY, July 2006.

new faculty



Hongjoon Kim
Assistant Professor of Electrical Engineering
Ph.D. University of Wisconsin-Madison

A committed researcher who chose academia over industry, Hongjoon Kim is expanding the range of Electrical Engineering at the Grove School with his expertise in radio-frequency (RF)/microwave circuits; high frequency semiconductor device physics; and communication system hardware. He is the first faculty member at the School in RF/microwave and has already set up a lab and found collaborators for his research. "The work I do has important practical ramifications for wireless communications and radar," he says. "My object is to bring as many students as possible into my field and give them the tools to be successful in those industries." Dr. Kim likes being surrounded by young people and has enjoyed teaching Electronics I and II. "For me, mentoring goes beyond coursework," he says. "I teach my students ethics and the importance of being diligent in your life."



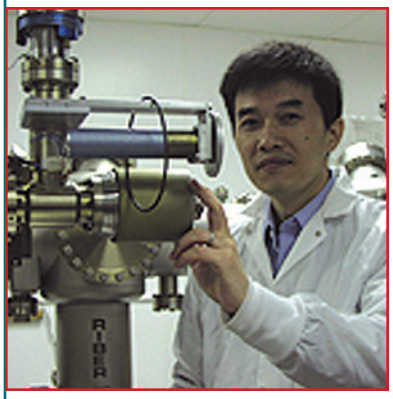
Taehun Lee
Assistant Professor of Mechanical Engineering
Ph.D. The University of Iowa, Iowa City

Taehun Lee's field is multiphase computational fluid dynamics. He was drawn to City by its outstanding fluids group which includes researchers at the CREST Center for Mesoscopic Modeling and Simulation and the Levich Institute. Dr. Lee is conducting research on contact line dynamics in microfluid devices and biological systems and developing a novel unstructured lattice Boltzmann method for fluid-structure interactions. He has also developed a new graduate course, Advanced Topics in Fluid Mechanics, Numerical Simulation of Interfacial Dynamics and Transport Phenomena. Dr. Lee came to City from a prestigious J. H. Wilkinson Fellowship in the Mathematics and Computer Science Division at Argonne National Laboratory. He still collaborates with scientists at Argonne and hopes to send his Grove School students there as post-docs and researchers. At the Grove School, Dr. Lee has found a collegial atmosphere. "I have been very lucky," he says, "to have the right collaborators around me."

Since 2003, the Grove School has benefited from Dr. Shayesteh Mahani's multidisciplinary background in mathematics, photogrammetry, remote sensing, image processing, hydrology, and water resources. As a research scientist at NOAA-CREST, she has been using this expertise to advise doctoral and master's students, guiding their research in the hydro-climate study area. "I like to work on several projects at once," she says, "and NOAA-CREST is the ideal place for me to pursue all my interests." In her native Iran, Dr. Mahani taught engineering in the most prestigious universities. This included courses in photogrammetry, an area where she has published several textbooks. Now, in addition to her research, she has entered the Grove School classroom where she is teaching "Data Analysis for Civil Engineering Applications" to undergraduates and "Remote Sensing for Water Resources and Environmental Engineering" at the graduate level, as well as courses which prepare students for the PE exam.

Shayesteh E. Mahani
Assistant Professor of Civil Engineering
Ph.D. University of Arizona in Tucson

Since obtaining his Ph.D. in Applied Physics in 1992, Aidong Shen has done research at prestigious institutions in Germany, France, Japan and Canada. His many journal papers are widely cited and he has presented his findings at over 120 conferences and meetings. In 2005, he came to City College as a Senior Research Associate, attracted by the work of Dr. Maria Tamargo of the Department of Chemistry and the possibility of collaborating with her. Now, he teaches Semiconductor Materials and Devices at the Grove School and is enjoying his contact with undergraduates. Dr. Shen's research is in the growth and properties of various III-V and II-V semiconductor thin films and nanostructures for optoelectronic, microelectronic and spintronic applications and in molecular beam epitaxy (MBE). His interdisciplinary lab brings together graduate students in electrical and chemical engineering and physics and intersects closely with Dr. Tamargo's work in chemistry.



Aidong Shen
Assistant Professor of Electrical Engineering
Ph.D. Shanghai Institute of Optics and Fine Mechanics,
Chinese Academy of Sciences

Following an NIH Postdoctoral Training Fellowship at the Center for Engineering in Medicine, Harvard Medical School and Massachusetts General Hospital, Sihong Wang was looking for a biomedical engineering department whose goals were in sync with hers and where she could make the maximum contribution. She found it at the Grove School. Dr. Wang brings to the department her expertise in molecular, cell and tissue engineering. This fall, she will teach a course she has developed in this field which introduces undergraduate and graduate students to the advanced technologies which will equip them for success in industry and academic research. At the Grove School, Dr. Wang is continuing her research, combining molecular cloning with microfabrication to build a three dimensional cell array for high throughput drug screening and developing an extracorporal device which will serve as a bridge for patients awaiting liver transplants.

