Serving Our Country
Borough president cuts ribbon for Poly business incubator

Brooklyn Borough President Marty Markowitz presided over a ribbon-cutting ceremony for Polytechnic's Brooklyn Enterprise for Science and Technology (BEST). The incubator will integrate business, research and education to strengthen Brooklyn's local economy.

"Brooklyn is the ultimate incubator of ideas," said Markowitz. "Brooklyn today represents what American will look like tomorrow. Brooklyn is the future, so it only makes sense that innovative technology is developed here."

The BEST incubator was established with funding from the Small Business Administration, and is directed by Dr. Kalle Levon, associate provost of research and intellectual property.

NYS governor recertifies CATT

Polytechnic's Center for Advanced Technology in Telecommunications (CATT) celebrated its 20th anniversary with a recertification grant by New York State Governor George P. Pataki. With the new grant, CATT will receive up to $1 million annually for the next 10 years.

Dr. Russell W. Bessette, executive director of the New York State Office of Science, Technology and Academic Research (NYSTAR), which supports the center, said: "[Poly's CATT] will be an extremely important component of the state's high technology economic development efforts. With the research in information technology and telecommunications being done at this center, coupled with technological research in a wide range of areas, Polytechnic will be a key partner in helping create a vibrant high technology-based economy for New York State."

CATT's inception began in the early 1980s, when New York State Legislature established the Center for Advanced Technology Program on university campuses to forge a partnership between the state's academic resources and its industry. Polytechnic was one of 10 universities to be designated a CAT, and the only one in the area of telecommunications. Today, under CATT Director Shivendra Fanwar, the research center collaborates with companies to meet their evolving needs through joint research and access to facilities and experts. Among its partners are the KeySpan Corporation, the largest distributor of natural gas in the Northeast, and the Securities Industry Automation Corporation (SIAC), the technology subsidiary of the New York Stock Exchange and the American Stock Exchange.

ASCE honors two students

Civil engineering students Elda Bruza '05, left, and Yaye Mah Boye '05 received scholarship awards from the American Society of Civil Engineers (ASCE) Metropolitan Section at the section's 39th Annual Dinner Dance and Awards Presentation. The seniors were recognized for their scholastic merit and active participation in Polytechnic's ASCE student chapter. They are pictured with Raymond J. McCabe '85CE, president-elect of the ASCE Met Section.
**Chao named ECE head**

Dr. H. Jonathan Chao, a noted expert in high-speed routers, has been named head of Polytechnic's Department of Electrical and Computer Engineering. He succeeds Henry L. Bertoni '62 '68EE, who retired after 44 years at the University.

Chao is recognized for prototyping the world's first SONET-like framer chip in 1987. Since then, SONET (Synchronous Optical Network) has become the transmission standard in today's optical network. In 2001, he was elected a Fellow of the IEEE for his contributions to the architecture and application of VLSI circuits in high-speed packet networks. He holds more than 20 patents and co-wrote *Broadband Packet Switching Technologies and Quality of Service Control in High Speed Networks* (John Wiley & Sons, 2001).

Before joining the Polytechnic faculty full time in 1992, Chao worked for Tellcordia Technologies (formerly Bellcore). He was also a founder and chief technical officer of the Iris Group's Coree Networks, where he led the implementation of next-generation routers. He holds two degrees from the National Chiao Tung University in Taiwan and a doctorate in electrical engineering from the Ohio State University.

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**Search for new president begins**

By Ralph Alexander '77 '88NE, chairman, Presidential Search Committee

The first steps are now underway in Poly's search for a new president, and you are invited to participate in this critical process during the coming year.

Poly’s Board of Trustees appointed a presidential search committee in June, comprising myself and other trustees, alumni, faculty, staff and students. Our first task this summer was to select a consulting firm to assist and support the entire search process and ensure that it casts the widest net to identify world-class candidates. Following interviews with three firms responding to our Request for Proposals, we selected one of the nation's preeminent practices in higher education, A.T. Kearney Executive Search. The team working on Poly's search is headed by Dr. Charles I. Bunting, vice president. Bunting had an extensive and distinguished career in higher education and government prior to assuming his present position with A.T. Kearney four years ago. We met with Bunting in early August to design and plan the search process, which is anticipated to conclude with an appointment of a new president by the Board of Trustees in March 2005.

