COOPERATIVE BIOACTIVE SYSTEMS
A New Paradigm for Research, Training, and Outreach Across Disciplines

From the back row, left: Jin Ryoun Kim, Maurizio Porfiri, Rastislav Levicky. Front row, left: Stavroula Sofou, Jin Montclare.
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O\n
ver the last two years, I have had the honor of serving as the alumni association’s president. It has been a pleasure to meet many of you at alumni functions and enjoy your fond anecdotes about your years as a student at Poly. You are proud of your Poly education and your Poly degree that shaped your careers and improved your lives and the lives of others.

Whether speaking to an alum who graduated several decades ago or a few years ago, one thing is true. They all have the desire and motivation to learn, succeed and make a difference. Poly alumni seek to improve our world by their innovations and groundbreaking inventions. They are passionate about science and engineering and want to see these disciplines advance in the educational community, especially in middle and high schools.

Polytechnic alumni are extraordinary individuals with remarkable careers that have left an indelible imprint on our world. Some are corporate leaders...some are entrepreneurs. Some invented new technologies and grew enterprising companies, while others are performing state-of-the-art research or are responsible for designing and overseeing our country’s infrastructure. I also met alumni who, much like myself, chose career paths other than science and engineering, such as law, medicine and finance.

The fervor to create and innovate remains the driving force behind the aspirations of Poly’s most recent graduates. These young men and women are the leaders of the 21st century. Their Poly education has prepared them to take their rightful place among the leaders of tomorrow. No matter the enterprise—large or small—I know they will make a difference in the world in which we live and they will make Poly proud.

All of our alumni are true PolyThinkers who bring esteem and admiration to our alma mater. Your alumni association’s quarterly magazine, Cable, will continue to highlight the accomplishments of our distinguished alumni. Please contact the Cable editor about your accomplishments, so we can publicize them to the Poly community.

Before I conclude, I have two items I would like to mention. First, the new slate of candidates for the officers and directors for 2008-2009 is on page 17. The Nominations Committee did an excellent job of identifying individuals who will serve the alumni association during the next year.

Second, discussions and review regarding the proposed merger of Polytechnic University and New York University are ongoing. Updates will be published in a future issue of Cable and on the alumni website, www.polytechalumni.com.

I thank the alumni leadership for their assistance during my tenure as president, including the officers and members of the Executive Council and the International Board of Directors. I also want to thank the alumni volunteers who assisted at the various Poly events, especially those for new and accepted students.

Many thanks for the opportunity to serve as your president during the last two years. It has been a memorable and extraordinary experience.

George Likourezos, Esq. ’92 ’92
President
Polytechnic University Alumni Association, Inc.
Einstein said, “The most powerful force in the universe is compound interest.” When harnessing the power of collective intelligence, those same exponential effects are at work. Polytechnic University, with a $500,000 Angel Fund grant from Paul and Daisy Soros, initiated the establishment of interdisciplinary, collaborative research in Cooperative Bioactive Systems (C-BAS) spearheaded by five faculty members from the Departments of Chemical and Biological Sciences, Chemical and Biological Engineering and Mechanical and Aerospace Engineering.
Kurt Becker, associate provost for research and technology initiatives said, “C-BAS emerges from into the health and wellness focus of the strategic plan. That’s why we decided to support this effort. Equally important is that this is an area where Polytechnic traditionally has strength.”

“C-BAS is in the center of all of our expertise, a real collective effort,” noted Stavroula Sofou, assistant professor of chemical and biological engineering (CBE). “We are making use of the strengths, synergy and the generous support of the Soros family.” Chemical and biological sciences and engineering is a strong suit of Poly’s since the University founded its Polymer Research Institute 60 years ago. Becker continues, “Even though the polymer research work done today is very different than the work of Herman Mark, the tradition is still here. C-BAS continues an institutional tradition with a 21st century spin.”

Individually, the C-BAS members operate pioneering, 21st century research programs in protein and peptide design, Jin Ryoun Kim, assistant professor, CBE; biointerfaces and sensing technologies, Rastislav Levicky, Donald F. Othmer Assistant Professor, CBE; engineered artificial proteins, Jin Montclare, assistant professor, chemical and biological sciences; computational and mathematical modeling, Maurizio Porfiri, assistant professor, mechanical and aerospace engineering; and drug delivery, Stavroula Sofou. Collectively, the interdisciplinary team integrates

“C-BAS is in the center of all of our expertise, a real collective effort. We are making use of the strengths, synergy and the generous support of the Soros family.” —Stavroula Sofou

Below, from left: Jin Montclare, Rastislav Levicky, Maurizio Porfiri.
and builds on these areas of expertise through several initiatives designed to eventually establish Poly as an internationally recognized center in bioactive systems through research, outreach and educational initiatives.

Since January 2007, the team has been meeting weekly and developing a joint, high-visibility, original research theme centered on designing artificial cells. The research goal provides capabilities for a broad range of applications in medicine, environmental monitoring and remediation, biological diagnostics and biosensors and food and water quality control.