Sihong Wang
Assistant Professor of Biomedical Engineering
Ph.D. University of Texas at Austin

In 2006-2007 awards for sponsored research at City College's Grove School of Engineering totalled $18,688,733.

In addition to the grants listed in the following pages, it should be noted that the Institute for Ultrafast Spectroscopy and Lasers (USL) under Distinguished Professor of Science and Engineering Dr. Robert Alfano administers over $17 5 million in grants ($3.35 million in 2006-2007). Faculty and students of the Grove School of Engineering are among the collaborators in this sponsored research. Also, Kayser Professor of Civil Engineering, Dr.Neville Parker, administers approximately $19 million dollars of research money ($2.1 million in 2006-2007) 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

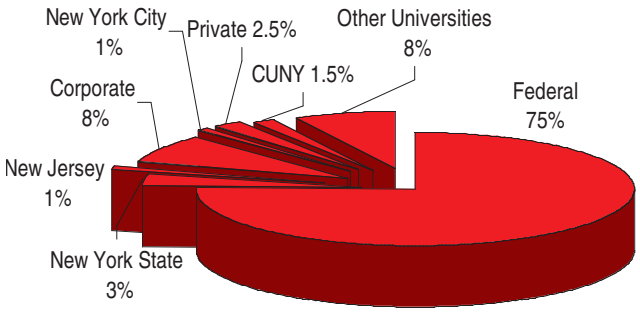
Institute for Transportation Systems

Center for Water Resources and Environmental Research

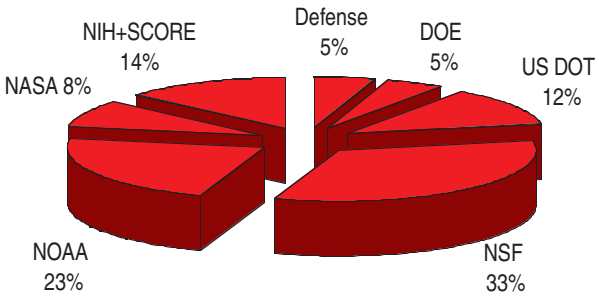
Municipal Waste Center

Center for Advanced Engineering Design and Development

Funded Research Distribution by Sources
Total: $18,688,733



Federal Research Funding Distribution by Agencies
Total: $14,128,384



Agrawal, A., "Multi-hazard Research and Education on Engineering and Effects of Earthquakes and Blast Loads," RF SUNY, 10/1/2006-9/30/2007, $17,500

Ahmed, S., "NOAA Interdisciplinary Scientific Environmental Technology (ISET) Cooperative Research Education Center," NOAA, 9/1/2006-8/31/2007, $400,000

Ahmed, S., "Center for Optical Sensing and Imaging," NASA, 5/1/2003-4/30/2008, $1,200,000

Bapat, C., "Theoretical and Experimental Investigation of a Bean Bag Damper," PSC CUNY, 7/1/2007-6/30/2008, $2,817

Benenson, G., "Middle and High School Materials based on Mathematically-Rich Experiences, Professional Development and Community Involvement," Algebra Project, Inc, 10/1/2006-9/30/2007, $35,911

Bikson, M., "Effects of extracellular fields on spike time coherence," NIH/SCORE, 2/1/2007-1/1/2010, $500,000

Bikson, M., "Mechanisms of Deep Brain Stimulation: Joule Heating and Electroporation," NIH, 3/7/2007-8/28/2008, $76,500

Bikson, M., "Mechanisms of Deep Brain Stimulation: Joule Heating," PSC CUNY, 7/1/2007-6/30/2008, $3,943

Bloom, G., "Some Graph Labeling Problems," PSC CUNY, 7/1/2007-6/30/2008, $3,990

Brown, R., "CCNY/SCRP STEP Program," NYS Ed Dept, 7/1/2006-6/30/2007, $114,603

Cardoso, L., "multi-resolution ultrasound acoustic microscope," PSC CUNY, 7/1/2007-6/30/2008, $3,943

Chen, C., "Reconfigurable Scan Architecture for Application-Specific Integrated Circuits," PSC CUNY, 7/1/2007-6/30/2008, $3,943

Chen, X., "Residential Relocation and Lagged Response Changes in Time Use Allocation – What it Takes for People to Change," PSC CUNY, 7/1/2007-6/30/2008, $2,816

Couzis, A., "Membrane Receptor Microarrays Based on Quantum Dot Bar-coded Lipobeads," NSF, 8/1/2006-7/31/2008, $149,833

Couzis, A., "NYU/CCNY REU Site for Science and Engineering of Soft Materials and Interfaces," NYU, 4/1/2007-3/31/2008, $31,000

Crouse, D., "Development of Light Controlling Techniques in Optoelectronic Devices," Cornell Univ, 1/1/2007-12/31/2007, $62,245

