

# letter from the dean



*It is with pride that I report on a year in which The Grove School continued to reclaim its position as a premier school of engineering.*

*In an historic vote, the CUNY Board of Trustees has authorized CCNY to offer the PhD in engineering, a privilege heretofore reserved for the University. This will allow The Grove School to be ranked among PhD granting institutions.*

*We have stiffened our admissions requirements. Retention is up, and The Grove School is now the institution of choice for remarkable students who have other options. The advising capabilities of the Office of Student Development have been strengthened. A new Office of Student Research has been established. This year, The Grove School published its first Journal of Student Research.*

*We have been joined by world-class new faculty members. They are helping The Grove School develop a particular expertise in Biomedical Engineering, Environmental Engineering Sciences, Energy, and Materials Sciences. Among these are CUNY Distinguished Professor Sanjoy Banerjee, who was Professor Abovescale of Chemical and Mechanical Engineering at UC Santa Barbara, and Professor Jorge González-Cruz, formerly Professor of Mechanical Engineering at Santa Clara University, who holds an adjunct faculty appointment at the University of Puerto Rico at Mayaguez. Dr. Banerjee will serve as director of the CUNY Energy Institute. Dr. González will be instrumental in implementing the new collaborative PhD program which The Grove School has established with UPRM. This initiative will fortify CCNY's position as a leading producer of Hispanic PhDs in engineering.*

*Our alumni are a major part of this year's success story. Increasingly, CEOs who call City College their alma mater are coming back to campus, and, impressed with what they see, they are helping us match our faculty and students with industrial partners.*

*Finally, it is important to point out that we could not have accomplished all this as recently as four years ago. Since then, Chancellor Matthew Goldstein and CCNY President Gregory Williams have devoted themselves to making City College CUNY's flagship school in science, engineering and architecture. The resources which they have put behind us have enabled us to hire top-notch faculty and establish new laboratories.*

*Because of our success, space is becoming a pressing issue. It is time to look to the future and determine what type of physical plant we will need in ten years. We must start planning now to ensure that we can continue to support the excellence in research, teaching and learning which I see every day at The Grove School and which is growing by leaps and bounds.*

*Sincerely,*

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

*Joseph Barba, Dean*

## Susannah P. Fritton: A Biomedical Engineering Star is the Grove School's Teacher of the Year



**“Dr. Fritton is concerned that students learn and understand. She encourages students to think and to produce their best possible output.”**

Being recognized for her teaching is not new for Associate Professor Susannah Fritton. In 2001, she received the CCNY Outstanding Teaching Award, and now the Grove School adds its own honor to the accolades earned by one of its most dedicated faculty members.

According to Dr. John Tarbell, chair of the Grove School's Department of Biomedical Engineering, Dr. Fritton is “a master teacher” whose “first love is teaching.” Her philosophy entails creating an environment of mutual respect and building students' confidence “so that they will continue to work hard as they navigate the curriculum on their way to graduation and a future job.” Student after student credits her with fostering an understanding of complex subjects as well as excellent study and research skills. “She is concerned,” said one, “that students learn and understand. She encourages students to think and to produce their best possible output.”

“What is amazing,” says Dr. Tarbell, “is that Susannah manages to do such an outstanding job in the classroom and mentoring students while directing an active research program and participating fully in service and leadership.”

Indeed, Dr. Fritton was one of the founders of the Department of Biomedical Engineering at City College. She came to CCNY in 1996 to work with Dr. Stephen P. Cowin, who was a member of her undergraduate honors thesis committee at Tulane. She soon joined Dr. Cowin and Dr. Sheldon Weinbaum in a small group within the Department of Mechanical Engineering which envisioned a future for biomedical engineering at City. “In the beginning, we did everything from advocating for the idea, to writing grants to support it,” she says.

Today the Grove School is a beacon for students seeking the best in biomedical engineering education and faculty looking for the most creative environment and the finest facilities for their research. In addition to having a dynamic Department of Biomedical Engineering which boasts 11 faculty members, including three CUNY Distinguished Professors, the Grove School leads the New York Center for Biomedical Engineering, a consortium of premier health care and medical research institutions. In 2006 the department graduated its first class of undergraduates. Dr. Fritton, who serves as deputy chair of the department and heads its ABET and Graduate Committees, currently oversees 32 PhD students in her role as the biomedical engineering PhD advisor.

A highly respected researcher in musculoskeletal biomechanics, Dr. Fritton holds a prestigious R01 grant from the NIH and regularly publishes in leading orthopedics journals. Her work, with its implications for the understanding, treatment and prevention of osteoporosis, is highly relevant to today's baby boomer population. One ongoing project involves tracking in vivo interstitial fluid movement due to mechanical loading in both normal and osteoporotic bone.

## Sanjoy Banerjee: An International Leader in Sustainability Heads CUNY's Energy Institute

"The Achilles heel of renewable energy is its intermittent nature," says Dr. Sanjoy Banerjee. "Our challenge is to match supply and demand for renewable energy through storage." That is the major breakthrough which Dr. Banerjee is working on at CUNY's Energy Institute, which he now heads as Distinguished Professor of Chemical Engineering at the Grove School.

Dr. Banerjee comes to New York from the University of California at Santa Barbara, where he was Professor Above-scale in Chemical Engineering, Mechanical Engineering and the Bren School of Environmental Science and Management. His prestigious awards include the Melville Medal from the American Society of Mechanical Engineers, the Danckwerts Memorial Lectureship from the Institution of Chemical Engineers (UK) and the Donald Q. Kern Award from the American Institute of Chemical Engineers. Dr. Banerjee is the author of more than 190 articles, book chapters, and refereed conference proceedings and holds four patents. He earned his BS at the Indian Institute of Technology and his PhD at the University of Waterloo in Canada.

Joining his colleagues Drs. Adreas Acrivos and Morton Denn of the Levich Institute was what first tempted Dr. Banerjee to come to CCNY. CUNY guaranteed him strong support, and the New York State Foundation for Science, Technology and Innovation (NYSTAR) Faculty Development Program offered him \$500,000 in funding for his initial energy project. The program assists New York State colleges and universities in recruiting and retaining leading entrepreneurial research faculty in science and technology fields with strong commercial potential.

"We are at a critical juncture in energy research," says Dr. Banerjee. "The decisions we make today will have a huge impact on future generations. I hope that the Energy Institute can play a significant role in developing strategies which are sustainable and environmentally sensitive." For its initial project, the Energy Institute will develop electrochemical energy storage systems for the School of Engineering's Steinman Hall. The aim is for these to store off-peak electricity and regenerate it to meet all of the building's electricity needs at costs that are competitive with peak power produced from natural gas. The research will entail improving energy/power densities and increasing the cycle life of rechargeable fuel cells and flow batteries.

Dr. Banerjee's goal is to extend this technology to residential buildings and industrial complexes and to cars. Energy storage, once perfected, has tremendous implications for hybrid and electric vehicles and the potential to significantly reduce oil consumption and greenhouse gas production. "Electricity," says Dr. Banerjee "should be as readily transportable as gasoline."

**"We are at a critical juncture in energy research. I hope that the Energy Institute can play a significant role in developing strategies which are sustainable and environmentally sensitive."**



**“The Jack E. Levy Memorial Fund will be a continuing gift to young people in need. Our father inspired us, and CCNY gave us opportunity. Recycling that opportunity to others is a privilege for us and a tribute to our father.”**

## **Jeffrey M. Levy '74 ME: A Portrait in Alumni Leadership**

Jeffrey Levy's career has taken him to the top of his profession. Mr. Levy is President and Chief Executive Officer of RailWorks Corporation, the leading provider of track and transit systems construction services throughout North America. Previously, he served as President and Chief Operating Officer of EMCOR Group, Inc. (NYSE), one of the world's largest providers of electrical and mechanical construction and facilities management services. And, before that, as Executive Vice President and Chief Operating Officer of Lehrer McGovern Bovis, a New York based construction management firm.

During all the time that Mr. Levy has executed these important responsibilities, the School of Engineering at City College has never been out of his thoughts.

“The School of Engineering gave me the tools, the training and the exposure which support the career I have today,” he says. In the late 1980s, Mr. Levy joined the School's Advisory Board. “Despite outstanding long-serving faculty members, the mainline program was withering,” he says. Mr. Levy and fellow Board member Robert Catell '58 were convinced that, with money and will, the School could regain its former preeminence. They met with CUNY Chancellor Matthew Goldstein, whose thinking was similar. He allocated \$1.5 million in special funding to support academic programs, and the School's revival began.

Today, as Chairman of the Grove School's Leadership Advisory Council, Mr. Levy could not be more pleased with the state of his alma mater. “Thanks to Chancellor Goldstein, CCNY President Gregory Williams, and Dean Joe Barba, the School is back,” he says. “We are matching mission with funding, so that instructors can develop their research while serving a diverse population. We are competing with top schools for the best students and faculty, and we are winning.”