In addition to exciting new research initiatives and producing two colloquia within the past six months, the C-BAS faculty is hosting the first Bioactive Systems Symposium scheduled for June 12th, highlighting recent advances in molecular design, self-assembly, gene circuit, artificial cell design and evolution. The symposium will feature prominent researchers in cutting-edge bioactive systems research at the molecular and the systems levels, with applications in biology, medicine, the environment and energy. “We wanted to expose our students and our community to new research and get a broad exchange of ideas,” said Jin Montclare.

Developing new curricula and exciting teaching initiatives are also high on the C-BAS priority list. Porfiri developed a course, “Mathematical Modeling of Biological Systems,” and Sofou created “Engineering Principles of Drug Delivery.” “The real innovation is in the undergraduate version, where we now do rotating labs and report writing. Doing these exercises is critical to real learning,” said Sofou. Montclare added that her course, “Protein Engineering for Graduate Students,” has been greatly influenced by this interdisciplinary collaboration. “My students are required to find a novel idea that interests them, survey the literature, and write their own proposal,” said Montclare. “That’s what we do as a group and I think it is great exposure for the students who are really developing as learners.”

In addition to their work with graduate and undergraduate students, this summer C-BAS will kick off a four-week internship program for high school students with an interest in science and engineering. Montclare, in cooperation with Noel Kriftchter, director of the David Packard Center for Technology and Educational Alliances, is creating a new initiative where undergraduate Poly students will act as mentors and develop chemistry, biology and technology labs for high school students.

Most impressive about the C-BAS faculty is the power of their synergistic relationship. According to Becker, C-BAS has begun to change the way in which Polytechnic teaches at the doctoral level. The C-BAS faculty has set a new tone for training doctoral students at a technological university. This has laid the foundation for new initiatives and will present new paradigms for doctoral education at Poly.
The National Science Foundation (NSF) awarded Poly a $3 million grant to support graduate fellowships and training in science, technology, engineering and mathematics (STEM) education and innovation at six New York City middle schools. In an increasingly competitive global economy, strength in STEM education is critical for the nation's industrial growth and for technological invention and innovation.

“NSF knows how key a strong STEM education is and will be for the sustained competitiveness of the U.S. in the global market,” said Sonia Ortega, program director at NSF. “We believe working with Polytechnic University on this grant is the perfect fit with its ties to local schools and our shared dedication to innovation.”

Working with six New York City middle schools and their faculties, Poly professors and graduate fellows will:

- Broaden graduate engineering education and provide fellows with teaching, communication, management, and team building skills;
- Engage middle school students in science, technology, engineering, and mathematics studies through mechatronics-enabled science labs and robotics competitions;
- Develop human resources by enabling fellows to develop a deeper understanding of STEM concepts and the process of knowledge building and
- Provide technology literacy and professional development to teachers.

“Strength in STEM education is critical, not just in New York but across the nation,” said Vikram Kapila, associate professor of mechanical engineering and the principal investigator (PI) for the grant. “This grant will allow Polytechnic University Fellows to connect their research with societal needs, become stronger scientists and engineers, and in the process, help improve STEM education at the middle school level.”

“Polytechnic University has a long history of commitment to STEM education and innovation at all academic levels,” noted Noel Kriftcher, executive director of Poly’s David Packard Center for Technology and Educational Alliances and a co-PI for the grant, “because it provides an avenue by which students can pursue higher education and professional careers.” Magued Iskander, associate professor of civil engineering and a co-PI, added, “We look forward to leading the effort to improve student achievement in local schools by enhancing their STEM curricula and expanding their teachers’ knowledge.”

Through hands-on scientific experiments, mechatronics-enabled science labs, and robotics-based lesson plans, Polytechnic Fellows will ultimately integrate their mechatronics and robotics-focused education and research into middle school curriculum.

Dariusz Czarkowski, associate professor, electrical and computer engineering; Rastislav Levicky, Donald F. Othmer Assistant Professor of Chemical and Biological Engineering; and Maurizio Porfiri, assistant professor, mechanical, aerospace and manufacturing engineering, are the senior investigators on the project.

“Strength in STEM education is critical, not just in New York but across the nation.”

—Vikram Kapila
Did you know that moving around enough to recycle the kinetic energy from your own body heat as well as heat and sound from your surrounding environment can charge your cell phone and perhaps even your iPod? Welcome to a future brought to you by Time Warner Cable and the Power of PolyThinking.

Time Warner Cable, in cooperation with the Department of Development and University Relations, established the Time Warner Cable Inno/Vention Competition with a $25,000 gift paid over the next three years. The competition was conceived and coordinated by Michael Hutmaker, dean of student affairs, along with Bruce Niswander, director of the BEST Center and Incubator for Entrepreneurship. In its first year, 17 students submitted 29 proposals ranging from the conceptual—a carbon nanotube array with chemical insertions for hydrogen storage to the more concrete—the Next Generation Battery Charger for Mobile Devices.

While many universities have business plan competitions, the “Time Warner Cable Inno/ Vention competition is uniquely tailored to capitalize on Poly students’ highly specialized science-technology education to create practical solutions to real-world challenges,” states Hutmaker. Nikki Harris, program manager for college relations at Time Warner, explains the company “is excited to be part of a project where talented students can show off their abilities to innovate, to think flexibly, to be agents of change.”