The first stage of the search process is to obtain input and counsel from the entire Poly community on the priorities and qualifications that ought to guide the presidential search process. We encourage you to share your thoughts with us and the consultants on the following questions:

- What are the distinctive aspects/dimensions of Poly? In other words, what should attract candidates to Poly?
- What are the key challenges and opportunities facing the University over the next five to 10 years? That is to say, what is the future agenda as it relates to the new president's responsibilities?
- What are the priorities, specifically for the new president, with respect to that future agenda?
- Given your responses to all of the above, what are the characteristics, skills and experiences we should be seeking in the search for the new president?

Additionally, you are invited to share ideas on possible candidates and/or people who may be excellent sources of ideas on candidates. Please address all suggestions and comments by e-mail or letter to Chuck Bunting, Polytechnic Search, A.T. Kearney Executive Search, 333 John Carlyle Street, Alexandria, VA 22314. E-mail: charles.bunting@kearney.com.

The search committee plans to keep the entire Polytechnic community informed of the schedule and progress of the search through periodic reports in *Cable* and on the Poly website.

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**Calling all Promise Fund Scholars**

We want to know what you're up to! Please help us update our records by sending us your contact information, and letting us know what you've been doing since graduation. Send your information to Rama Lamade, director of special events, at rlamade@poly.edu.

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**Have a seat!**

The Office of Alumni Relations is offering alumni the opportunity to purchase an official Polytechnic University chair. The chair, available as either an armchair or rocking chair, has the Polytechnic seal laser-engraved on the front, and is made entirely of solid maple hardwood with a beautiful lacquer finish and gold beading. Cost: $300, including shipping (in the U.S.); $25 extra to have it engraved with your name and class year.

To order, contact Donald Ivanoff, director of alumni relations, at 718/260-3885 or alumni@poly.edu.
Taking management and technology to a new level: Three graduates find success after MOT-TIM

While serving in the U.S. Coast Guard in the early 1990s, Jay Topper '96TIM encountered many nascent technologies long before their use became widespread. Responsibility for intelligence was divided among many governmental agencies—each with its own system of storing and disseminating information—and Topper, who led counter-narcotics intelligence operations for the U.S. Navy in Panama, found himself developing programs to consolidate intelligence reporting using nothing but a desktop PC. Struck by the simplicity and cheapness of the technologies involved, he could see that a large-scale transformation with far-reaching implications for the way we live and work was beginning to take shape.

"But while there were a lot of technologies in existence," says Topper, "there just weren't many people committed to figuring out how these new technologies could really benefit our mission." This realization—coupled with a strong desire to succeed in the civilian workplace—was the driving force behind his decision, in the fall of 1994, to enter one of two executive master's programs in technology management that are being offered at Polytechnic University.

The programs, which enable participants to attain a master's degree in four semesters while managing full-time careers, prepares technologically savvy professionals with aspirations in management to fill this critical need. Two courses of study are offered: Management of Technology (MOT), a broad-based management program addressing innovation-related issues across a wide-industry spectrum, and Telecommunications and Information Management (TIM), a similar program with an intensive technology component for those who require a deeper understanding of telecommunications.

"The programs are a viable alternative to the traditional MBA for those who want to play a high-level role in harnessing the power of innovation," says Dr. Mel Horwitz, who, with Dr. Nina Ziv, directs the MOT-TIM programs at Poly.

Topper gravitated toward the strong technological foundation that the TIM program provides. "I wasn't looking for a typical MBA program with its sole emphasis on management disciplines," he says. "What I needed was a program that had a strong basis in technology with the flavor of management."

He succeeded in making the transition to the private sector in 1999 after landing a position as chief information officer at Production Resource Group, a company that specializes in producing themed events for corporate clients. After helping turn the New Windsor, N.Y.-based company, once valued at $40 million, into a $300 million firm in four years, he set his sights on Applied Graphic Technologies, where in 2001, he was hired as chief information officer. These days, he is traveling worldwide with the additional responsibility as senior vice president of Indian operations, helping the company expand globally.