Mr. Levy has been instrumental in developing a new culture of alumni involvement at the School. And, he and his brother Bruce ME '77 led by example. They have endowed the Jack E. Levy Memorial Scholarship Fund in honor of their father. “Our father was a huge advocate for education,” says Mr. Levy. “He inspired us, and CCNY gave us an opportunity. When you can recycle that opportunity to others, doing so is a privilege. By supporting two Grove School students during their junior and senior years, this memorial will be a continuing gift to young people in need.”

As to the future, Mr. Levy says, “We must develop the resources to support a physical plant which meets the needs of a new millennium. It is time to plan for new facilities, so that we can continue to compete for the best and the brightest and train them for careers in research and applied engineering.”



## Joseph M. Sussman '61 CE: A Professor for Over Forty Years and Still an Innovator

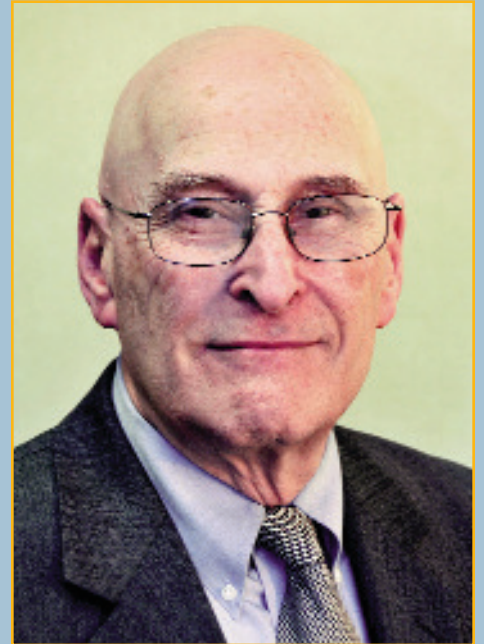
This May, Dr. Joseph Sussman accepted the 2008 Career Achievement Award presented by the CCNY Engineering School Alumni. On that occasion he said, “A ‘learning professor,’ one who is advancing knowledge in the field through research, will always be a better teacher. And that’s the City College of today.” It is also a reflection of his own life in the professoriate.

Following graduation, Dr. Sussman taught for a year at CCNY. In 1967, he joined the faculty at MIT, where he had earned his doctorate and where he is now the JR East Professor (endowed by the East Japan Railway Company) in the Department of Civil and Environmental Engineering and the Engineering Systems Division. Never, in all that time, has he rested on his considerable laurels. His most recent book, *Perspectives on Intelligent Transportation Systems (ITS)* was published in 2005. His 2000 book, *Introduction to Transportation Systems*, is used in universities the world over. He initiated the transportation systems focus area for the MIT-Portugal Program, which began in 2006.

Over the past four decades, as the challenges in his field have grown in size and complexity, Dr. Sussman’s thinking has evolved to meet them. “Early on”, he says, “I focused mainly on a quantitative approach through simulation methods applied to intercity rail and urban transportation. Now, I’m convinced that the so-called ‘soft’ issues — institutional factors, dealing with multiple stakeholders and sharing the gain and the pain associated with large-scale sociotechnical systems — are really the ‘hard’ issues.”

In the early 1990s, Dr. Sussman was part of a core group which wrote a twenty-year plan for research, development, testing and deployment which has shaped the Intelligent Transportation Systems program in the United States. Currently, he specializes in the study of Complex, Large-Scale, Interconnected, Open, Sociotechnical (CLIOS) Systems. The CLIOS process brings together transportation, technology and sustainability with its three core components of economic development, environmental protection and social equity. He has applied this process most recently in Mexico City, Kuala Lumpur, Malaysia, and Portugal.

Dr. Sussman has been honored for his work by the Transportation Research Board, the Council of University Transportation Centers, ITS Massachusetts and the American Association for the Advancement of Science. As he looks back and ahead, he says, “City College is where my career got its kick-start. There was no money for tuition in my family, so it was the literally zero tuition at CCNY which allowed me to realize my ambition of becoming an engineer. And, City College taught me how to go about problem solving through organized rational approaches to complex, multi-dimensional problems. This has served me in good stead throughout my career.”



**“City College taught me how to go about problem solving through organized rational approaches to complex, multi-dimensional problems. This has served me in good stead throughout my career.”**



## Okason Morrison '05 ME: A Brilliant Young Alumnus Aims for the Stars

**“The day I got my pilot’s wings was the proudest of my life. As I pursue my career, I hope to be an ambassador for the countless immigrant students whose lives have been changed by City College.”**

Magna cum laude graduate Okason Morrison was on the fast track to a highly successful career in mechanical engineering. He had interned with General Electric Transportation as an undergraduate, and after CCNY he joined the company, graduating from its prestigious Edison Engineering Development Program and landing a job as a Diesel Engine Systems Engineer.

Okason, however, envisioned a different future for himself. In May, 2008 he entered the United States Air Force’s Officer Training School to become a pilot and has just graduated. His ultimate ambition is to be an astronaut. When asked what motivated him to join the military, Okason, who came to the United States from Jamaica after high school, cites his immigrant background. “This is a land of opportunity,” he says. “I am grateful, and I would like to give back and serve in something bigger than myself.”

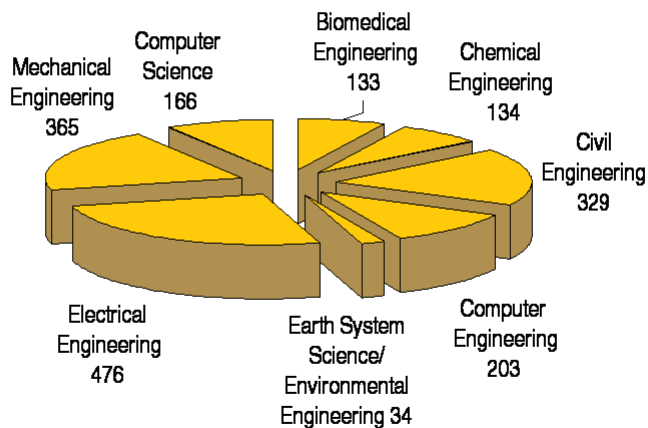
When asked what has empowered him to pursue his dream, Okason cites City College. “CCNY leveled the playing field for me,” he says. “Like so many immigrants, I could not afford a private institution, and the caliber of the instruction was excellent. As soon as I got out into the world, I realized that City College had prepared me to thrive with the best.”

Throughout his young life, Okason has racked up academic honors and dedicated himself to service. In Jamaica, he was salutatorian of his high school class. At City, his numerous distinctions included the School of Engineering Outstanding Service and Leadership Award and the Mechanical Engineering Department’s Special Service and Outstanding Academic Achievement Awards. A member of PRES, he served as a student teacher and mentor at Intermediate School 223 in New York City, and his many on-campus activities included being president of the CCNY Chapter of the American Institute of Aeronautics & Astronautics (AIAA). “That experience was transformative,” he says. “It allowed me to develop as a leader and network with many aerospace professionals, most notably CCNY’s astronaut alumnus, Mario Runco, Jr., whom my team and I invited back to campus to address the CCNY community.”

As Okason looks ahead to the demanding road he has chosen, he says, “The day I got my pilot’s wings was the proudest of my life. As I pursue my career, I hope to be an ambassador for the countless immigrant students whose lives have been changed by City College.”

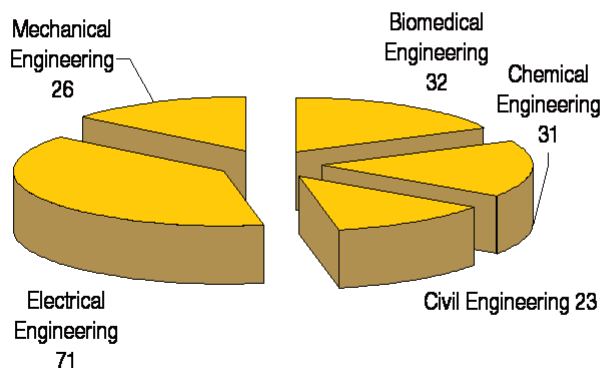
### Undergraduate Enrollment Spring 2008

Total: 1840



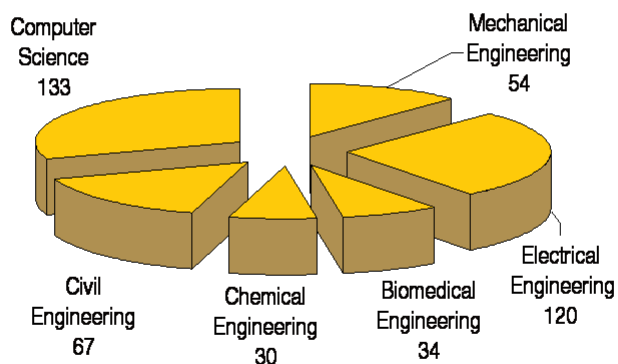
### PhD Enrollment Spring 2008

Total: 183



### Master's Enrollment Spring 2008

Total: 459



### Degrees Granted 2007–2008

Bachelor's degrees	Master's degrees	Ph.D. degrees
281	120	30

Tuition and Fee Schedule Fall 2007		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