Participants include full-time students in good standing who have reviewed their ideas with the BEST Center’s director, met key criteria and attended a workshop on one of the following topics: Patent and Idea Search, Idea Generation and Development, Market Research, and How to Prepare Your Presentations. Says Niswander, “The invention-oriented education provides potential daily coursework that can be turned into patentable ideas.”

Eight judges, all innovators themselves, judged the students’ proposals based on three criteria—the originality, innovative, inventive, and entrepreneurial nature of the idea, product, or service; its impact on society (local, national, global); and the ideas’ potential for commercialization.

In the final round of judging this spring, one undergraduate student project and one graduate student project each received $1,000. The Time Warner Cable Inno/Vention competition will continue in 2009 and 2010. The prize money will increase annually by $1,000 in each undergraduate/graduate category for a total of $12,000 of prize money through 2010.

Dawn Duncan, vice president of development and university relations, says, “Poly’s partnering with Time Warner Cable in this competition realizes President Hultin’s vision for the University—one that encourages innovation, invention and entrepreneurship by creating an educational environment to promote new patentable ideas.”
Poly Launches Revolutionary Techno-centric MBA Program

In the spring, Poly launched its first Master of Business Administration (MBA) program for technology-driven, innovative executives and entrepreneurs. The MBA—Innovation and Technology Management program’s overarching goals are educating professionals who can manage modern technological innovation and services, which are especially significant in global cities like New York.

“Our new MBA is a decidedly modern program. It is designed for innovation-savvy professionals in the region, across the nation and around the world who want to pursue a technology-based MBA in one of the world’s leading global cities,” said Mel Horwitch, chair of the Department of Technology Management. “Polytechnic University also leverages its strength in technology management education and a tremendous legacy of innovation and entrepreneurship to provide students with maximum value.”

The MBA program incorporates interdisciplinary and experiential project-based learning into its curriculum, allowing students an immersive experience in the business and technology communities outside of the classroom. The program encompasses applied science and technology policy; social entrepreneurship and corporate responsibility; and individualized and team-based coaching.

“This is a business education program that supports and furthers Poly’s distinct mission of providing innovative technology education to professionals and leaders,” said President Jerry Hultin. “We believe such education is essential for the global economy and for global cities of the 21st century.”

“Our MBA students learn how to make effective strategic decisions in a technology-intensive context on a local and global scale,” said Bharat Rao, associate professor of management and an expert in global innovation. “In an ever-flattening world, offshoring and outsourcing are increasing. Technology professionals can now add value through creative strategy formulation and superior implementation practices around the globe.”

Horwitch notes that if an applicant to Poly’s MBA program holds a master’s in management from any accredited institution and is accepted into Poly’s MBA program, the University can waive up to 24 credits. The MBA program is offered at Poly’s Manhattan, Brooklyn and Westchester campuses on a full- and part-time basis. For more information and to apply, please visit www.poly.edu/mba.

Kalle Levon’s NYS Grant Brings Stem Cell Research to Brooklyn Campus

With the welcome assist of a $125K New York State Grant for Stem Cell Research, Professor Kalle Levon, chemical and biological sciences, will realize his lifelong dream of having a laboratory and staff dedicated to stem cell research. For Levon, the transition was 12 years in the making. After the department received a generous gift from Paul Soros ’50ME in 1996, the focus shifted from plastics to biological sciences. Over time, with the addition of new faculty, the department began working with cell cultures, making the possibility for stem cell research viable.

For the past four years, Levon has investigated neural tissue engineering at Polytechnic University. However, before the NYS grant, all the stem cell-related work was done in collaboration with Memorial Sloan Kettering Cancer Center and Stony Brook University campuses. The research utilized Levon’s expertise in polymer science for the preparation of biodegradable nanofibers scaffolds for optimal stem cell growth.

“For 30 years, he has specialized in developing flexible surfaces for the control of electrostatics and in biosensing. Levon is most proud of discovering early detection markers for colon and breast cancers. In collaboration with Stony Brook University, he has developed a technique for diagnosing these conditions, which is being readied for commercialization.

“Cancer cells secrete specific proteins even before the symptoms are recognized,” says Levon, and “these early markers are detected in body fluids. Ultimately, a real-time monitoring of body fluids would be made available for personal use at home.”
The title, “HA-TSG-6,” may not sound compelling, but the characters and discovery involved certainly are.

In October 2007, Poly’s Mary Cowman, professor of biochemistry and director of the Othmer Institute for Interdisciplinary Studies, was reviewing the manuscript of a research paper co-written with NYU’s Dr. Hans-Georg Wisnieski and Dr. Philip Band, when a movie began to play in her head. The movie’s stars were those of the paper: hyaluronan (HA), a carbohydrate polymer used primarily in ophthalmology and arthritis treatments, and TSG-6, a protein molecule that has shown anti-inflammatory qualities in the laboratory, but is not yet used medically.