Whereas Topper was seeking a management program to enter the technology industry, ErinKate Peart '04MOT saw the program as a way to increase her value within her company. A senior business analyst at JP Morgan Chase, she was promoted to a managerial position months after enrolling in the program. In her new position as a project manager, she has been helping portfolio managers in the credit-risk management area acquire a competitive edge through the use of technology.

"The MOT program gave me the tools to make sense of innovation in a number of places," she says. Because the portfolio managers are entrusted with predicting whether the bank's lending commitments will continue to remain profitable, part of her job has been helping them do this with greater accuracy. After learning about a shortcoming in the application the group had been using to calculate value of its loans, Peart led a team that implemented a pricing engine that projects a loan's worth as one might see it in the future.

"The MOT-TIM programs are important for middle managers interested in affecting change with their present organizations," says Professor Ziv. The programs can also be advantageous for entrepreneurs who want to further develop their big idea or take their company to the next level.

"It's all about pushing yourself and getting more sophisticated at every turn," says Jane Piome '02TIM, whose urban guidebook series, Not For Tourists, broke new ground in the publishing world in 2000 with its novel approach to organizing information.
Jay Tupper, left, (in tan pants) participating in an Indian Pooja—a Hindu celebration—at the opening of his company’s new facility in India. Jane Pirone, below, with her innovative city guidebook series.

Erin Kate Peart, right, moving up at JP Morgan Chase.

The pocket-sized books, which are geared primarily for residents, point “users” in the direction of essential stores and services using design elements typically found in interactive media. Neighborhood maps denoting destinations like bars and coffee shops with easily identifiable icons such as cocktail glasses and coffee cups are a defining feature.

After conceiving, writing and publishing the charter edition—Not for Tourists Guide to New York City—Pirone began focusing on extending the book’s geographic radius to other cities as well as foreign metropolises. But she realized that this feat required extensive growth knowledge, including finding business partners, and Pirone—who launched a multimedia design company on her own just three years earlier—was ready to complement her real-world experience with a formal education.

The TIM program “made me a better business person and raised my overall sophistication level of technology,” she says. “The more you can speak the language of business, the more successful you’ll be in working with other companies.”

In defining her brand as a content provider rather than a book publisher, Pirone gave herself the freedom to ride the next big wave in technology such as m-commerce. Presently, she is collaborating with a Poly alumnus to realize the day when users, by uttering a key word like “pizza” into a hand-held wireless device, can view onscreen listings of destinations within close range of their physical location.

Written by Donna Iannicelli

The Management of Technology (MOT) and Telecommunications and Information Management (TIM) programs at Polytechnic prepare technologically savvy professionals with aspirations in management to bridge the gap between the technology and business worlds. Both programs enable participants to earn a Master of Science degree in four semesters over a 15-month period while continuing full-time careers. The programs offer courses every other week, Thursday evening and all day Saturday. Classes are held at the New York Information Technology Center, 55 Broad Street, in lower Manhattan. For more information, call Daniel Aguirre at 718/260-4014, e-mail mot-tim@poly.edu, or visit www.mot-tim.poly.edu.
Ryan Pastor: From Poly to the Middle East and back

Ryan Pastor '06ME was looking for scholarship money and a challenge outside the familiar environs of home and school when he enlisted in the Marine Corps Reserve. Little did he know how much of a challenge he would experience.

That left him little time to cancel his classes, pack his gear and say his goodbyes.

On February 14, Valentine's Day, Pastor arrived in Kuwait. He was assigned to the engineer platoon and stationed at Camp Commando, his home for the next five months. Just 30 miles from the Iraqi border, Camp Commando is the Marine's operational headquarters, a city of tents in a barren desert, where sand gets into everything and winds whip up to 60-mile-an-hour gusts.