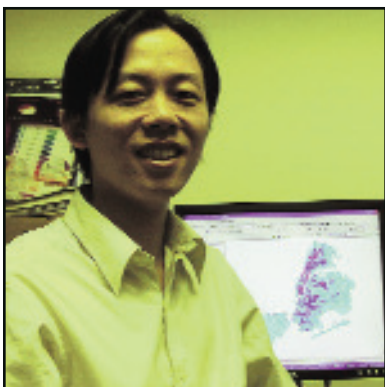
# graduates



**Pierre Bouzi**  
Electrical Engineering

**“I have always wanted to be an engineer. The support at the Grove School has made it possible.”**

Pierre Bouzi started his CUNY experience with an AS degree in computer science from BMCC. A BE in electrical engineering at City followed, and he is currently a master’s student with his eye on the doctoral program. Pierre has been doing research since his undergraduate days, and it is his passion. Working under Dr. Roger Dorsinville, he completed a senior design project on the simulation and fabrication of organic light emitting diodes. His current research, which could lead to a PhD thesis, is on quantum entanglement. During a summer internship at Corning, Pierre studied power conversion efficiency of Erbium-doped fiber, work which he is continuing on the City College campus. Of his Grove School experience, he says, “I have always been supported. LSAMP’s Bridge to the Doctorate program is paying for my master’s studies and preparing me for the next step.”



**Jason (Xiaqiang) Chen**  
Civil Engineering

**“New York is the place to be and City College has the best civil engineering program in New York.”**

In Jason Chen’s native China, transportation demand modeling is a crucial field. The standard of living is skyrocketing, and attendant vehicle usage has spawned issues of congestion and pollution which US cities have been battling for years. So, having completed his master’s degree at Tongji University in Shanghai, Jason came to the US for his PhD. “Current transportation modeling tools are out of date,” he says. “My work is geared to developing better tools, and we are making more progress than we have in the past 20 years.” Jason has already completed three major research projects at the Grove School. Currently he is engaged in a sensitivity analysis of the New York Metropolitan Transportation Council’s Best Practice Model. His dissertation is on residential relocation behavior in the Puget Sound region. Its goal is to establish how people’s prior location experience affects their future choices.



**Jingqin Cui**  
Chemical Engineering

**“Chemical Engineering at the Grove School has an international reputation. That is what drew me here from China.”**

Jingqin Cui previously studied biochemical engineering at the Institute of Process Engineering, Chinese Academy of Sciences in Beijing, from which she holds a master’s degree. Her interest is in nanotechnology. Specifically, she is working on developing new methods to modify nanoparticles asymmetrically, characterize those particles, and find applications for them. “Nanotechnology has tremendous potential for industry,” she says, “and that is where I would like to work. I hope to apply nanotechnology to battery materials for energy storage and to solar cells for companies specializing in green technology. This research brings together chemistry, physics and engineering. It could lead to new structures with novel properties.” Jingqin’s advisor is Dr. Ilona Kretzschmar. “At the Grove School,” says Jingqin, “female professors are leaders in a traditionally male environment. This is an excellent place to be a female engineer.”



**“My advisors motivate and challenge me all the time. It is my pleasure to work with them.”**

For five years, Parisa Mirbod worked as a mechanical engineer in her native Iran, first as an HVAC designer and then in the die and press unit of an auto manufacturing company. However, she wanted to do research, and decided that it was time to build on the master's she earned at the University of Sistan and Baluchestan and seek a PhD. At the Grove School, she is working with Drs. Yiannis Andreopoulos and Sheldon Weinbaum. She is involved in a project which is breaking new ground in mechanical engineering: developing a wingless jet plane which would fly within centimeters of the ground along a track of porous media. The idea comes from biomedical engineering. It originated in Dr. Weinbaum's insights into the movement of red blood cells in the endothelium, a motion which is akin to a human snowboarding on fresh snow.



**Parisa Mirbod**  
**Mechanical Engineering**

**“I have access to professors all over CUNY and to excellent resources in my field.”**

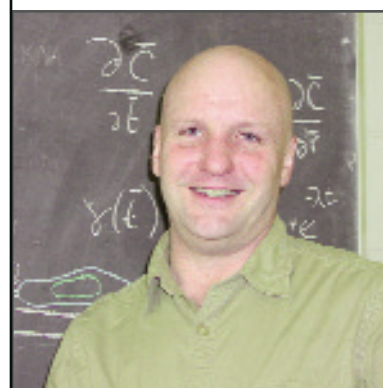
Valia Mitsou began her graduate studies at the National Technical University of Athens in Greece, where she was a member of the Computational and Reasoning Lab in the School of Electrical and Computer Engineering. Valia, who already has five publications to her credit, was drawn to CUNY by the university's reputation and the excitement of New York City, which offered her the multicultural environment she wanted. At the Grove School, she has been working with Dr. Abbe Moshowitz on large scale networks and network growth techniques. Their project is part of the International Technology Alliance in Network Information and Science, sponsored by the US Army Research Laboratory and the UK Ministry of Defence. Valia is doing bibliographic research on several past attempts at describing and explaining how real-world networks grow and original research on a new technique for building a large-scale network with properties such as small diameter and robustness.



**Valia Mitsou**  
**Computer Science**

**“I have loved the lack of pretention at the Grove School. Leaders in my field are approachable and supportive.”**

Stewart Russell began his working life with a degree in speech from Northwestern University and spent 15 years in the theatre. Ultimately, acting ceased to challenge him, and restoring a 200-year-old house kindled his interest in engineering. He came to City College where he earned his BE in Mechanical Engineering, and exactly 20 years after his graduation from Northwestern, his ME in Biomedical Engineering. Stewart's son's diabetes spurred his interest in the disease. As co-principal investigator on a joint research project with the Bayer Corporation, he worked to develop a wireless biomedical glucose meter. In 2003, he began investigating the correlation between diabetes and atherosclerosis, which he pursued as an IGERT Graduate Research Fellow in Biomedical Engineering at the Benjamin Levich Institute. Stewart hopes that the model he is developing will apply to other diseases with metabolic faults such as Parkinson's and Alzheimer's.



**Stewart Russell**  
**Biomedical Engineering**

# undergraduates

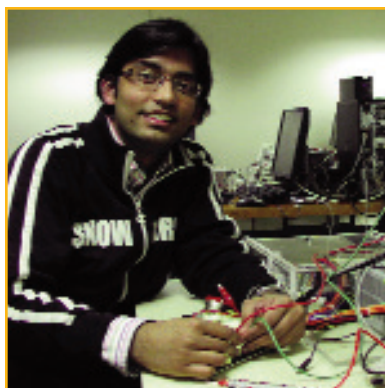
**“The Grove School gave me the flexibility to develop new interests and the opportunity to exercise my leadership skills.”**



**Artur Chrostowski**  
Chemical Engineering

Artur Chrostowski exemplifies the determination which has characterized generations of students at CCNY. While working 40 hours a week, first in a supermarket and then in a restaurant, he has excelled at his studies, served as president of AIChE on campus and been a mentor/lecturer at CCNY's High School for Math, Science and Engineering. Artur, who came to this country from Poland after high school, started out as a computer science major but found a home in chemical engineering. At AIChE, he garnered funding for 14 Grove School students to attend the organization's national meeting in Utah and engaged his chapter in the ChemE car competition. As a high school mentor, he designed and taught a course in thermodynamics, with a view to attracting students to the Grove School. Artur will be joining Procter & Gamble as a process engineer, with graduate school a possibility in the future.

**“The faculty is as serious about our education as we are. There is a step-by-step method at the Grove School. One course builds on another, and this prepares us very well for the workplace.”**



**Abhishek Kumar**  
Computer Engineering

Abhishek Kumar came to the United States from India after 10<sup>th</sup> grade and graduated from John Browne High School in Flushing. He had always liked programming and coding, but found computer engineering even more fascinating. While at the Grove School, Abhishek landed internships at DOITT and Merck. His senior design project entailed developing software for face recognition. He also worked on a Wikipedia for computer engineering and computer science which will be accessible to any student at City College. Clubs have been a big part of Abhishek's life on campus. He has served as IEEE's web master, as treasurer of the Society of Women Engineers and been a member of the National Society of Black Engineers. He plans to join a consulting firm, and then do a master's in computer engineering.