Delale, F., "Mechanics of Deformation of Carbon Nanotubes: A Continuum/Finite Element Approach," PSC CUNY, 7/1/2007-6/30/2008, $2,817

Denn, M., "IGERT: Multiscale Phenomena in Soft Materials (Supplement)," NSF, 12/1/2002-11/30/2006, $220,320

Denn, M., "IGERT: Multiscale Phenomena in Soft Materials (Supplement)," NSF, 12/1/2002-11/30/2007, $542,000

Denn, M., "Failure in Extensional Flow of Entangle Polymer Melts," NSF, 9/1/2006-8/31/2007, $82,531

Denn, M., "Failure in Extensional Flow of Entangle Polymer Melts," NSF, 9/1/2006-8/31/2008, $80,231

Denn, M., "SBIR Phase II: Development of Chiral Fiber Polarizer," Chiral Phonics Inc, 11/1/2006-6/30/2008, $105,000

Denn, M., "Silica and Water System," CFD Rsh Corp, 1/26/2007-9/30/2008, $75,000

Diyamandoglu, V., "Materials Exchange, Reuse and Sustainability in New York City," NYC Dept of Sanitation, 7/1/2005-6/30/2006, $4,958

Diyamandoglu, V., "Materials Exchange, Reuse and Sustainability in New York City," NYC Dept of Sanitation, 7/1/2006-6/30/2007, $152,375

Diyamandoglu, V., "Application of UV irradiation for decomposition of organic carbon and chlorine residual in water.," PSC CUNY, 7/1/2007-6/30/2008, $2,817

Dorsinville, R., "Semiconductor Heterostructure Quantum Wire Multiwavelength IR Photodetectors for Focal Plane Arrays: Phase II," Phoebus, 11/1/2006-10/31/2007, $45,000

Dorsinville, R., "Time Resolved Characterization of Absorption Processes in Fused Silica Glasses During Damage Initiation and Growth," Lawrence Livermore Nat'l Labs, 3/22/2007-9/30/2007, $24,641

Esmaeili-Mahani, S., "Satellite-based Precipitation Nowcasting Capability," PSC CUNY, 7/1/2007-6/30/2008, $4,075

Fritton, S., "Role of Fluid Flow in Bone's Response to Applied Loading," NIH, 3/1/2007-2/28/2008, $198,914

Fu, B., "Arrest of Tumor Cells in the Microcirculation," PSC CUNY, 7/1/2007-6/30/2008, $2,817

Ghedira, H., "Development of an Advanced Technique for Mapping," NOAA, 9/13/2006-9/12/2007, $50,000

Grossberg, M., "Appearance of Wet Roads at Night," Siemens Corporate Research, Inc, 8/1/2005-9/1/2005, $12,168

Hammonds, J., "Near Field Infrared Emission of Silicon Carbide Thin Films," PSC CUNY, 7/1/2007-6/30/2008, $4,000

Hubbard, K., **Gilchrist, L**., "Membrane Protein-based Nanostructured Materials," SCORE NIH, 2/1/2007-1/31/2011

Kawaguchi, A., "A Computerized Navigation Support for Maneuvering Clustered Ship Groups in Close Proximity," PSC CUNY, 7/1/2007-6/30/2008, $2,000

Khanbilvardi, R., "Cooperative Remote Sensing Science and Technology Center," NOAA, 9/1/2006-8/31/2011, $2,393,000

Khanbilvardi, R., "GOES Satellite Receiving Station for Urban Nowcasting and Snow Grain Size," NOAA, 10/1/2006-9/30/2007, $185,000

Khanbilvardi, R., "Development of Mesoscale Sounding algorithms and Sea Surface Temperature," NOAA, 10/1/2006-9/30/2007, $155,000

Khanbilvardi, R., "ECSC Chesapeake Measurements Campaign," Florida A&M, 5/1/2005-9/30/2007, $17,260

Kim, H., "Arbitrary Ultra Wideband (UWB) Pulse Shaping Circuit for UWB RADAR," PSC CUNY, 7/1/2007-6/30/2008, $4,837

Koplik, J., "Collaborative Research: Separation of nanoparticles using patterned surfaces," NSF, 8/1/2007-7/31/2010, $188,149

Koplik, J., "Complex Fluids in Self-Affine Fractures," DOE, 8/15/2006-12:00:00 AM, $106,813

Kretzschmar, I., "Catalyst-Loaded Porous Polymer Membrane for Catalytic Removal of Formaldehyde for Indoor Air," NSF, 8/1/2006-7/31/2008, $150,000

Kretzschmar, I., "CAREER: Uniquely Functionalized Nanoparticles for Hierarchical Self-Assembly of Three-Dimensional Structures," NSF, 3/1/2007-2/29/2012, $449,386

Kretzschmar, I., "Porous Polymer Cylinders as Scaffolds for Cell Growth," PSC CUNY, 7/1/2007-6/30/2008, $3,943

Kretzschmar, I., "Characterization of particle monolayers," New York State and CUNY Graduate Research and Teaching Institute, 9/1/2006-8/31/2008, $25,000