Cowman, Wisnieski and Band were preparing the paper for publication as preliminary data in a proposal to the National Institutes of Health for a grant to continue its research on interactions between hyaluronan and TSG-6. “When my mind flashed on the scene of the two molecules working together to release the anti-inflammatory portion of a blood plasma protein,” explains Cowman, “I realized that the potential medical applications of our work was so unique that maybe we should hold back on submitting the paper and look into patenting our invention.”

Their invention, for which they now hold a provisional patent, is for a stable compound of hyaluronan and TSG-6 in which the complementary benefits of each join to form a new biomedical material: HA-TSG-6. The material has the potential to improve treatments of arthritic diseases, control painful post-surgical tissue adhesions, coat artificial joints and other solid biomaterials to make the body accept them better, and reduce topical wound inflammation.

According to Band, who spent 20 years in the biotech industry before recently returning to NYU where he began his research career, hyaluronan is a $1 billion worldwide industry. Naturally, the competition to create new hyaluronan-based therapeutics is fierce.
A standout discovery requires extensive knowledge of hyaluronan, which Band and Cowman have, and inventive research. Enter TSG-6, a more recently discovered protein that Wisniewski began studying shortly after his NYU colleague Dr. Jan Vilcek first cloned it.

“There are probably less than five groups in the world that work on and with TSG-6 independently,” says Wisniewski. Among Wisniewski and Vilcek’s findings is a critical characteristic of TSG-6 to this current collaboration: it is a hyaluronan-binding protein.

While the overlapping characteristics of hyaluronan and TSG-6 have been known for some time, it wasn’t until Band became interested in the protein and introduced Wisniewski to Cowman that a true collaboration was born. Band met Cowman in the early 1980s at Biomatrix, Inc., a company founded by hyaluronan pioneer Dr. E. A. Balazs, who Dr. Cowman had previously worked with as a postdoctoral fellow at Columbia University.

“Our initial focus” explains Wisniewski, “was on science, to combine different methodologies and techniques to do research that is at the interface of protein- and glyco-biochemistry.”

Cowman has authored numerous papers on hyaluronan and believes that the team’s efforts to do basic science in the lab and share their respective expertise could lead to “a new generation of hyaluronan products.”

Over the next year, Wisniewski, Cowman and Band will refine their work as they formalize their patent filings and refine product prototypes. Their intention is to interest pharmaceutical, biotech, and medical device companies in licensing the rights to hyaluronan and TSG-6 have been known for some time, it wasn’t until Band became interested in the protein and introduced Wisniewski to Cowman that a true collaboration was born. Band met Cowman in the early 1980s at Biomatrix, Inc., a company founded by hyaluronan pioneer Dr. E. A. Balazs, who Dr. Cowman had previously worked with as a postdoctoral fellow at Columbia University.

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Band says that during his years in biotech, he has seen similar stories of researchers being on the cusp of commercializing their discovery, but, in the end, the pieces just didn’t come together. What’s different about HA-TSG-6? “The people,” says Band. “It’s one thing to make a discovery; it’s another to know what to do with it.”

The story of HA-TSG-6, according to Cowman, “is an illustration of the potential of the Poly-NYU merger to create important new development opportunities. When two realms of expertise come together, one plus one can sometimes equal three.”

It’s also a model for how collaborations between Poly and NYU can leverage the world-class reputations of both institutions to more effectively take ideas and inventions out of the lab and into the commercial marketplace.

Science and the Art of Firefighting
Poly/FDNY’s Groundbreaking Research on High-rise Fires

Governor’s Island in New York Harbor was set ablaze earlier this year as a team of Poly engineers and the National Institute of Standards and Technology (NIST) studied techniques to control wind-driven high-rise fires. The Fire Department of New York set test fires in vacant buildings on the island as part of a $1 million grant to Poly from the Federal Emergency Management Agency via the Department of Homeland Security’s Assistance to Firefighters Grant program for research. The grant program is part of an effort by the Department of Homeland Security to study fire, the cause of more economic damage in the U.S. than all other natural disasters combined.

Sunil Kumar, associate provost, graduate dean and professor of mechanical engineering, the study’s principal investigator and an expert on thermal heat transfer and fluid mechanics, described the study as unique among research universities. “Something of this scale, where an entire building is literally destroyed, is not just costly, but takes the right combination of firefighting and engineering expertise to execute a research-oriented, controlled high-rise fire,” said Kumar at the scene of the test blaze on Governor’s Island. “The Poly, FDNY and NIST partnership makes such an important study possible.” FDNY Battalion Chief Gerald Tracy echoed that sentiment, saying, “We are bridging the gap between science and the art of firefighting. What we are doing is groundbreaking.” Kumar and his team of graduate students are incorporating data from the test fires using sophisticated computer modeling software that will recreate a range of scenarios firefighters face in wind-driven high-rise fires. After analyzing the results, the team will be able to make recommendations that may save lives.

Poly’s Urban Security Initiative (USI) led by President Emeritus George Bugliarello helped establish the collaboration between the FDNY and Poly that enabled the proposal to be developed for the $1 million grant. Poly established USI after the terror attacks of September 11 to develop public and private partnerships dedicated to finding solutions to urban security issues through science, technology and engineering.