**“My degree in computer science will make me a better entrepreneur and, ultimately, will allow me to follow my dream of studying neuroscience.”**



**Sue Peters**  
Computer Science

By the time Sue Peters came to the Grove School, she was an accomplished business woman, having co-founded one company and established a track record in business development at several others. She pursued her studies in computer science while working full-time as a wireless technology consultant with a client list of 200 companies. For her senior design project, she developed a Blackberry application which allows users to view the image of a traditional telephone keypad so that they can use the letters. “I have been able to keep my finger on the pulse of the industry while pursuing my studies,” she says. Ultimately, Sue intends to meld her first love, biomedical engineering, which she studied at Vanderbilt University a decade ago, with her new command of computer science. She hopes to explore the possibilities of bridging hand-held computing and neuroscience.

**“I will leave the Grove School with quality information and a good preparation for the working environment.”**

Shaan Polius arrived at the Grove School holding a Cambridge Certificate in Liberal Arts and Sciences from Sir Arthur Lewis Community College in St. Lucia. At GSOE, she has enjoyed her studies in energy systems, heat transfer and thermodynamics. Her senior project has entailed working with a team of four to design a device which utilizes piezo-electric fiber composites (PFCs) such that the wind load induces a mechanical strain in the PFCs, allowing them to vibrate at their resonant frequency to produce maximum electricity. In the course of two summers, she has developed an impressive background in nanotechnology, interning at the Center for High Rate Nanomanufacturing at Northeastern University and the Center for High Rate Nanomanufacturing at the University of Massachusetts Lowell. Shaan has been active on campus, serving as external vice president for the GSOE chapter of the National Society of Black Engineers.



**Shaan Polius**  
**Mechanical Engineering**

**“The Grove School is tough, but I am very determined, and the study environment is collaborative and very supportive.”**

Since she was a child in Poland, Angelika Slabiak has wanted to know how things work. “I have always been practical and hands-on,” she says. Having earned an Associate in Science degree at LaGuardia Community College, she is now majoring in civil engineering. Her preferred fields are transportation and structural design. “I hope,” she says, “to get internships in both fields, and see which I prefer.” In particular, Angelika aspires to join the Grove School chapter of Engineers without Borders. She lauds the collaborative learning environment at the School, as well as the opportunities which have come her way through the Office of Student Programs and the Alumni Association. Angelika is working her way through GSOE as a secretary. In her spare time, she plays on the CCNY women’s soccer team, is active in Tau Beta Pi, and organizes events for her church.



**Angelika Slabiak**  
**Civil Engineering**

**“The Grove School combined affordability with a strong curriculum and excellent teaching. It was a great experience.”**

Following graduation, Safwan Tanveer will join Lockheed Martin Systems Integration’s Naval Helicopter Program as a Systems Engineer. There, he will put his Grove School training to use working on issues of avionics, flight control and Forward Looking Infra-red (FLIR). Safwan, who came to this country from Bangladesh, found that the Grove School offered him the high level of education he was seeking. “The EE faculty comes from the world’s top schools and really tries to make a difference in students’ lives,” he says. Safwan’s presidency of Eta Kappa Nu on campus was central to his Grove School experience. In this capacity, he brought speakers of national stature to City College including the chief architect of Intel P4 processors. “Eta Kappa Nu helped me develop skills very necessary to the real world,” he says. Safwan also lauds the Grove School’s diversity, which allowed him to exchange ideas and opinions with people from all over the world.



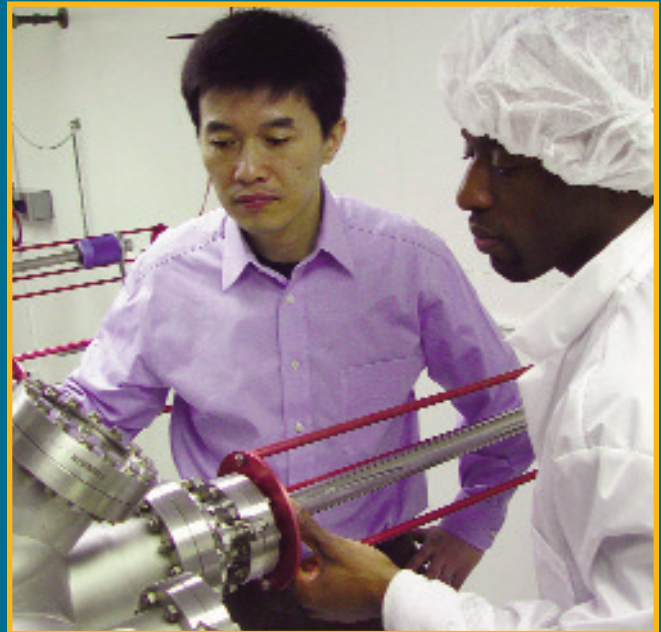
**Safwan Tanveer**  
**Electrical Engineering**

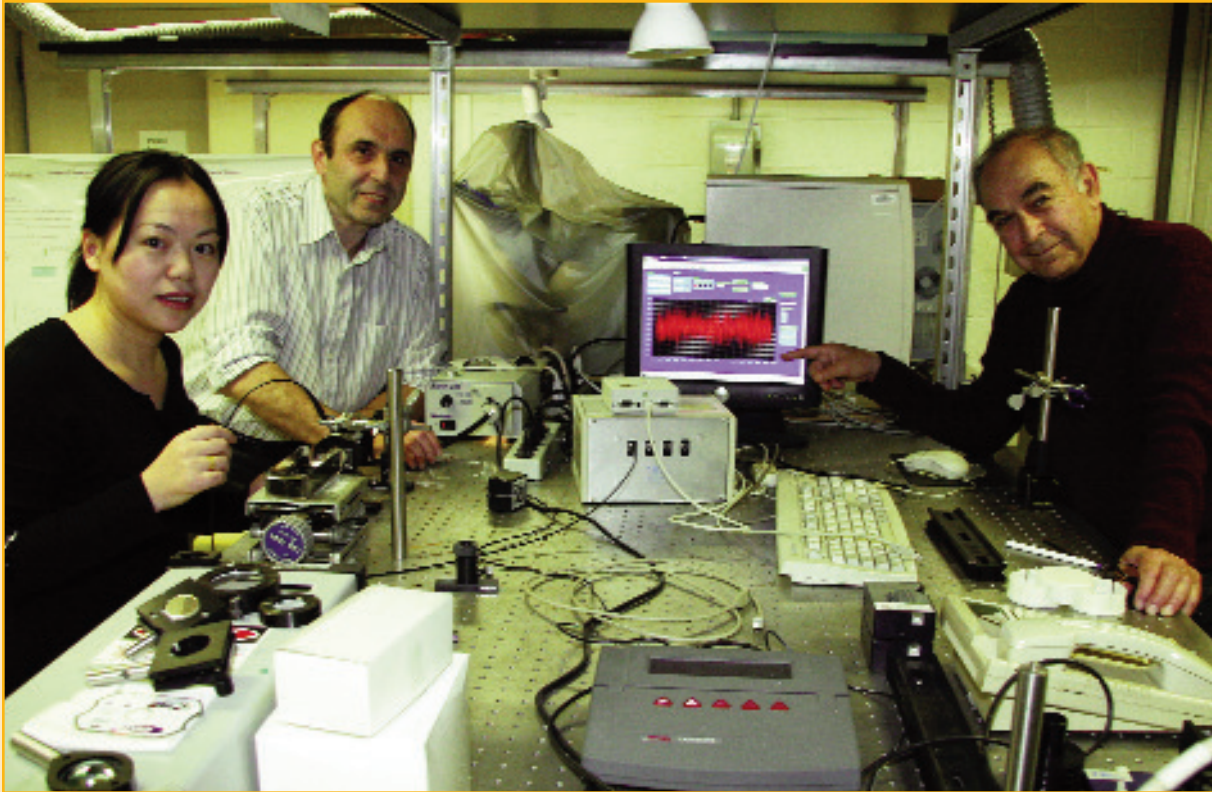


**Jaafar Tindi**  
**Biomedical Engineering**

**“The Grove School exposes students to research and is open to diversity. You don’t realize what a diverse place this is until you go outside.”**

A Macaulay Honors College student who is bound for the MD-PhD program at the Albert Einstein College of Medicine, Jaafar Tindi has amassed awards throughout his time at the Grove School. Originally from Kenya, he arrived at GSOE having been valedictorian at DeWitt Clinton High School and became one of 24 National Institutes of Health Scholars at City College. Jaafar was interested in chemistry, biology, and physics. In biomedical engineering, he found an integrated discipline which encompasses them all. Jaafar’s research, under Dr. Lucas Parra, consists of studying the correlation between alpha activity in the brain and response to visual stimuli using electroencephalography (EEG). He was a part of the BME junior design team that worked on a bio-monitor prototype for NASA astronauts with ECG, EMG, EEG, heart rate and oxygen saturation acquisition capabilities. In addition to his studies, Jaafar has served as president of the CCNY chapter of Tau Beta Pi and devotes himself to community service.