Kretzschmar, I., "NUE: Nanomaterials Education for Engineering and Science Majors at the City College of NY," NSF, 9/1/2006-8/31/2008, $200,000

Lee, J., "Novel Techniques for Natural Gas/H2 Storage and C02 Separation Using Hydrate Formation," Sung IL Co, 4/1/2005-3/31/2008, $149,581

Lee, T., "A Microscale Analysis of Convection Heat Transfer in Fixed Beds," PSC CUNY, 7/1/2007-6/30/2008, $4,837

Lee, M., "SAIT - CUNY Joint Laboratory," Samsung Electronics, 12/16/2005-12/31/2007, $82,902

Lee, M., "SAIT - CUNY Joint Laboratory," Samsung Electronics, 12/16/2005-12/31/2007, $110,542

Li, J., "Electrical Percolation of CNT Composites," PSC CUNY, 7/1/2007-6/30/2008, $2,817

Liaw, B., "Self-Sensing of Composite Damage Using Electrical Resistance Measurement," PSC CUNY, 7/1/2007-6/30/2008, $2,817

Lin, F., "Numerical Simulation of Fracture Process in Cementitious Materials," PSC CUNY, 7/1/2007-6/30/2008, $2,817

Makse, H., "CAREER: Statistical Mechanics of Particulate Systems Far from Equilibrium," NSF, 5/15/2003-$80,000

Makse, H., "CAA: Self-Organization and Robustness in Evolving Biological Networks," NSF, 9/1/2006-8/31/2008, $149,957

Makse, H., "Dynamics of Social Networks," NSF, 3/1/2007-2/28/2010, $680,000

Makse, H., "Stress-dependent Acoustic Propagation and Dissipation in Granular Materials," DOE, 11/1/2006-10/31/2007, $100,000

Maldarelli, C., "2006-2007 Air Products Scholar," Air Products & Chemicals, Inc, 9/1/2006-8/31/2007, $2,000

Maldarelli, C., "A Transport Theory, Molecular Dynamics simulations and Experiments on the Adsorption of Surfactants from Micellar solutions to an Initially Clean Air/Water Interface," Am Chem Soc, 5/1/2007-8/31/2009, $53,142

Mcknight, C., "Pedestrian Safety in NYMTA Region - Phase 1," Cornell University, 8/23/2005-8/22/2006, $46,719

Mcknight, C., "Medical Review Case Reporting at MVC," NJIT, 1/1/2006-12/31/2006, $39,482

Morris, J., "Particle Surface Effects Upon the Ultimate Conductivity of a Proppant Pack," Halliburton Energy, 3/15/2005-3/14/2008, $106,000

Morris, J., "Undergraduate Research Fellows at City College," Rutgers Univ, 1/1/2007-6/30/2007, $85,000

Morris, J., Chevron, 8/1/2007-7/31/2008, $190,000

Moshary, F., "Mid Infrared Technologies for Health and Environment," Princeton U/ NSF, 4/1/2006-3/31/2011, $280,000

Paaswell, R., "CUNY Building Performance Laboratory," NYS ERDA, 5/4/2006-5/3/2007, $249,840

Paaswell, R., "Sept 11th Memorial Program for Regional Transportation Planning," NYS DOT, 10/1/2006-9/30/2007, $18,750

Paaswell, R., "UTRC - Handbook of Scour Countermeasures Designs," NJ DOT, 10/1/2002-11/30/2006, $10,004

Paaswell, R., "University Transportation Research Center," US DOT, 10/1/2006-9/30/2008, $1,720,000

Paaswell, R., "Transit-Oriented Development Benefits of New Transit Service: RiverLine," NJ DOT, 1/1/2007-12/31/2007, $8,526

Paaswell, R., "UTRC - Handbook of Scour Countermeasures Designs," NJ DOT, 1/1/2006-9/30/2007, $10,004

Paaswell, R., "UTRC: Water Quality Mitigation and Banking," NJ DOT, 1/1/2007-12/31/2007, $150,000

Pach, J., "Geometric Graph Theory," NSA, 11/16/2006-11/15/2007, $51,963

Pach, J., "Geometric Arrangements and Their Algorithmic Applications," PSC CUNY, 7/1/2007-6/30/2008, $3,990

Pach, J., "Geometric Arrangement and Application," US-Israel Binational Science Fdt, 9/1/2002-8/31/2007, $7,937

Parker, N., "New York City Louis Stokes Alliance Phase IV (Profs. L Johnson and L. Squitieri)," NSF, 5/1/2007-4/30/2012, $500,000

Parker, N., "Summer Transportation Institute - 2006," South Carolina University, 5/16/2006-10/30/2006, $39,953

Parra, L., "Multi-class Bilinear Discriminant Analysis for EEG," PSC CUNY, 7/1/2007-6/30/2008, $3,943.01

Parra, L., "Cortically-coupled Computer Vision: C3-Vision," Columbia University, 9/30/2005-8/31/2007, $70,000