The camp was still being set up when the Brooklyn unit arrived, and Pastor filled sand bags, set up tents and tended to the generators. While he never spent much time in Iraq, he says Camp Commando was still in a dangerous area. During the course of Operation Enduring Freedom and Operation Iraqi Freedom, there were more than 40 incoming missile alarms and several missile impacts on the perimeter of camp. Some impacts occurred in the air after being intercepted by an American-made Patriot Missile. There were nights when Marines would sleep in the bunkers in their chemical protective suit with gas mask in hand because there were so many sirens going off. Getting accimated to three-digit temperatures is easy; getting accustomed to being under missile attack was not. His close call came one day while refueling floodlights just outside the base; a missile hit so close, he was blown back against his truck and the ground shook beneath his feet.

In June, Pastor's tour of duty ended and he returned to New York. Coming home, however, doesn't mean he's done serving his country. He still has three years of active reserve duty and 18 months of inactive duty left. But, right now, he's enjoying being a college student again, even if he's two years behind his former classmates. Besides, he says, cafeteria food is 10 times better than military rations.

Written by Therese E. Tuite

Editor's note: The Sixth Communications Battalion is sending a detachment back to Iraq in January. At press time, Pastor was unsure whether he'd be part of it.

Hua Zhang, a doctoral candidate in chemical engineering, received the 2004 Mattiello Memorial Award from the New York Society for Coatings Technology. The award is named in memory of Joseph J. Mattiello '25 '31Chem, who is recognized for developing exterior coatings for equipment during World War II.

Beverly Johnson, executive director of the YES Center, received the Technology to Empower Community (TEC) Championship Leadership Award, a congressional recognition sponsored by the Education Technology Think Tank. She was nominated by Scientific Learning Corporation for her work with the YES Center, Poly's pre-college outreach program. She received the award at the Congressional Black Caucus Education BrainTrust Symposium in September in Washington, D.C.
A summer of soldering: What I saw working the national conventions from the inside

By Nercy Escobedo '06CompE

"Ready on three, on two, on one...live!" shouted one of the head operators in the master-control room during the five a.m. segment. My day had just begun at New York 1 News, where I spent the past summer as an intern in the engineering department. NY1 News is a 24-hour local news channel reaching 1.5 million viewers throughout the city's five boroughs. There are 20 engineers and technicians at NY1—all men. The last time the station had a female engineer was five years ago, so I knew I had to prove myself. It must have worked, because a month into my internship, I was handed a press pass and was on my way to work at both the Democratic and Republican national conventions.

Interning for NY1 News opened my eyes to the amount of action done behind the curtain. When people think media, they think on-air hosts and cameramen and producers; they don't think engineers. However, engineers are the majority in the media operation, be it electricians or audio and video engineers. Each day, I arrived at the Boston FleetCenter, and then Madison Square Garden, hours before the red carpet, balloons and crowds. Among my duties, I tested the equipment to ensure it was ready for prime time. I also made audio and video cables, which involved soldering and putting together pin in/out definitions. Soldering came easy to me because I had done it in a mechatronics course taught by Professor Vikram Kapila. Mechatronics—a mixture of electronics, control theory, computer science and mechanical engineering—gave me a background that I was able to use and see in practice in my internship.

Although my days were long, I was having a great time. I was also the only female engineer at the conventions. On one occasion, an electrician from a set-up crew called out to me: "Hey, girl, you lost? What are you doing here?" I responded with a smile, "I'm an engineer with NY1." He then said, "To be working here, you must know what you're doing," and nodded with approval. Later that day, he saw me soldering and shouted, "I've never seen a woman handle solder that well. I'll give you work any day," and went off to tell his buddies what he witnessed. That was just the rush I needed to bolster my desire to be an engineer.

I got another rush from attending the conventions in person. The energy filling both sites was at such a pitch, it swept you up in the fervor. My summer at NY1 was one of the best experiences I've had. I met a lot of people, gained hands-on skills and developed a better understanding of engineering and all its applications. I continue to work at NY1 through an extended internship while enrolled at Poly.

Editor's note: In addition to her NY1 internship this fall, Nercy is shadowing Dr. Steven Mirone—who gave computerized prosthetics to one of the victims of the Staten Island Ferry crash—to learn more about prosthetic engineering.

honors

George Bugliarello, president emeritus and project director of Urban Security Initiative, was appointed chair of Sigma Xi's Committee on Ethics. The scientific research society has a membership of more than 70,000 scientists and engineers with more than 500 chapters at universities and colleges, government laboratories and industry research centers.