The Grove School's faculty is its pride. Once again, in 2007-2008, the School has attracted senior faculty members who will enhance its research, teaching and reputation. This year, Dr. Sanjoy Banerjee, an international star in the energy field, has joined the school as CUNY Distinguished Professor; Dr. Gilbert Baumslag, a CUNY Distinguished Professor of longstanding, has chosen GSOE for the next chapter in his brilliant career; and Dr. Jorge González-Cruz has come to the School to continue a still young career of exceptional promise and achievement. They are joined by five superb new junior faculty.

*In 2007-2008 the Grove School's 107 full-time faculty members:*

*Served in an editorial capacity on 19 archival journals*

*Delivered 12 lectures at conferences and universities*

*Performed an organizational role at 21 conferences and workshops*

*Published 3 books and contributed 6 book chapters*

*And produced 275 peer-reviewed articles and 101 conference papers*

**Agrawal, Anil Kumar**

Associate Editor:  
Journal of Structural Engineering, ASCE  
Journal of Bridge Engineering, ASCE

Guest Editor, Special Issue of Structural Control and Health Monitoring (April 2008).

Chair, ASCE Committee on Structural Control

Deputy-chair, ASCE Committee on Bridge Inspection, Management, and Rehabilitation Committee.

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

Executive Committee Member, U.S. Panel on Structural Control and Health Monitoring

**Baumslag, Gilbert**

Seminar at the US Naval Academy, Annapolis, March, 2008

Organizer, New York Group Theory Seminar, April, 2008

**Bloom, Gary**

Visiting Research Professor: University of Ballarat, Center for Informatics & Its Applications (Ballarat, Australia, March - May, 2008).

Editorial Board, AKCE International Journal of Graphs and Combinatorics.

Co-Guest-Editor: Special Issue on Graph Labelings of the AKCE International Journal of Graphs and Combinatorics, to appear.

**Cardoso, Luis**

Session Chair, "Bone Structure and Mechanics" 54th Annual Meeting of the Orthopedic Research Society, March, 2008, San Francisco, CA.

2008 Mimics Innovation Award , 6th International Conference on Medical Innovations, Vienna, Austria, May, 2008

2008 Biomedical Engineering Society Recognition Award

**Fritton, Susannah P.**

2008 Grove School of Engineering Outstanding Teacher Award

**Fu, Bingmei**

Editorial Board, Journal of Biomedical Engineering

Newsletter Editor, the World Association of Chinese Biomedical Engineers

Session Co-Chair, Biomedical Engineering Annual Meeting, Sept, 2007, Los Angeles.

Invited Keynote Speaker, 3rd Sino-US Biomechanics Workshop, July, 2007, Guangzhou, China.

**Habib, Ibrahim**

Distinguished Lecturer, IEEE Communications Society

General Chairman:

IEEE WIMOB 2007 Conference, New York, October 2007.

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

Guest Editor:

IEEE Communications Magazine, special issue on Connection Oriented Networks, October 2007.

IEEE Wireless Communications Magazine, special issue on Rural and Emergency Communications, to appear, 2008.

Editorial Advisory Board, John Wiley Journal on Security and Communication Networks.

**Jiji, Latif M.**

2008 American Society for Engineering Education Ralph Coats Roe Award for outstanding teaching and contribution to engineering education. Professor Jiji delivered the Ralph Coats Roe Lecture at the ASEE annual meeting in Pittsburgh, June, 2008.

**Li, Jackie**

Organizer of mini Symposium on Nonlinear Characteristics of Heterogeneous Materials, 14th Symposium on Plasticity'09, January, 2009, St. Thomas, US Virgin Islands.

International Organizing Committee, Plasticity'09

**Liu, Huabei**

International Scientific Committee Member and Local Organizing Committee Member, The Fourth Biot Conference on Poromechanics.

**Madamopoulos, Nicholas**

Elevated to IEEE Senior Member

**Pach, János**

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

Editorial Board Member:

Computational Geometry: Theory and Applications

Geombinatorics

Graphs and Combinatorics

SIAM Journal on Discrete Mathematics

Combinatorica

Applied Mathematics Research Express

International Journal of Computer Mathematics.

Co-organizer, Workshop on Combinatorial Geometry and Topology, Brownsville, Texas, April, 2008.

Organizing Committee member:

Visualization Day, City College, CUNY, April, 2008.

Intuitive Geometry in Memoriam of Laszlo Fejes Toth, Budapest, June 30 – July 4, 2008.

Fete of Combinatorics and Computer Science, Keszthely, Lake Balaton, Hungary, August, 2008.

Invited plenary speaker:

Coloquio Victor Neumann-Lara de Teoria de las Graficas, Combinatoria y sus Aplicaciones, Zacatecas, Mexico, March, 2008

Conference on Discrete and Computational Geometry, School of Mathematical Sciences, Lahore, Pakistan, March, 2008

New Directions in Algorithms, Combinatorics and Optimization, Georgia Institute of Technology, Atlanta, May, 2008

Topological and Geometric Graph Theory, Paris, France, May, 2008.

Invited lecture, Discrete Geometry Conference,

Oberwolfach, Germany, September, 2008.

Editor of Special 20th anniversary triple issue of Discrete and Computational Geometry

Co-organizer of Reconfigurable and Adaptive Architecture Workshop (RAAW), held in conjunction of the International Conference of Microarchitecture (MICRO) in 2007.

**Voiculescu, Iloana**

2007 IEEE Sensors Journal Best Paper Award.

**Weinbaum, Sheldon**

Chair Bioengineering Section of the National Academy of Engineering

2008 Davies Medal Rensselaer Polytechnic Institute, highest honor given to an engineering alumnus

Tenth Ascher Shapiro Lecture in Fluid Mechanics, MIT

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

2007 70th Anniversary Distinguished Lecture, Hong Kong Polytechnic University

2007-2008 Sackler Lecturer, Tel Aviv University

**Zahran, Mohamed**

Promoted to IEEE senior member

**Zhu, Zhigang**

Certificate of Recognition "Salute to Scholars" Award, CUNY, 2007

Co-Guest Editor, International Journal of Computer Vision, Special Issue, July, 2008.

Panelist, Conference of Protecting New York from Terrorism and Disaster, Levin Institute of SUNY, January, 2008

Invited Speaker, Conference on Emergency Preparedness, Queens Hospital Center Emergency Management Committee, February, 2008.

## Jorge González-Cruz: A Bright New Light at the Grove School



**“At City College, I see an opportunity to cross the boundaries between science and engineering.”**

Jorge E. González-Cruz brings to City College a background which is highly relevant to our nation’s current needs and to the development of the energy and climate thrusts which are growing areas of research and teaching at the Grove School. His expertise is in energy, sustainability, and climate change. He is actively involved in research related to applications of heat transfer, solar energy, low energy buildings, and urban climatology.

Dr. González-Cruz is a member of NOAA-CREST, which is based at the Grove School, and will play an important role in the School’s Energy Institute. “At City College,” he says, “I see an opportunity to cross the boundaries between science and engineering. Research at CCNY can have a long-term impact in the area of sustainable coastal environments, including furthering the concept of green cities and addressing the practical issues of energy and growth facing urban coastal places such as New York City.”

Now a full professor in the Grove School’s Department of Mechanical Engineering, Dr. González-Cruz comes from Santa Clara University where he was a full professor and a David Packard Scholar. As a graduate of the University of Puerto Rico-Mayaguez (UPRM), former chair of its Department of Mechanical Engineering and current adjunct faculty member, he brings an important connection to the Grove School. He will play a significant role in implementing the new joint PhD in engineering degree offered by the Grove School and UPRM. “I look forward to supporting the integration of more students from Hispanic backgrounds into CCNY, especially at the graduate level,” he says.

Dr. González-Cruz earned his PhD at Georgia Institute of Technology. He has been honored with the NSF’s prestigious CAREER Award and UPRM’s Outstanding Mechanical Engineering Faculty Award. He is widely published and holds two patents in solar energy equipment.



## A New Chapter Opens for a Distinguished Professor: Gilbert Baumslag Joins the Grove School

Dr. Gilbert Baumslag is one of the most honored members of the CCNY faculty and one of the world's most respected mathematicians. He began his teaching and research career fifty years ago, and, in 1973, became CUNY Distinguished Professor with an appointment in the CCNY Department of Mathematics. Since then, he has delivered invited plenary and research lectures to conferences all over the world, received over \$2,300,000 in grants and two Special Creativity Awards from the National Science Foundation, served as referee for most of the research periodicals in his field, and published two books and over 150 research papers.

Dr. Baumslag's research has always been on the cutting edge of group theory. He entered the field when it was new, and after decades of breakthroughs as a mathematician, he found his thinking taking him further and further into computer science. In 2007, Dr. Baumslag, who is director of CAISS, the Center of Algorithms and Interactive Scientific Software at CCNY and organizer of the New York Group Theory Seminar, decided that he could best pursue his ideas in the Grove School's Department of Computer Science.