Parra, L., "Tinnitus as a result of gain adaptation," Tinnitus Research Initiative, 7/1/2007-6/30/2008, $100,000

Parra, L., "Tinnitus research pilot project," Resound, 12/1/2006-11/1/2007, $10,000

Parra, L., "Cortically-coupled Computer Vision: real-time analysis of visual processing," DARPA/DSO, 10/1/2007-3/1/2009, $506,000

Potasek, M., "Hybrid Semiconductor- Organic Nanostructures for Optical Limiting," ARO, 8/16/2004-8/15/2007, $47,945

Price, T., "Energy and Environmental Costs in Life Cycle Assessment of Steel Construction," PSC CUNY, 7/1/2007-6/30/2008, $3,990

Ravindran, K., "QOS-Dimension in Distributed Voting Algorithms for Information Assurance Applications," ITT, 10/1/2002-8/1/2007, $20,000

Rossow, W., "NASA - CloudSat Mission," JPL, 10/5/2006-6/29/2008, $44,083

Rossow, W., "NASA - CloudSat Mission," JPL, 10/5/2006-6/29/2008, $55,625

Rossow, W., "Development and Application of Diagnostic Analysis Tools for Investigating Differences between Observed and Modeled Cloud Behavior," Colorado State Univ, 7/1/2006-6/30/2007, $66,000

Rossow, W., "Start up Funds," CUNY Collab., 10/1/2006-9/30/2008, $50,000

Rossow, W., "Start up Funds," CUNY Collab., 10/1/2006-9/30/2008, $50,000

Rossow, W., "NASA - CloudSat Mission," JPL, 10/5/2006-6/29/2008, $10,938

Saadawi, T., "Telcordian Consortium: Collaborative Technology Alliance for Communications and Networking," Telcordia Tech, 6/1/2001-9/30/2006, $60,000

Saadawi, T., "Telcordian Consortium: Collaborative Technology Alliance for Communications and Networking," Telcordia Tech, 6/1/2001-8/31/2007, $160,000

Sadegh, A., "Three Dimensional Global/Local Head Models to Quantify ASDH," PSC CUNY, 7/1/2007-6/30/2008, $2,817

Sadegh, A., "Mechanization of Lift Truck for Circuit Breakers," Con Edison, 9/1/2003-8/31/2007, $8,680

Sadegh, A., "Design and Manufacturing of Aluminum Car Jack," Alcoa Tech, 9/1/2003-8/31/2007, $14,000

Sadegh, A., "Temperature Controlled Air Inlet Louver," Lucent Tech, 9/1/2005-4/30/2006, $10,000

Scheinberg, N., "Research Support," Anadigics, 6/24/2006-6/30/2008, $20,000

Sun, Y., "Approach to Optimum Multiuser Detection by Linear-Complex LAS Detectors in CDMA Wireless Networks," PSC CUNY, 7/1/2007-6/30/2008, $3,000

Tarbell, J., "Shear Stress Effects on Endothelial Transport," NIH, 12/1/2006-11/30/2007, $326,006

Tarbell, J., "Shear Stress Effects on Endothelial Transport (Rsh. Supplement - Grad. Asst. R Mathura)," NIH, 12/1/2006-11/30/2007, $47,430

Tarbell, J., "Shear Stress Effects on Endothelial Transport," NIH, 12/1/2006-11/30/2007, $43,182

Tarbell, J., "CCNY/MSK Cancer Center Partnership," NIH, 9/1/2006-8/31/2007, $245,097

Tarbell, J., "Mechanism of Retinal Vascular Permeability in Diabetes," Penn State Univ, 4/1/2006-3/31/2007, $75,106

Tarbell, J., "Mechanism of Retinal Vascular Permeability in Diabetes," Penn State Univ, 4/1/2007-3/31/2008, $74,350

Tardos, G., "Study of Frictional Regime in Powder Flow," Princeton University, 4/1/2007-3/31/2008, $60,156

Tu, R., "Rationally designed peptides for templating interfacial nanostructure," PSC CUNY, 7/1/2007-6/30/2008, $3,943

Tu, R., "Interfacial peptide development," New York State and CUNY Graduate Research and Teaching Institute, 9/1/2006-8/31/2008, $113,000

Uyar, U., "MRI Instrumentation Development: a New Generation of Mobile Robots with Climbing and Reliable Communication Capabilities," NSF, 8/15/2006-7/31/2009, $478,968

Uyar, U., "Knowledge Sharing Agents Using Genetic Algorithms in MANETs," U.S. Army, Fort Monmouth, NJ, 12/1/2005-12/1/2008, $60,000

Vazquez, M., "Cell-Based Sensors to Examine Protein Translocations," NSF, -, $102,111

Vazquez, M., "Microsystems to manipulate fibroblast chemotaxis," NIGMS, -, $128,711

Vazquez, M., "A micro migration assay for temporal protein measurement," NCI, -, $137,111