Cheryl A. McNear '92HU, director of student development, and students W. Stuart Lewis '05 and Mishah Salman '05 received the inaugural Nick Russo Memorial Helping Hands Award for their contributions to students. The award was presented at the 2004 Annual Student Activities Awards Banquet, sponsored by Student Council and the Student Activities Awards Committee. The award is named in memory of the beloved Poly alumnus and long-time employee who died in April 2003.
In celebration of the 150th anniversary of its founding, Polytechnic University is publishing a comprehensive history book: Changing the World: Polytechnic University, the First 150 Years, which will be available in September 2005.

RESERVE YOUR COPY NOW

Order before June 30, 2005, and pay a prepublication price of $29.95.

After June 30, 2005, the book price will be $39.95.

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"Why do I support Polytechnic University? More to the point, how could one who knows Poly not support this wonderful institution? The campus inevitably exudes diversity and heterogeneity. I like that very much."

To discuss a contribution to Polytechnic, contact Thomas Daly, director of development, at 800/705-9929 or tdaly@poly.edu.

Your company's matching gift can help Poly

Many employers have a matching gift program, whereby they will match gifts made by their current, and in some instances, retired employees to institutions of higher learning. Check with your Human Resources Department to see if your employer participates in the program.

Matching gifts are a way to have your initial gift increased by your employer with the credit going to you. For example, a gift of $50 from you that is matched 1:1 by your employer becomes a $100 gift. Just to let you know how important matching gifts are, in fiscal year 2004, the Polytechnic Fund received matching gifts from 127 companies.
What do these people have in common?

All have chosen to join the Alumni Wall

(clockwise, from left)
Rodney Jean-Etienne '99, Bronze
Henry L. Bertoni '62 '68, Gold
Willard R. Bishoff '58, Silver
Joseph A. Falcon '43, Bronze
Martin J. Olsen '84 '93, Gold

To learn more about supporting Polytechnic student scholarships and having your name inscribed on the Alumni Wall, contact Colleen Jansen, director of major gifts, at 800/765-9929 or cjansen@poly.edu.
A road less traveled

To paraphrase Robert Frost, a road less traveled sometimes makes all the difference. Poly graduates aren’t all scientists and engineers. Cable reports on three alumni who have decided to follow a different, and just as fulfilling, career path to success.

As a lab worker testing detergents for the research company Foster D. Snell, Roberta Gellis ’51Chem once spent a week watching clothes spin round and round in a washing machine and brooking the stares of strangers. “They thought I was crazy,” she chuckles, “because all I did was take out one item, put in one item, and start the wash all over again.”

It’s an apt metaphor for the endless writing and revising that Gellis, 77, now does as a novelist. A self-proclaimed late riser who edits her previous day’s output over breakfast, she dismisses the concept of writer’s block as an indulgence. Once she got paid for her writing, she treated it the same way she did her job at Snell’s, which she maintained while earning her master’s in biochemistry at Poly (she also holds a second master’s in medieval literature, from New York University).

“There were many mornings, I woke up and didn’t want to go to work,” she explains. “However, I woke up and went to work. Not wanting to do something has nothing whatsoever with having to do it. So, you do it.”

She might be on to something there. The award-winning writer has penned more than 40 books in a stunning array of genres: historical fiction, romantic suspense, mystery, science fiction and fantasy. Since her 1965 debut with Bond of Blood, part of a trilogy about Henry II’s fight for the throne in 12th-century England, Gellis has published novels in every decade and shows no signs of slowing. “I want to drop dead over my keyboard at 96,” she jokes.

The Brooklyn native, who married and raised her son on Long Island and now lives in Lafayette, Ind., Gellis cites as her early influences the Greek myths recounted by her mother, a classics scholar; the work of her father, Morris B. Jacobs, a well-known chemist and former Poly instructor; and the science-fiction novels she has devoured as a child. As an adult, she further whetted her interest in science as an editor of scientific texts. But while such expertise helps her decide what she can get away with when writing science fiction, Gellis is a firm believer in the primacy of storytelling. She sounds positively giddy when describing her newest novel, Overstars Mail, which features a mailman who travels faster than the speed of light.