Photo above, left to right: President Emeritus of Polytechnic University George Bugliarello, Sunil Kumar, associate provost, graduate dean and professor of mechanical engineering, FDNY Deputy Chief John Mooney and FDNY Battalion Chief Gerald Tracy have all helped develop the program.
Serendipity has played a pivotal role in Jack Jia’s life and professional career. For Jia ’89SE, the founder and CEO of Baynote Inc., a pioneering leader in content guided software for the business web, the first time fate intervened was in the spring of 1987.

Jia attended an International Energy Conference in Chengdu, China where he met Professor Spencer Kuo of the Department of Electrical and Computer Engineering. During their conversation, Jia—who has a bachelor’s degree in electrical engineering and a master’s in computer engineering—expressed an interest in coming to the United States to earn a doctorate. Kuo felt Polytechnic would be a good fit for him and encouraged Jia to apply despite the difficulty foreign students had in attaining fellowships and teaching assistantships in the states. At the time, Jia had a teaching assistantship in mathematics at a university in Ohio.

When he began considering an advanced degree programs, he researched Poly and found it was ranked among the top 10 PhD programs in the nation. He recalled Professor Kuo’s generous invitation to attend Poly and applied for the doctoral programs at Polytechnic and Columbia universities, where his mother was working as an adjunct professor. As fate would have it, Jia was offered a fellowship from both universities, but chose Polytechnic because of its outstanding reputation and its world-renowned faculty. At the time, he had no idea how important a role Poly would play in his personal life.

Several years after graduating from Polytechnic with a doctorate in systems engineering, Jia was ready to start his own company. “The biggest hurdle is always the mental and physical readiness for taking on a task like this,” said Jia. “It’s the fundamental nature of the business. How to deal with the trepidation of leaving a comfortable job in a large corporation is what separates success from failure in start-ups.” In Jia’s case, he was the founding vice president of engineering and CTO of Interwoven, Inc., a software company that produces web content management technology. When that company went public in 1999, it had a peak market capitalization of $7 billion. Prior to Interwoven, Jia had founded V-Max America, a computer distribution and integration company that he sold in 1998. Although Baynote, Inc. was his third start-up, Jia admits that he still needed to summon the same fortitude that helped him in establishing his other companies to overcome the fears and misgivings that are a normal part of any new venture.

So Jia did his homework. He spoke with dozens of CEOs and CIOs, who would be potential clients of Baynote before venturing out on his own. Inasmuch as Jia wanted to receive positive feedback, he also wanted to hear from his dissenters. “A lot of ‘no’s’ is a good sign that people haven’t figured out how to solve the problem yet,” he said. “You need to have the answers no one else has—that’s the formula to becoming a productive entrepreneur.” After only three years in operation, Baynote has increased its workforce by 1000 percent and is garnering awards for its outstanding performance from organizations such as AlwaysOn, Red Herring, and KM World and Inc. magazine. He is listed in the 2008 Who’s Who in Silicon Valley—a compendium that recognizes Steve Jobs of Apple, Jerry Yang of Yahoo and Eric Schmidt of Google.

Jia remembers the second time destiny intervened as if it were yesterday. In the spring of 1988, he took a 10-minute classroom break at Poly and met his future wife, Cherry. Of the meeting he recalls, “That was the best 10 minutes of my life.”

Fletcher “Bud” Griffis, department head, Civil Engineering, participated in a panel discussion on how to repair the nation’s ailing infrastructure, led by Ronald DeFeo, CEO of Terex Corp., and Iona College President Brother James Liquori. The conference featured past and present members of Congress and national leaders in transportation operations and security.

Jovan Mijovic, department head, Chemical and Biological Engineering, delivered a plenary lecture at the European Center for Multifunctional Nanostructured Polymers and Polymer Matrix Nanocomposites in Rome, Italy, April 15-19. Mijovic’s topic was “Nanocomposites in Electric and Mechanical Fields.” He also delivered lectures at the University of Perugia and the University of Belgrade.

Jin Kim Montclare, assistant professor, Chemical and Biological Sciences, received a 2008 Special Grant in Chemical Sciences from The Camille and Henry Dreyfus Foundation, a leading non-profit organization devoted to the advancement of the chemical sciences. The award will support Montclare’s Project titled “Mentored Chem-Bio Technology Lab: From Virtual Small Molecules to Biomolecules.” The award and project will create interactive modules for students at the Urban Assembly Institute in Math and Science for Young Women.

Assistant Professor Maurizio Porfiri, Mechanical and Aerospace Engineering, received the prestigious Faculty Early Career Development (CAREER) Award from the National Science Foundation. The CAREER award, which includes a five-year grant of $419,000, “supports the early career development activities of those teacher-scholars who are most likely to become the academic leaders of the 21st century.” The goal of Porfiri’s research is to improve the current understanding of complex multi-agent dynamical systems.

Porfiri and Nikhil Gupta, assistant professor, Mechanical and Aerospace Engineering, received a $250,000 grant from the NSF to develop a new grade of functionally graded composite materials. The project will develop functionally graded syntactic foam with a high-damage tolerance and energy absorption. Gupta is on the editorial board of Composites Part B, a leading journal in the field of composite materials. He also co-chaired a session, “Coated Microballoons” at the Syntactic and Composite Foams II conference in Davos, Switzerland in August. Gupta and his collaborators presented four papers.