Vazquez, M., "Viral Liposomes to Mediate QD Cytosolic Induction," PSC CUNY, 7/1/2007-6/30/2008, $2,817

Vazquez, M., "A Microfluidic System to Investigate ERK Proteins During Medulloblastoma Dispersal," Pediatric Brain Tumor Fdt., 3/1/2006-2/29/2008, $50,000

Voiculescu, I., "Set up micro electrical mechanical," New York State and CUNY Graduate Research and Teaching Institute, 9/1/2006-8/31/2008, $71,500

Walser, A., "Prototype to Production: Processes and Conditions for Preparing the Engineering of 2020," Penn State Univ, 2/1/2006-1/31/2007, $47,927

Watkins, C., "CREST: Center for MesoScopic Modeling and Simulation," NSF, 9/1/2002-8/31/2007, $400,000

Watkins, C., "Impact Damage Assessment in Composites via Electrical Resistance," Global Contour Ltd, 10/1/2006-9/30/2007, $105,000

Wei, J., "Retrieval, indexing and matching visual objects in digital libraries," PSC CUNY, 7/1/2007-6/30/2008, $3,990

Weinbaum, S., "A National Urban Model for Minority Undergraduate Biomedical Education," NIH, 9/27/2006-8/31/2007, $500,000

Weinbaum, S., "NYS/NASA Space Grant College and Fellowship Program," Cornell Univ, 4/1/2005-3/31/2007, $29,500

Weinbaum, S., "NYS/NASA Space Grant College and Fellowship Program," Cornell Univ, 4/1/2005-3/31/2007, $6,000

Weinbaum, S., "Axial Flow Effects in Proximal Tubule," Yale Univ, 5/1/2003-2/29/2008, $73,349

Weinbaum, S., "A New Approach to Endothelial Cleft Structures," Univ of California - Davis, 4/6/2006-3/31/2007, $146,325

Weinbaum, S., "New Approach to Endothelial Cleft Structure," Univ of California - Davis, 4/1/2007-3/31/2008, $144,264

Wittig, A., "Night-time formation of HONO (nitrous acid) in an urban environment," PSC CUNY, 7/1/2007-6/30/2008, $5,610

Wolberg, G., "Feature-Based Data Fusion for 3D Photography," DOE, 9/15/2006-9/14/2007, $180,000

Wolberg, G., "Feature-Based Data Fusion for 3D Photography," DOE, 9/15/2007-9/14/2008, $186,694

Wolberg, G., "Visualization Toolkit for 3D Photography," CUNY Collab. Incentive, 9/1/2006-8/31/2007, $40,000

Xiao, J., "CRI: Center for Perceptual Robotics, Intelligent Sensors and Machines (PRISM) at the City College of New York," NSF, 3/15/2006-2/29/2008, $148,433

Xiao, J., "CRI: Center for Perceptual Robotics, Intelligent Sensors and Machines (PRISM) at the City College of New York," NSF, 3/15/2006-2/29/2008, $30,000

Xiao, J., "CAREER: Advancing Mobile Robots to 3D," NSF, 2/15/2007-1/31/2008, $80,000

Xiao, J., "Development and Commercialization of Innovative Wall-Climbing Robots," NCIIA, 9/1/2006-9/30/2007, $16,000

Yu, H., "Near Surface Plasticity and its Implication in Surface Treatments," DOE, 8/15/2006-8/14/2007, $62,280

Yu, H., "NOS Activity in Neurons and Glia following Nerve Injury," PSC CUNY, 7/1/2007-6/30/2008, $3,943

Zahran, M., "Global Cache Replacement Policy," PSC CUNY, 7/1/2007-6/30/2008, $3,950

Zahran, M., "Toward more efficient and scalable cache hierarchy design," New York State and CUNY Graduate Research and Teaching Institute, 9/1/2006-8/31/2008, $12,500

Zhu, Z., "Geo-Referenced Dynamic Push broom Stereo Mosaics for 3D and Moving Target Extraction - A New Geometric Approach," AFRL, 3/7/2005-3/6/2009, $50,000

Zhu, Z., "Stereo Matching and 3D Visualization for Gamma-Ray Cargo Inspection," PSC CUNY, 7/1/2007-6/30/2008, $4,095

leadership advisory council

Jeffrey M. Levy, P.E., '74 ME
Leadership Advisory Council Chairman
RailWorks Corporation

Paul V. DeLuca, P.E., '55 ME
Telecom Consultants Inc. (retired)

John M. Dionisio, P.E., '71 CE
AECOM

Robert J. Fani, '76 ME
KeySpan Corporation

Jacob "Jack" Feinstein, P.E., '65 EE
Con Edison (retired)

Ronald A. Gottlieb, P.E., '70 CE

Harvey Kaylie, '60 EE
Mini-Circuits

Norman A. Nadel, '49 CE
Nadel Associates

Michael Pope, P.E., J.D. '44 EE
Robbins, Pope and Griffis

David A. Rosenzweig
Verizon

Ronald Rosenzweig '59 ChE
Anadigics

Ex Officio:
Joseph Barba, '75 EE, '77 MEE, '81 PhD
Dean,Grove School of Engineering (GSOE)