"My research," he says, "is at the interface of mathematics and computer science. Many years ago, I started to develop software to do computations and experiments with infinite groups. Group theory is part of modern algebra. It is used in every scientific discipline. It helps us understand and unravel the patterns which make up the universe. Its language helps us comprehend three-dimensional space and delve deeper into the structure of subatomic particles."

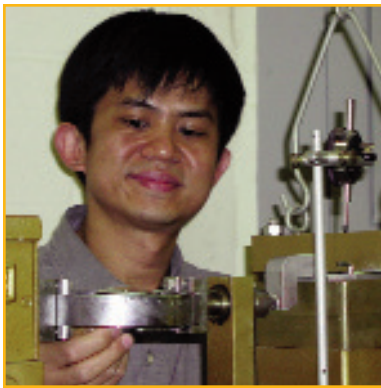
Recently, in conjunction with colleagues in his new department, Dr. Baumslag has been applying his ideas very successfully to statistics, databases and cryptography, a particular strength of computer science at the Grove School. "Group theory," he says, "can be used to encode very complicated information, securing the communication of information wirelessly."



**"My research is at  
the interface of  
mathematics and  
computer science."**

# young faculty

*The Grove School continues to fill its classrooms and laboratories with fine young instructors from across the globe. They bring enthusiasm, excellent credentials, and diversity which enriches education far beyond engineering. Their performance is first-rate. Undergraduate and graduate students give them high marks for their teaching and mentoring, and the quality of their research is a key factor in the Grove School's increasing reputation.*



**Huabei Liu**

Assistant Professor of Civil Engineering  
Ph.D. Columbia University

After his doctoral studies at Columbia, Huabei Liu returned to China's prestigious Tsinghua University to teach. But, Dr. Liu, whose international experience includes being a visiting scholar at GeoDelft in the Netherlands and a visiting researcher at the National Institute for Rural Engineering in Japan, was drawn back to the United States. He wanted to return to a research environment which provided material support for young faculty and where senior faculty members were accessible. He also missed the excitement of New York City. Dr. Liu is part of the Structural Engineering Mechanics Group in The Grove School's Department of Civil Engineering. His research centers on the theoretical and experimental fields of soil mechanics and geotechnical engineering. Currently, he is studying the inclusion of polymeric material to increase soil strength; he is investigating issues related to excavating under the Brooklyn Bridge for the Second Avenue Subway; and he is working on seismic design recommendations for the New Jersey DOT.



**Nicholas Madamopoulos**

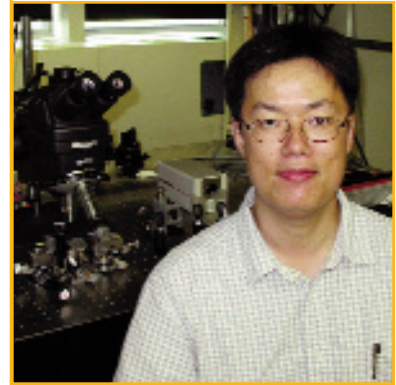
Associate Professor of Electrical Engineering  
PhD The School of Optics,  
University of Central Florida, Orlando

Following a decade in industry, Nicholas Madamopoulos wanted to teach and to have the flexibility to do his own research. At the Grove School, he is instilling in undergraduates the project-oriented approach he brings from industry, mentoring PhD students, and pursuing his work in photonics. "At City," he says, "there are excellent people in photonics and closely related fields, and CUNY's Center for Advanced Technology in Photonics (CAT) was a big draw." Dr. Madamopoulos holds several international awards for his work in optical networks, RF photonics and photonic information processing and is a Senior Member of IEEE. He is building up the Optical Communications and Photonics Laboratory at City. There, he is developing two main research thrusts. The first is novel architectures of optical communication networks, in particular passive optical networks and fiber assisted wireless for applications in the access networks. The second is novel photonic information processing modules and techniques for applications in medicine, sensing and metrology.

"I wanted to come to an institution where I could freely explore new ideas and develop new research areas," says Sang-Woo Seo. "When I interviewed at The Grove School, I saw that the Dean and other faculty members shared my passion for this goal. Because of their vision, I thought that this would be a good place to do my research." Dr. Seo was also drawn to City because of the strength of the faculty in his field of photonics, as well as materials, RF microwave and MEMS. "I would like to connect with these colleagues to devise new systems," he says. "Most people here are focused on the materials side. My research entails using those materials to make devices and apply them." Dr. Seo has supervised the construction of a new clean room for his research. He hopes to use his expertise in photonics and integration to develop advanced integrated systems by combining photonics with other technologies such as RF, MEMS and electronics.

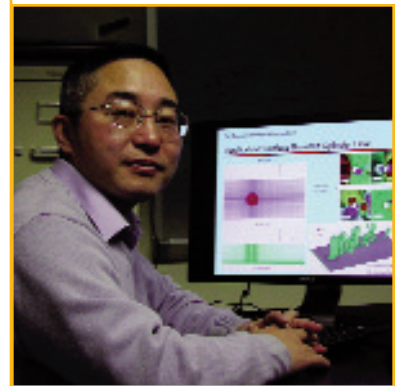
Hansong Tang came to City College with research experience at several prestigious institutions, including the Naval Research Laboratory at Stennis Space Center, the Pacific Northwest National Laboratory/Battelle in Seattle, and Stevens Institute of Technology in New Jersey. In addition, he has taught at two universities in his native China. The Grove School, which is home to NOAA-CREST, was the perfect place for him to pursue his research in environmental fluid mechanics and numerical simulation, particularly ocean flow modeling. "There are many ocean models," he says, "but some are for coastal waters and others for deep oceans. My work on multiscale phenomena in ocean flows combines the two." Dr. Tang is still collaborating with his colleagues at Stennis and is looking forward to developing this area of research at the Grove School. "I hope to make a real contribution to my department," he says. He is also enjoying getting back to teaching. "The students here are very dedicated," he comments. "I admire the way they combine their studies with work and family responsibilities."

Fan Yang was attracted to City College because of its unique situation in one of the world's major transportation hubs. "New York," he says, "has the world's biggest transit system in terms of busses and subways and one of the world's most complex multimodal transportation systems." A specific draw was the University Transportation Research Center, located at the Grove School. Dr. Yang's current research projects include developing a consultant management estimating tool, funded by the New York State DOT, and studying dynamic congestion pricing strategies with drivers' stochastic dynamic behavior. He has taught courses on analytical methods in civil engineering and advanced transportation network analysis and a workshop on applications of micro-simulation models to transportation planning. He finds the students highly motivated and gets rave reviews for his teaching. "I always try to get them to understand the thinking process behind solving a problem," he says. "The Grove School is an excellent place to be a junior faculty member," he concludes.



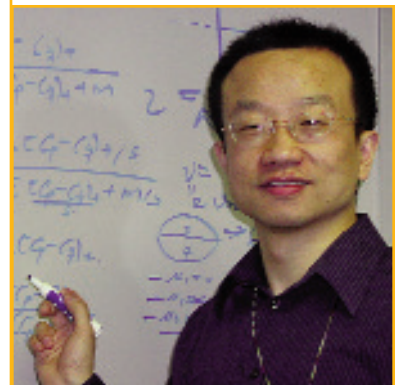
**Sang-Woo Seo**

Assistant Professor of Electrical Engineering  
Ph.D. Georgia Institute of Technology



**Hansong Tang**

Assistant Professor of Civil Engineering  
DSc Peking University, PhD Georgia Institute of  
Technology



**Fan Yang**

Assistant Professor of Civil Engineering  
PhD University of Wisconsin at Madison



## CUNY Research to Help New York Tackle Transportation Woes:

### The Universal Transportation Model Simulation Center Opens at City College

CUNY's new Universal Transportation Model Simulation Center (UTMSC), which opened in March 2008, represents the last word in intelligent transportation systems and promises to play a huge role in helping the New York metropolitan area address its transportation woes. "This is the culmination of a vision which began in 2000," says Dr. Neville Parker, Kayser Professor of Civil Engineering and Director of CUNY's Institute for Transportation Systems (CUNY-ITS) which is housed in the Grove School.

The UTMSC is the result of a seven-year process during which CUNY-ITS conducted several smaller transportation modeling projects in Alabama, Illinois, New Jersey, New York, Texas, Cyprus, Greece and Italy. The Center will develop new tools for research, education, training and project implementation in large-scale transportation modeling for researchers, students, transportation professionals and policy makers. It will employ artificial intelligence technologies for improved traffic flow operations, continuously update dynamic network assignment models and develop real-time transportation management methodologies.