“I just took everything I knew about science and threw it out the window,” she says. Lucky for her fans that she’s so willing to do that.
On the beat: Angela Ho '03

Angela Ho '03CS admits that when she fired her first gun, she found it intimidating. Enrolled at the time in the New York Police Academy, she remembers the way the shells blasted out at target practice, the burning sensation and the recoil effect that jerked her back. "My shoulder was always sore," she says. But Ho, 23, didn't scare that easily. A gym buff since high school and a catcher for Poly's softball team, she proved her proficiency at shooting and other skills required by the academy, graduating in December 2003. Nearly one year later, she's worked the night shift as a full-fledged officer in the East Flatbush section of Brooklyn. She currently fields assignments with the Brooklyn South Task Force that range from filling in at different precincts to assisting with parades and demonstrations. "I really don't have much of a social life anymore," laughs the Bensonhurst resident.

So how does somebody parlay a computer science degree into a law-enforcement career? As Ho explains, she was a junior and looking for a summer internship when she stopped by the NYPD booth at Poly's Career Fair. Outgoing and active—Ho was a freshman-peer counselor and member of the Alpha Phi Omega service fraternity at Poly—she wanted to work for the public interest, something she felt she wouldn't get sitting behind a computer all day. After six weeks' training in the Police Cadet Corps, she requested an internship with the Fifth Precinct in Manhattan's Chinatown, where she grew up. Throughout her senior year, the multilingual Ho served as a translator for Chinese immigrants in the precinct.

Ho describes her love of public service as "an ability to connect with people on my beat who can be my eyes and ears and help me out." She's equally impassioned about her job's challenges, such as winning over civilians who distrust the police or demean her because of her gender or ethnicity. At the end of her stint in East Flatbush, "I was proud to see the cold, hard stances give way to friendliness," she says. "It felt good to break that barrier."

With hopes of becoming a detective ("I've always been the inquisitive type. I just can't settle on a yes/no answer"), Ho excused an enthusiasm for her job that dates back to childhood. Her parents remind her she was so enamored of a Chinese-language detective show on TV that she used to beg her grandfather to buy her toy handcuts. She may have outgrown that single mindedness to embrace other interests, like computer-programming and cooking, but in Ho's words, "I know I never played with dolls."

A higher calling: Peter Pomposello '91

In the summer of 1996, Peter Pomposello '91/O was vacationing on the New Jersey shore. He had several months off from his job as a junior-high school teacher, and with the use of a sailboat and a house on the water, he was living life. But a talk with his parents about faith prompted him to start attending daily mass, "something I thought only little old ladies did," he says. It turned out to be one of the most fateful decisions he ever made, setting off a chain of events that culminated the following year with him quitting his job, breaking up with his girlfriend and entering the seminary.

Today, the 35-year-old Pomposello is an ordained parish priest at Sts. John and Paul Roman Catholic Church in Larchmont, N.Y. "It's just a gift from God that He gives for whatever reason," he explains for his new vocation. "I don't know why He would have picked me. I wouldn't have picked me. But, here I am."

As a Catholic-high school student growing up in Staten Island, Pomposello was awed by the Irish Christian Brothers who were his teachers. He toyed with the idea about joining the priesthood, but rejected it as too lofty an ambition. After high school, he won a ROTC scholarship to attend Poly, where he majored in journalism and technical writing. Upon graduation, he worked as an assistant production editor at Plenum Publishing before being called for active military duty.

It was in the army that Pomposello discovered his strengths as an educator, and when he returned home in 1992, he began teaching. As much as he enjoyed the work, though, he was restless. After attending mass and reading a published letter from the late Cardinal John O'Connor, which made the priesthood more human and convinced him of his next direction, Pomposello contacted the archdiocese by e-mail in 1997. "I felt ridiculous writing this e-mail," he laughs. "It was like, 'Hi, my name is Peter, and I'm thinking about being a priest.'" For all his self-deprecation, he received a sympathetic reply. After applying and being accepted, he entered the St. John Neumann Residence in the Bronx in 1997.