Rachelle (Shelly) Butler
V.P Development and Institutional Advancement, CCNY

Perry L. Schwartz, P.E., '62 EE
Intertech Associates Inc.
President, Engineering School Alumni

A. Ramona Brown
Vice Dean for Student and External Relations, GSOE

Niamo Nancy Mu'id
Director, Development and Institutional Advancement, CCNY

diversity in engineering advisory board

Omar Gould
Diversity in Engineering Advisory Board Chairman
Brookhaven National Laboratory

Alphie Aiken
General Electric Company

Karl Duvalsaint
IBM

Laurie Gutshaw
DMJM Harris

Timothy J. Indiveri
Consolidated Edison Company of NY

Linda Johnson
Keyspan Corporation

James Jones
The Aerospace Corporation

Deborah Thomas Lawal
Merck & Co. Inc.

Joseph F. Moore
Verizon Communications

Ralph Piano
Ashland Inc

Ray Savage
Air Products and Chemicals

Isaac F. Washington
MTA Bridges & Tunnels

Dana Williams
US EPA

Donors 2006-2007

$1 Million +
Andrew S. Grove ‘60
Walter B. Coulter Foundation

$500,000 - $999,999
Robert E. Kahn

$100,000 - 499,999
Paul Fenster ‘60
Bernard Haber ‘51
Bruce L. Levy ‘77
Jeffrey M. Levy ‘74
Victor Linder ‘38
Peter L. Tea, Jr. ‘45

$50,000 - $99,999
Anadigics
Corning Incorporated
DMJM Harris
The Grove Living Trust
The Grove Foundation
Harvey Kaylie ‘60
KeySpan Foundation
Seymour Moskowitz ‘54

$20,000 - $49,999
Air Products and Chemicals
Robert B. Catell ‘58 ‘64
Franca Del Toro
Michael S. Gardener ‘71
Larry ‘51 and Yvette Gralla
Family of Sidney Hersh ‘38
Seymour Kaufman ‘60
Ralph Mednick ‘57
Merck Company Foundation
Norman A. Nadel ‘49
Andrew C. Podell
Dennis ‘57 and Merle Poller

$10,000 - $19,999
Anonymous
Simon S. Aconsky ‘57
AECOM Technology Corp.
Consolidated Edison
Jack Feinstein ‘65
Northrop Grumman Corporation
Raytheon Technical Services
Norma Schlissel ‘53
Harold Shames ‘44
Sidney Shames ‘40
Burt ‘67 and Fran Steinberg
David R. Wittes ‘45
Verizon Foundation

$5,000 - $9,999
Frontier Performance Polymers Corp.
Ruth Gitlin ‘43
I.M. Robbins P.C.
Harold Koletsky ‘52
Matthys P. Levy ‘51
Irving ‘48 and Esther Robbins

$2,500 - $4,999
Walter P. Babich ‘50
Intel Corporation
Leo W. Macklin ‘42
Mt. Sinai School of Medicine
NACME
Nhan T. Nguyen
Pella Rolscreen Foundation
The Sapphire Group, LLC
David ‘79 and Claudia ‘80 Tom

$1,000 - $2,499
Michael Pope ‘44
Barbara H. Cane
David and Aleta Cane
Stanley L. Hem
Virginia and Seymour Levy ‘43 *(dec.)*
Rebecca Pizarro
The Port Authority of New York and New Jersey
Jack ‘48 and Rhoda Resnick
Michael Telgenhoff

$500 - $999
Carl J. Costantino ‘56
Daniel ‘51 and Belle Dicker
Andrew Lawrence and Katherine Lebow
Ernest ‘52 and Edith ‘53 Maclin
Nedda Marcus
Miguel Matos
Karl ‘65 and Karin Rubenacker

Wall of Honor

Located in the lobby of Steinman Hall, the beautifully handcrafted Wall of Honor plaque acknowledges generous gifts to engineering of $100,000 or more. The following four donors have made gifts of $1million and above.

Andrew S. Grove ‘60 (ChE)
Wallace H. Coulter Foundation
The Whitaker Foundation
Harvey Kaylie ‘60 (EE)