Otto Vogl, the Herman F. Mark Professor Emeritus of Polymer Science from 1983-1995, was honored recently by his native Austria with a postage stamp celebrating his 80th birthday.

Blair Williams, industry professor, Mechanical, Aerospace and Manufacturing Engineering, has been named a lifetime member as a Certified Supply Chain Practitioner by APICS, the International Society for Operations Management.

Poly Hosts New York Math Fair
Polytechnic University hosted over 400 high school students in the 2008 Greater Metropolitan New York Math Fair on Sunday, April 6. The students presented their research in such diverse areas as logic, algebra combinatorics, number theory and computer science. At the award ceremony held on University’s downtown Brooklyn campus, on the left, internationally renowned mathematicians Gregory and David Chudnovsky, distinguished industry professors at Poly; and Alan Palmer, assistant principal at Brooklyn Technical High School; and medal winner Daniel Chamudot, SAR High School, who did his research on “The Mathematics of Rubik’s Cube;”

Poly Hosts Career Fair
More than 60 major local and national companies participated in Poly’s 32nd Annual Spring Career Fair on the University’s MetroTech campus. Ayana Gibson ’08EE meets with John E. Arthur, a principal with Wireless EDGE Communications LLC, to discuss career opportunities with the telecommunications site development firm.

Excellence in Marketing Garners Marcom Awards
Chairman Craig Matthews ’71MG, left, Steven Rittvo ’69SE ’71TP, chairman of The Innovations Holdings Group and Poly trustee and President Hultin display the platinum and gold Marcom Awards the University won for its “Great Careers Brochure” and the “I Will” campaign, respectively.

The Marcom Awards recognizes outstanding creative achievement by marketing and communications professionals.
Trustedes’ “Super Majority” Vote Approves Proposed Merger with NYU

A picture is worth a thousand words as evidenced in Chairman Craig G. Matthews’ 71MG thumbs up in telling the Poly community that the Board had approved the Definitive Agreement to merger with NYU during a March 6th Town Hall gathering. “This momentous affiliation will make New York a leading technological center for innovation, invention and entrepreneurship,” noted Matthews. President Hultin called the merger “a perfect fit between two great institutions” and “an opportunity for Poly to soar.” Final review by New York State regulatory agencies is expected in June.

Grillin’ and Chillin’ on MetroTech Campus

Nothing says summer like a barbeque! And Poly opened the season in a big way on May 15 when staff, faculty and administrators enjoyed cold beverages, franks, burgers and chicken—fresh off the grill—and an endless supply of side dishes and desserts. It was the University’s way of thanking everyone for all their hard work during the year. It goes without saying, a good time was had by all!

**Top, left to right:** Richard Wener, department head and associate professor of psychology, Humanities and social Sciences, Vice President Richard Thorsen ’63 ’77ME, Academic Affairs and Robert Flynn ’66 ’73MA, industry professor of computer science.

**Bottom right:** Lackmann chefs at the buffet.

**Bottom left:** Left to right: Representing Development, Elizabeth DiNapoli, assistant director of corporate and foundation relations, Shawnta Wormley, executive assistant and Anthony Escobar, director of development, planning and administration.

Myles Jackson Wins Sauer Prize

Myles Jackson, Dibner Family Professor of the History of Science and Technology, was awarded the Hans Sauer Prize for his book “Spectrum of Belief: Joseph von Fraunhofer and the Craft of Precision Optics.” The prize is awarded every two years by the Hans Sauer Foundation to people who have made significant contributions towards raising awareness of inventors, innovators, inventions and innovations.

On April 10, Jackson delivered the inaugural Dibner Family Chair Lecture entitled The CCR5 Gene: A Cautionary Tale about Patenting on Poly’s MetroTech campus. He explored the recent controversy over the patenting of human genes and how the myriad issues raised in the debate have affected the conduct, context and content of the scientific enterprise.

Following the lecture, there was a reception in the Dibner Library that featured a newly installed exhibit Art of Enterprise: Business, Science and Technology through the Covers of Fortune Magazine. The exhibit runs through August.
I am proud that I have set up a trust fund that will benefit Polytechnic. My wife, Toby, and I also have established a scholarship fund. These actions are intended to enable students to obtain the knowledge that Polytechnic can provide for them to start careers that will keep our country strong technically, economically and morally.

These gifts to Poly are my way of showing my appreciation for the knowledge that Poly gave me. This knowledge permitted me to start two small business ventures, and one of these was sold in 2006 to a Fortune 400 company. This sale provided the funds and incentive to make financial contributions to the University.

I took courses, as a part-time student from 1950 to 1953. I started at Polytechnic because I wanted to study the field of crystallography with experts in this field, Professors Fankuhan and Ewald. Another graduate student suggested that I take the Introduction to Polymers with Dr. Herman Mark since Poly was a leader in the field. Mark was a charismatic individual, and I was so impressed with the subject, it became my field of concentration. I recall the excellent lectures by professors that included Overberger and Mesrobian. This resulted in a career that has been interesting and rewarding in the fields on polymer adhesives, coatings and composite materials.”