Despite some culture shock on his first day—"I had a three-bedroom apartment. Now, I was living in a tiny room with a sink and medicine chest"—the seven years of seminary proved richly rewarding. Since he was ordained in 2004, he's never been happier. "I just thank God for it," Pomposello declares. "I say my prayers and I hope to do His work."

Written by June Yang
In thinking about what to say in my first letter to you as president of the POLYTECHNIC ALUMNI, the notion of alma mater keeps running through my head. What does it mean to us who boast an irrevocable bond to a great university whose rivals in history and accomplishment include, perhaps, the likes of Harvard and Yale but few others? Saturday-afternoon football games? School-spirit songs at pep rallies on the quad? No, it does not stand for these.

To our fellow students entering their first class 150 years ago, it meant the first institute of higher learning for men in Brooklyn. Those graduates and faculty would go on to serve heroically on both sides of the Civil War (thus our school colors, blue and gray) and be counted among the earliest leaders in the transformation of America into an indomitable industrial power. To the Brooklyn Eagle in 1897, it was the Polytechnic of which Brooklyn "had good reason to be proud," and whose students "owe much of what they have become to its influence upon them." To the scientific and engineering community of the 20th century, it meant a leading institution whose faculty and students produced revolutionary scientific and technical breakthroughs and life-saving engineering solutions. The ability to mass produce penicillin, for example, which the Pfizer Company even today reminds us about each week in its national television ads, was the result of the work of Polytechnic graduates. To the waves of first- and second-generation immigrant sons and daughters, it means fulfillment of the American dream. Today, it also means a modern urban campus, with new athletic, library and laboratory facilities; exceptional research opportunities to meet global challenges that lie ahead; and advanced academic programs that provide students with the education to nourish their drive to succeed.

As the sesquicentennial year progresses, our new public awareness campaign, The Power of PolyThinking, helps us focus on our achievements both old and new.

The spirit and pride of Poly's alumni have helped immeasurably in its growth and success. They are reflected in the Alumni Wall, which completes the lobby of the Joseph J. and Violet J. Jacobs Building. It is a large-scale, colorful work of art made in architectural glass tiles, the result of the most advanced techniques and sophisticated materials available today. It is a source of great pride to the University. All of our names should be on it. I cannot think of a more fitting way to complete the circle that began when we first walked through Poly's doors as students. With the advantage of our hard-won Poly degrees, many more doors have opened for us. Look at the pages in this Cable issue to see that as Poly graduates, we can do anything.

The POLYTECHNIC ALUMNI offers each of you a unique and personal way to continue to be part of the Polytechnic University community. We strive to plow paths of communication so you know what is happening at Poly, and, in return, we know and celebrate your progress. We strive to host reunion and networking events. We delight in presenting the amazing diversity of Polytechnic. We invite your questions and comments. We want you never to forget that you can always come home to Poly.

I am honored and appreciative to have been chosen as your president at this special juncture in Poly's history. I hope to renew old friendships and establish many new ones. The POLYTECHNIC ALUMNI welcomes the start of another new year with you. Grounded firmly on the hard work of our predecessors and of the director and staff of the Office of Alumni Relations, we look forward to serving all of you. Don't be bashful in letting us know what you expect.

Thomas A. Mauro '67PH

Alumni Relations Director
Donald Ivanoff marries

It wasn't "officially" an alumni event, but it was a joyous occasion. On July 10 in Cape May, N.J., Alumni Relations Director Donald Ivanoff married Denise Williams, a pianist and program director for the Brooklyn Youth Chorus Academy. Guests included Debobato Deb '99SS, Huang Fung '94OB, Kathy Fung '99CS, Spencer Korness '00ChE, Cheryl McNerth '92HU, James Ouasomi '77ME, Claudia Tom '99CS and Michael Urmeneta '92ME '00MC.

Are you a PolyThinker?