Simon S. Aconsky ‘57 (ME)*
Aluminum Company of America (ALCOA)
ANADIGICS, Inc
AT&T Foundation
BP Amoco
Robert B. Catell, ‘58 & ‘64 (BME, MME)
Theodore Charos ‘64 (EE)
Consolidated Edison
Corning Incorporated
DMJM Harris
DuPont
Jack ’65 (EE) & Rochelle Feinstein
Paul Fenster ‘60 (EE) *
GE Fund
Arthur ‘58 (EE) & Linda Gelb
Jerry A. Gelbwachs ’65 (EE)
Bernard Haber ‘51 (CE)
Family of Sidney Hersh ’38 (ME)
Robert E. Kahn ‘60 (EE) & Patrice Lyons
Seymour Kaufman ‘60 (EE)
KeySpan
KeySpan Foundation
Bruce L. Levy ‘77 (ME)
Jeffrey M. Levy ‘74 (ME)
Kenneth ‘63 (EE) & Gloria Levy
Victor Lindner ‘38 (ChE)
Merck & Company, Inc.
Seymour ‘54 (ME) and Pearl Moskowitz
Norman A. ‘49 (CE) & Cynthia J. Nadel
National Action Council For Minorities In Engineering
Novartis
Pfizer
Michael Pope, ‘44 (EE)
Edward S. Plotkin ’53 (CE)*
Wilbur L. “Bill” Pritchard ‘43 (EE)
Procter & Gamble
Joseph E. Robbins ‘44 (ME)
Lucille Reichart Sachs ‘47 (B) & Stanley Sachs ’44 (EE)
Harold Shames ’44 (ME)
Sidney J. Shames ‘40 (ME)
Alfred P. Sloan Foundation
Society of American Military Engineers
Peter L. Tea, Jr. ‘45 (ME)
Verizon
Arthur L. Webber ‘57 (EE)
Estate of Dr. Robert H. Whitford ‘31 (ME)

* New inductees

overview of engineering at city college

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.

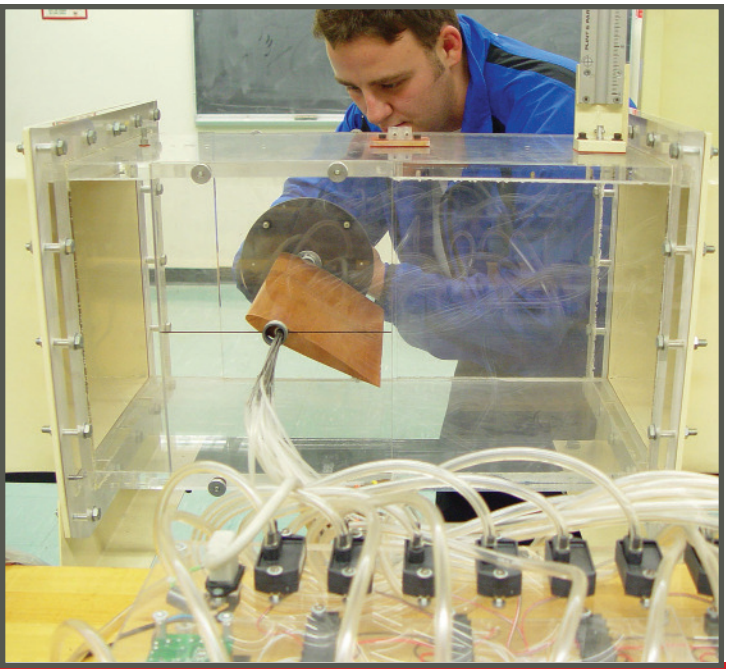
CCNY's School of Engineering was one of the first public institutions of its kind, and is still the only public school of engineering in New York City. The School's ties to engineering go back to 1853, when City College was known as the Free Academy of New York, and a course in civil engineering was 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 40% of the students who are admitted to the CCNY Honors Programs plan to 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.

Over 40% of Honors College applicants at City intend to major in engineering.

In the past five years, two 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 over 20% of undergraduate and graduate engineering majors, compared with 14.8% nationwide.


CONTINUUM

directory

Administration

Dean, Engineering	Joseph Barba	212-650-5435
Associate Dean, Graduate Studies	Mumtaz Kassir	212-650-8030
Associate Dean, Undergraduate Studies	Ardie Walser	212-650-8020
Vice Dean for Student & External Affairs	A. Ramona Brown	212-650-8040
Director, Administration & External Relations	Edward R. Camp	212-650-6684

Department Chairs

Biomedical Engineering	John Tarbell	212-650-5202
Chemical Engineering	Irven Rinard	212-650-8135
Civil Engineering	John Fillos	212-650-8010
Computer Science	Douglas Troeger	212-650-6167
Electrical Engineering	Roger Dorsinville	212-650-6685
Mechanical Engineering	Feridun Delale	212-650-5224

Directors of Centers and Institutes

Biomedical	Steven Cowin	212-650-5208
Engineering Design	Ali Sadegh	212-650-5203
Levich	Mort Denn	212-650-7444
Municipal Waste	John Fillos	212-650-8010
Telecommunications	Tarek Saadawi	212-650-7263
Transportation	Neville Parker	212-650-8054
Urban Systems	Robert Paaswell	212-650-8073
Water Resources & Environment	Reza Khanbilvardi	212-650-8093

CITY COLLEGE IS CUNY

THE GROVE SCHOOL OF ENGINEERING ANNUAL REPORT

Executive Editor: Edward R. Camp, EdD
Writer: Helena Leslie
Photography: Monica Jones, Helena Leslie, William Summers