The Center was inaugurated by Manhattan Borough President Scott M. Stringer and CCNY President

Gregory Williams. Its importance to the City of New York was highlighted by the Borough President who deplored the City's failure to plan for the efficient transport of goods, resulting in crumbling infrastructure and dangerous air pollution. "CUNY's new simulation center will give us greatly needed information we can use to plan our way out of this mess," he said.

The UTMSC will analyze and address efficiency and security issues arising across the New York metropolitan area. The "signature" test bed for its operations will assess and mitigate the noise and air pollution burdens experienced by East Harlem. UTMSC's operations are powered by an SGI® Altix® 4700 supercomputer, which allows multiple users to run large-scale transportation models simultaneously.

Funding for the Center has come from the Manhattan Borough President's Office, CCNY, Silicon Graphics, Inc. (SGI), and The Vista Transport Group. Dr. Parker is the UTMSC's director. Dr. Kyriacos Mouskos, Research Professor at CUNY ITS, oversees the operations of the UTMSC lab. He also serves as liaison to the Center's partners, including the Vista Transport Group and agencies in foreign countries.

In 2007-2008 awards for sponsored research at City College's Grove School of Engineering totalled a record \$23,890,376. This represents a \$5.2 million increase over 2006-2007. It is also important to note that external funding for the Grove School of Engineering represented 51% of the total of CCNY's external funding for 2007-2008.

**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 Algorithms and Interactive Scientific Software

Center for Information Networking and Telecommunications

CUNY Institute for Urban Systems

CUNY Institute for Transportation Systems

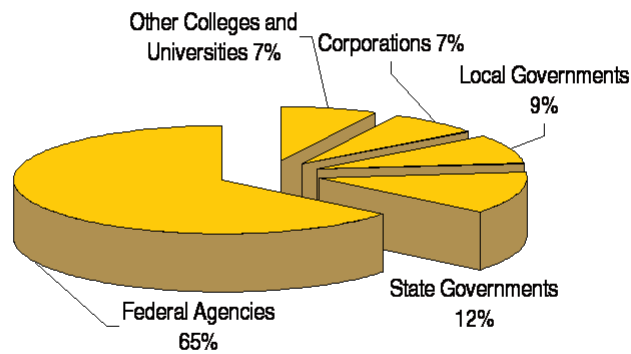
Center for Water Resources and Environmental Research

CUNY Energy Institute

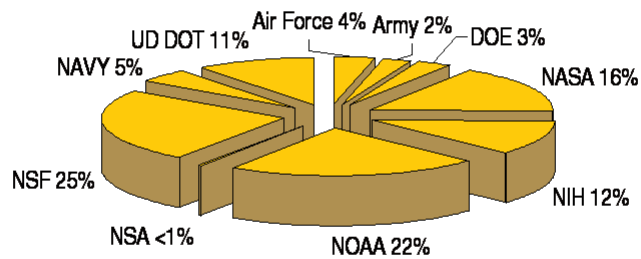
Institute for Environmental Science and Engineering

Center for Advanced Engineering Design and Development

**Funded Research Distribution by Sources**  
Total: \$23,890,376



**Federal Research Funding Distribution by Agencies**  
Total: 15,352,788



**Agrawal, A.**, NEESR-SD: Framework for Development of Hybrid Simulation in an Earthquake Impact Assessment Context, UNIVERSITY OF ILLINOIS, \$15,000

**Agrawal, A.**, Workshop: Future Directions of Smart Structures Technology and Experimental Benchmark, NSF, \$21,311

**Agrawal, A., Fillos, J., Paaswell, R.**, UTRC: Water Quality Mitigation and Banking, NJ DOT, \$160,000

**Agrawal, A. Kawaguchi, A.**, Bridge Element Deterioration Rates, CORNELL UNIVERSITY, \$75,562

**Agrawal, A., Kawaguchi, A.**, Nondestructive Evaluation and Development of Asset Management System for New York City's Pump Stations Force Mains, NYC DEP, \$600,000

**Ahmed, S.**, Exploring Techniques for Improving Retrievals of Bio-Optical Properties of Coastal Waters, ONR, \$300,000

**Ahmed, S.**, University Research Center for Center for Optical Sensing and Imaging of the Earth and Environment (COSI), NASA, \$1,050,000

**Ahmed, S., Gross, B., Grossberg, M., Khanbilvardi, R. M., Moshary, F.**, NOAA Interdisciplinary Scientific Environmental Technology (ISET) Cooperative Research Education Center, CAROLINA A&T, \$450,000

**Arend, M., Small, G.**, CAT: Center for Advanced Technology, NYSTAR, \$34,500

**Banerjee, S.**, Faculty Development Program, NYSTAR, \$500,000

**Banerjee, S.**, CUNY Energy Institute, WALLIS FOUNDATION, \$60,000

**Benenson, G., Neujahr, J.**, Physical Science Comes Alive: Exploring Things that Go, NSF, \$886,791

**Bikson, M.**, Mechanisms of Deep Brain Stimulation: Joule Heating and Electroporation, NIH, \$76,500

**Brown, R.**, CCNY/SCRIP STEP Program, NYS ED DEPT., \$118,196

**Cardoso, L., Rumschitzki, D., Sadegh, A.**, MRI: Acquisition of an Advanced Micro-Computed Tomography Imaging Facility, NSF, \$339,450

**Chen, C.**, Pilot Person-Based GPS Household Travel Survey, STY INC., \$44,929

**Couzis, A.**, Templated Synthesis of Nanoscale Hollow Shells with Controlled Porosity, NSF, \$109,995

**Couzis, A., Morris, J.**, Designing a Manufacturing Approach for Micron and Submicron Nylon 12 and Nylon 6 Particles with Tight Particle Size Distribution, EMES PRODUCTS, LL, \$49,103

**Crouse, D., Dorsinville, R., Small, G.**, CAT: Quantum Wire Focal Plane Array, NYSTAR, \$20,000

- Crouse, D., Small, G.**, CAT: Center for Advanced Technology, NYSTAR, \$40,815
- Denn, M.**, Failure In Extensional Flow of Entangled Polymer Melts, NSF, \$82,553
- Denn, M., Morris, J.**, PHASEII Computational Design Tool for the Synthesis and Optimization of Gel Formulations, CFD RESEARCH COR, \$75,000
- Diyamandoglu, V.**, Materials Exchange, Reuse and Sustainability in New York City, NYC DEPT OF SANITATION, \$191,664
- Diyamandoglu, V.**, NY Wastematch Program, NYC DEPT OF SANITATION, \$243,695
- Dorsinville, R., Crouse, D.**, Semiconductor Heterostructure Quantum Wire Multiwavelength IR Photodetectors for Focal Plane Arrays: Phase 2, PHOEBUS OPTOELEC, \$45,000
- Dorsinville, R.**, Communications and Quantum Measurements, CORNING INC , \$38,000
- Dorsinville, R.**, Characterization of Carbon Composites, CORNING INC, \$25,000
- Dorsinville, R., Small, G.**, CAT: Nonlinear Optical Characterization, NYSTAR, \$5,000
- Fillos, J.**, DEP Process Performance, NYC DEP , \$1,000,000
- Fritton, S.**, Role of Fluid Flow in Bone's Response to Applied Loading, NIH, \$194,936
- Fritton, S.**, NYS/NASA Space Grant College and Fellowship Program, CORNELL UNIVERSITY, \$31,500
- Fu, B.**, CAREER: Understanding Acute Microvessel Hyperpermeability, NSF, \$32,100
- Fu, B.**, Effects of Hydrodynamic Factors on Tumor Cell Arrest and Adhesion in the Microcirculation, NSF, \$80,000
- Gertner, I.**, Time-Frequency Analysis for Detection, Track, and Discrimination of Threat Objects in a Dense Object Environment (TFAI DOE), MDA, \$187,500
- Ghosn, M., Agrawal, A.**, Load and Resistance Factor Rating in NYS, NYS DEPT OF TRANSPORTATION, \$250,000
- Issacs, L.**, Space Alliance Technology Outreach Program, GREATER SYRACUSE, \$2,000
- Jiji, L.**, Design of a Heat Exchanger for Modification of a Stirling Engine 161, ENEA, \$6,823
- Khanbilvardi, R. M.**, NOAA Cooperative Remote Sensing Science & Technology Center (CREST), NOAA, \$2,415,445
- Khanbilvardi, R. M., Gladkova, I., Rossow, W.**, CREST Satellite Earth Science Sensor Compression and Product Algorithm Research, NOAA, \$728,000

**Khanbilvardi, R. M., Roytman, L.**, CREST: Algorithm Development for GOESR; Ice Mapping and Vegetation Health, NOAA, \$180,000

**Koplik, J.**, Complex Fluids in Self-affine Fractures, DOE, \$108,656

**Koplik, J.**, Collaborative Proposal: Separation of Nanoparticles Using Patterned Surfaces: Multiscale Transport and Experiment , NSF , \$188,149

**Koplik, J.**, Morfeus: Multiphysics Object-Oriented Reconfigurable Fluid Environment for Unified Simulations, ONR, \$400,000