Konstantino Dimopoulos ’09CE
Alfred Muscari Memorial Endowed Scholarship in Civil Engineering
William Stolze Endowed Scholarship

“My passion for higher learning has grown because of the financial assistance I received through these scholarships. As a result, I was able to become involved in more challenging projects at the University in addition to focusing on obtaining my civil engineering degree.

I am grateful for the commitment the donors have to Poly students and the University and how that commitment is demonstrated through scholarships. I hope that they know the contribution they have invested in my education has produced lifelong memories and rewards. I accept my responsibility to give back to my alma mater so that future generations of Poly students will be able to attend this fine university. I want to thank those donors that so graciously continue to contribute to Poly’s scholarship program. Without these scholarships I would not be able to attend this great University.”
Poly Trustee Awarded Roosevelts Gold Medal from Navy League

Poly Trustee James M. Smith ’71EE, chairman, president and CEO (retired), EDO Corporation, was honored for his extraordinary scientific contribution to the security of America by the Navy League of the United States, New York Council. The council presented Smith with The Roosevelts Gold Medal for Science at its 105th anniversary dinner on March 13. In nominating Smith for the award, Poly President Jerry M. Hultin, a former Under Secretary of the Navy and a member of the council, noted, “Over the past 40 years, James Smith has been an innovator in defense technology, making our nation more secure and advancing the state of defense technology in our country.” The New York Council established The Roosevelts Gold Medal for Science in 1986. The award reflects the traditional objective of both the Navy and the Navy League of “Peace Through Strength, Strength Through Science.”

POLYTECHNIC ALUMNI ASSOCIATION NOMINATIONS

The annual election of officers and directors of the Polytechnic University Alumni Association Inc. will take place at a special meeting in August. A ballot for the election will be mailed to all alumni.

The association’s Nominating Committee has presented the following candidates:

For International Board of Directors (3 year terms):
Ronald Kuchins ’67
Frank Namad ’68
Mark Schlam ’72 ’73
Constandino Sirakis ’97

For Officers (1 year term):
President: Edward Sawchuk ’76 ’78
Executive Vice President: Dennis Landsberg ’69 ’71
Vice President: Frank Padavan ’55
Treasurer: Michael Urmeneta ’92 ’00
Secretary: Ingrid Mohr ’99

Alumni may make alternate nominations for any position by submitting names of candidates, endorsed by at least 10 alumni. Alternate candidates must submit a letter expressing their willingness to serve if elected. All alternate nominations must be received by Office of Alumni Relations on or before July 18, 2008.
Class Notes

Robert W. Unterreiner ’48ME is enjoying retirement and working part time as a chemical marketing consultant. He plays in a local community band and writes for a circus magazine.

Josef Singer ’53 ’57AE Hon’83 was selected for the 2007 Engineering Sciences Book Award of the International Academy of Astronautics for his book Buckling Experiments – Experimental Methods in Buckling of Thin-wall Structures.

Herbert Piller ’56EE celebrated his company’s 50th anniversary. Groline, based in Georgetown, TX, produces horticultural green products and has over 20,000 clients worldwide.

Rudolf R. Boentgen ’63AE recently retired from NSTAR, an energy and gas utility in the Boston area where he was the senior research analyst in energy efficiency for the commercial and industrial sectors.

Edna McGrew ’68EE published the book, Its Light Is the Lamb – An Unexpected Spiritual Journey, a memoir of her journey from a Trappist monastery to an engineering career and explorations into mystical contemplation.

Shivan S. Subramaniam ’72OR is chairman and CEO of FM Global, a commercial property insurer based in Rhode Island. He was interviewed recently on the History Channel regarding the firm’s 170-year tenure in the insurance industry.

Thomas Philips ’75MM has been presented with the Distinguished Service to Powder Metallurgy Award by the Metal Powder Industries Federation. He is a principal metallurgical engineer at Air Products and Chemicals Inc.

Stephen Musolino ’82PH has been named a fellow of the Health Physics Society. He is a certified health physicist in the non-proliferation and national security department at Brookhaven National Laboratory.

John P. Halligan ’85EE founded Safe Passage Media to help confront the problem of cyber-bullying and was instrumental in lobbying the Vermont legislature to pass suicide prevention and anti-bullying legislation following the death of his son, Ryan.

Peter D. Shapiro ’89EE is a partner at the law firm of Fitzpatrick Calla Harper & Scinto working on patent litigation in the electrical and computer arts.

Jennifer Mayadas-Dering ’96EE is manager of operations planning for the New York Power Authority’s transmission business unit and was recently honored by the WYCA of New York City as an Outstanding Woman Leader.

Eduardo C. Serafin ’97TP is a senior project manager in traffic and ITS at Klotz Associates in Houston, TX.

Washington J. Tovar ’98EE is a network engineer at SAC Capital.

A. Jon Prusmack ’01MN holds the patent for several types of self-assembling shelters, known as deployable rapid assembly shelters or DRASH being used by the U.S. military in Iraq. He also owns Rugby magazine and a major American rugby tournament.