**Kretzschmar, I.**, CAREER: Uniquely Functionalized Nanoparticles for Hierarchical Self-assembly of Three-Dimensional Structures, NSF, \$59,510

**Kretzschmar, I., Akins, D.**, Materials Research Science and Engineering Center: Center for Nanostructured Materials, COLUMBIA UNIVERSITY, \$30,000

**Kretzschmar, I., Akins, D.**, Columbia Center for Electron Transport in Molecular Nanostructures, COLUMBIA UNIVERSITY, \$15,300

**Kretzschmar, I., Tartter, V.**, A Dynamic Tactile Interface for Visually Impaired and Blind People, NSF, \$329,172

**Lee, M.**, System Architecture and Address Scheme for Mobile USN, ETRI, \$136,251

**Lee, T.**, Galerkin Lattice Boltzmann Methods for Modeling for Direct Simulation of Liquid Slip on Superhydrophobic Surfaces, NSF, \$181,200

**Lee, J.**, Process Intensification by Integrating of Reaction and Separation, STX SHIPBUILDING C, \$373,405

**Mahani, S.**, Transitioning GOES-Based Nowcasting Capability into the GOES-R Era, NOAA, \$103,000

**Makse, H.**, Stress-dependent Acoustic Propagation and Dissipation in Granular Materials, DOE, \$100,000

**McKnight, C., Paaswell, R.**, Pedestrian Safety in the NYMTC Region-Phase 1, CORNELL UNIVERSITY, \$8,245

**Morris, J.**, Microstructures and Rheology of Oilfield Emulsions: Flow Assurance Tools, CHEVRON ENERGY T, \$190,000

**Moshary, F., Ahmed, S., Gross, B.**, Mid-Infrared Technologies for Health and Environment (MIRTH), PRINCETON UNIVERSITY, \$280,000

**Paaswell, R.**, UTRC-Technology Transfer, NJ DOT , \$50,000

**Paaswell, R.**, University Transportation Research Center, US DEPT OF TRANSPORTATION, \$1,633,200



**Paaswell, R.**, UTRC: September 11th Memorial Program for Regional Transportation Planning, NYS DEPT OF TRANSPORTATION, \$14,250

**Paaswell, R.**, UTRC: Portable Work Zone Barrier, NJ DOT, \$36,519

**Paaswell, R.**, TRC: Benefits of New Transit Service: Riverline, NJ DOT, \$44,075

**Paaswell, R.**, UTRC: Long Island 2035: Building Public Consensus Around a Sustainable Future, Phase 1, NYS DEPT OF TRANSPORTATION, \$304,193

**Paaswell, R.**, Study of Goods Movement through 1-278 in New York City and New Jersey, NYS DEPT OF TRANSPORTATION, \$761,099

**Paaswell, R.**, UTRC: Technology Transfer, NJ DOT, \$50,000

**Paaswell, R.**, UTRC: Economic Competitiveness - Performance Measures for Transportation, NYS DEPT OF TRANSPORTATION, \$100,000

**Paaswell, R.**, CUNY Building Performance Laboratory, NYS ERDA, \$249,840

**Pach, J.**, Geometric Arrangement and Application, US-ISRAEL BINAT'L SC, \$8,215

**Pach, J.**, Geometric Graph Theory, NSA, \$53,201

**Parker, N.**, New York City Louis Stokes Alliance-Phase IV, NSF, \$1,026,000

**Parker, N.**, NIST: Summer Transportation Institute -2007, NYS DEPT OF TRANSPORTATION, \$40,266

**Parker, N.**, Managed Lanes: Current Status and Future Opportunities, UNIVERSITY OF ALABAMA, \$25,000

**Parra, L.**, Tinnitus as a Result of Gain Adaptation, LINK RSH & GRANT C, \$50,000

**Parra, L.**, Cortically-Coupled Computer Vision: C3-Vision, COLUMBIA UNIVERSITY, \$430,263

**Ravindran, K.**, Incorporating OOS of Data Delivery in Distributed Voting Algorithms, ITT, \$15,500

**Rossow, W.**, NEWS Science Integration Team, NASA, \$156,491

**Rossow, W.**, Multi-Variate Analyses of Cloud-Climate Feedbacks: Observations Compared to Climate Model Behavior, NASA, \$501,087

**Rossow, W.**, CloudSat and Calipso Science Team and Modeling/Analysis of A-Train Related Data, NASA, \$276,669

**Rossow, W.**, Global Cloud Process Studies in the Context of Decadal Climate Variability: Enhancement and Continuation of Data Analysis for the ISCCP, NASA, \$305,625

- Rossow, W.**, Converting the ISCCP Cloud Product System into an Operational System to Continue a Cloud Climate Data, NASA, \$195,187
- Saadawi, T.**, Optimizing Airborne Networking Performance with Cross Layer Design Approach, AFRL , \$60,000
- Saadawi, T., Lee, M.**, Telcordia Consortium: Collaborative Technology Alliance for Communications and Networking (CTAC&N), TELCORDIA TECHNOLOGIES, \$253,029
- Sadegh, A.**, Senior Design Project: Automatic Breaker Tripper Design, CON EDISON, \$8,525
- Sadegh, A.**, Automatic Pressure Transducer Calibration, ATKGASL, \$7,244
- Sadegh, A.**, Space Alliance Technology Outreach Program, GREATER SYRACUSE, \$4,000
- Sadegh, A., Small, G.**, CAT: Rack Out Breaker Alignment Fixture, NYSTAR, \$1,200
- Sadegh, A.**, Polishing Device for Fatigue Test Specimen, ALCOA, \$14,000
- Sadegh, A., Small, G.**, CAT: Automated Pressure Transducer Calibrator, NYSTAR, \$2,300
- Sadegh, A., Small, G.**, CAT: Measurement of Properties, NYSTAR, \$2,300
- Sadegh, A.**, Storage Device for Batteries in Telecom Stations, ALCATEL-LUCENT, \$10,000
- Scheinberg, N., Dorsinville, R.**, Research Support, ANADIGIC CORP, \$40,000
- Subramanian, K., Agrawal, A.**, Concrete Deck Materials Properties, CORNELL UNIVERSITY, \$23,609
- Subramanian, K., Andreopoulos, Y.**, Continuously Graded Cementitious Material for the Blast Protection of Structures, NSF, \$307,241
- Subramanian, K., Andreopoulos, Y., Liaw, B.**, Damage Detection and Visualization System for Ultra-high Speed Transient Phenomena, ARMY RESEARCH OFFICE, \$316,250
- Tarbell, J.**, Mechanism of Retinal Vascular Permeability in Diabetes, PENN STATE UNIVERSITY, \$72,863
- Tarbell, J.**, Shear Stress Effects on Endothelial Transport, NIH, \$368,166
- Tarbell, J.**, Shear Stress Effects on Endothelial Transport (R. Mathura), NIH, \$47,740
- Tarbell, J.**, Hemodynamic Forces Affect Endothelial Cell Phenotype in Arterial Disease, NIH, \$389,506
- Tarbell, J., Hubbard, K.**, CCNY/MSKCC Biomedical Engineering Partnership, NIH, \$237,988
- Tarbell, J., Wang, S.**, NYSTEM - Development of Stem Cell Research Capabilities, NYS DEPT OF HEALTH, \$198,000
- Tardos, G.**, Rheological Behavior of Dense Assemblies of Granular Materials, PRINCETON UNIVERSITY , \$69,041

**Tu, R.**, Epitaxial Nucleation on Rationally Designed Peptide Functionalized Interface, AFOSR, \$100,000

**Uyar, M. U.** Knowledge Sharing Agents Using Genetic Algorithms in Mobile Ad Hoc Networks, ARMY, \$60,000

**Walser, A.**, Prototype to Production; Processes and Conditions for Preparing the Engineer of 2020, PENN STATE UNIVERSITY, \$106,435

**Watkins, C., Delale, F., Li, J.**, Composite Structural Damage Self Sensing via Electrical Resistivity Measurement - Phase IIA -3, GLOBAL CONTOUR L T, \$100,500

**Weinbaum, S.** A National Urban Model for Minority Undergraduate Biomedical Education, NIH, \$485,683

**Weinbaum, S.** Movement of Planning Surfaces on Highly Compressible Soft Porous Media, NSF, \$78,470

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**Wolberg, G.**, Feature-Based Data Fusion for 3D Photography, DOE, \$190,000

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**Yu, H.**, Near Surface Plasticity and its Implications in Surface Treatment, DOE, \$69,180

**Zahran, M.**, SGER: Exploring the Potential for Software-Informed Hardware Reconfigurability in the Memory Hierarchy of Embedded Systems, NSF, \$40,000

**Zhu, Z.**, A System Approach to Adaptive Multi-modal Sensor Designs, AFOSR, \$304,000

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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 45% 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.

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