Shawn M. Aruch ’06TIM married Alyse Rosenberg in October. He is vice president of EDGAR services and information technology at Vintage Filings in Manhattan.

Gerald Liebling ’59Chem and his wife, Eun, found their Polytechnic tote bag surprisingly useful during their trip to Croatia where they traveled to the top of a medieval wall that surrounds the city of Dubrovnik.

Class years are determined by the year the Office of the Registrar certifies the granting of the degree. Alumni receiving multiple degrees from Polytechnic are listed under the first graduating degree only.
Remembering Andrew J. Terzuoli and George J. Fisher

Professor Andrew J. Terzuoli, professor of mathematics, at Polytechnic University from 1946 until he retired in 1986 died on January 23, 2008 after a long illness.

His areas of specialization were probability and statistics although he taught a broad spectrum of courses on both the graduate and undergraduate levels. He was a much beloved and highly respected member of the faculty. During World War II, he served a captain in the Army Air Force and was stationed in the Ascension Islands as a meteorologist. He joined Poly shortly after his discharge.

He is pre-deceased by his wife, Frances, and a daughter, Maryann. Among his survivors are three sons, Andrew Jr. '69EE, Richard '72AE and Robert, and a granddaughter, Christine.

George J. Fischer, professor emeritus of materials science, died on August 9 at the age of 82.

Fischer was born in the Bronx and raised in Brooklyn. After serving in the U.S. Army in World War II, he earned his bachelor's and master's degrees from Polytechnic in 1949 and 1953, respectively. Upon graduating, he joined Western Electric, where he worked as a metallurgical engineer for four years. He then came to Polytechnic, where he taught until his retirement in 1990.

During his tenure at Poly, Fischer acted as faculty liaison for the YES Center, recruiting fellow faculty members to work with high school students on research. His work with the YES Center was inspired by his strong belief that it was the duty of professors to help young scholars understand the opportunities available to them in math, science and engineering.

He is survived by his wife, Margaret, and two children, Carl Fischer and Jeannie Watters.

In Memoriam

Edmund H. Osterland '30
Vincent Condello '35
George Small '35
Charles A. Haupt '36
Stephen Wasilchuk '36
Russell A. McNutt '40
George A. Wittschen '40
Edwin Storch '41
Edwin F. Mortit '42
Jerome Grossman '44
Robert J. Keithley '44
Walter Marcinowski '44
Louis A. Rosenthal '47
William C. Wikstrand '47
Burton F. Price '48
Elvin O. Erickson '49
Robert H. Barwick '50
John C. "Jack" Hennessy '50
Samuel M. Kaplan '50
George M. Lane '50 '54
Martin P. Blum '51
Robert J. Sheffler '51
Benjamin Barlas '52
Robert D. Barnard '52 '55
Gabriel Barnett '52
Oscar P. Light '52
Lyman H. Styles Jr. '52
Walter H. Esselman '53
Franklin H. Haebeler '53
Elliot L. Shapiro '53
Henry E. Verbeke '53 '54
Louis P. Di Giovanni '54
John Van de Water '54
Leonard J. Berandt '55
Ralph L. Capriola '55
Anthony D. Mustillo '55
Martin Annenberg '56
Charles E. Edmonds Jr. '57
Robert F. Ernest '57
James F. Merle '57
Harry J. Bauer '58
Frank P. Pace '58
William E. Ward '58
Edward B. Adams Sr. '59
Leonard Bergstein '59
Viljar Bock '59
James Robertson '59
Herbert Schulkind '59 '64
Andrew Zakrewsky '59
Stanley Soukup '60
Savas ‘Sam’ Emanuel ‘61
John W. Knipscher ‘62
Avi Ariel ‘63
John Gerard ‘63
Norman N. Schulman ‘66
Alan Zabell ‘66
Carmine J. Cordella ‘67
MacDonald A. Richards ‘67
Frank J. Salvo ‘68
Jesse Brain ‘74
Gerard Bassi ‘78 ‘93
Ronald T. Wojcik ‘78
John C. Szczepanski ‘84
Leonard Bergstein ’59, faculty
John R. Lannon, former dean of students
Alfred T. McNeill, faculty
Andrew J. Terzuoli, faculty
Polytechnic President Jerry Hultin hosted the University’s Second Annual Leadership Breakfast on April 18. The focus of the breakfast, which was attended by 160 people, was Polytechnic’s growth and how the proposed Polytechnic/NYU merger is a perfect fit for Brooklyn and New York City. Pictured here, from the left are NYU Provost David McLaughlin, Diane Rekow, chairman of NYU’s Department of Basic Science, Brooklyn Borough President Marty Markowitz, Joe Chan, president of the Downtown Brooklyn Partnership and President Hultin.

Upcoming Events

Golf Tournament to Benefit Polytechnic Athletics
Sunday, June 8
La Tourette Golf Course, Staten Island

Dr. Martin Perl Innovation Lecture
Wednesday, June 18
Pfizer Auditorium

Northern California Alumni Picnic
Saturday, August 2
Shoreline Park, Mountain View CA