To those alumni who followed and participated in Poly sports, here's a chance to test your Brooklyn Poly history. Correctly answer the question and be entered in a drawing to win a Poly golf shirt.

QUESTION:
When did Poly's mascot, the Blue Jay, make its entrance?

Send your answer and shirt size to Therese E. Tillett
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Six MetroTech Center
Brooklyn, NY 11201
Class years are determined by the year the Office of the Registrar certified the granting of the degree. Alumni receiving multiple degrees from Polytechnic are listed under the first graduating year only. A key to major abbreviations is available at www.poly.edu/alumni/cable.

30s
Helmut C. Neumann ’38Chem wrote to say that he and his wife, Emily, have moved to a retirement complex in Albany, N.Y., so the chores of raking leaves, mowing lawns and shoveling snow are now past. Neumann retired in 1982 after 31 years as an organic chemist from Sterling-Winthrop Research Institute. At age 87, he still walks for exercise.

40s
Leopold B. Felsen ’48 ’49 ’50EE was honored on the occasion of his 80th birthday with two sessions dedicated to him at the 2004 International Symposium on Electromagnetic Theory. The sessions, sponsored by the International Union of Radio Science, held in Italy in May, reviewed research originally conducted by Felsen that impacted the magnetostics field. Henry L. Bertoni ’62 ’68EE, recently retired head of Poly’s Electrical and Computer Engineering Department and a former student of Felsen’s, represented the University at the sessions.

Siegfried Herzfeld ’48ME will be included in the 2005 edition of Whos Who in America.

Ning Hsing Chen ’69 ’61ChE has been appointed deputy director general of the International Biographical Centre, a publisher of research materials and directories.

50s
Donald A. Ingrahn ’50AE is a defense and aerospace consultant and author of two novels, The Cyber Senator and Targeting the Terrorists.

Charles A. DeBenedittis ’52CE has received the 2004 Henry C. Turner Prize for Innovation in Construction Technology, sponsored by the National Building Museum and the Turner Construction Company. DeBenedittis is senior managing director for design and construction at Tishman Speyer. In his 50-year career, he played a leadership role in the construction of Chicago’s John Hancock Tower, New York’s World Trade Center and Detroit’s Renaissance Center. He also was a prime mover behind the introduction of construction management as a professional service, and early adopter and user of new materials and technological advances for better construction.

Lawrence Bahm ’52ME ’62MG was recently elected vice president of the Council of the Faith Lutheran Church in Syosset, N.Y. He also was appointed to the Executive Committee of the Long Island section of the American Society of Mechanical Engineers, and was named a trustee of the Long Island Early Fliers, an aviation history society.

Joel Snyder ’56 ’61EE was awarded the highest membership grade, Honorary Member, of the IEEE for “significant contributions to the development and strengthening of the fruitful cooperation between the IEEE and the Russian Popov Society.”

Paul A. Willis ’58 ’62EE has retired from Caltech and was recently appointed vice president of RoboticsTQM: The Home Robot Company.

60s
Martin S. Gottlieb ’60EE is president of the American Institute of Engineers and invites fellow alumni to join the organization (website: www.members-iae.org).

Pasquale M. Sforza ’61 ’62AE ’65AA is a professor in the Department of Mechanical and Aerospace Engineering at the University of Florida, where he is working on supersonic and hypersonic research and recently started the Journal of Direct Energy.

Alan L. Goodman ’62EE retired after 42 years with the Navy Undersea Warfare Center in Newport, R.I. He received the Mentorship Civilian Service Medal from the Department of the Navy and the Decibel Award for contributions to the fields of underwater acoustics and sonar.

Charles C. Maneri ’62ChE ’70ME retired in 2000 from Lockheed Martin’s Kolls Atomic Power Laboratory. He now works part time as technical adviser for Sonotek Corporation in Milton, N.Y. He has two grandsons, 5 years, and 20 months.

Clive L. Dym ’64AM has received the Ruth and Joel Spira Outstanding Design Educator Award from the American Society of Mechanical Engineers. Dym is the Fletcher Jones Professor of Engineering Design and director of the Center for Design Education at Harvey Mudd College in Claremont, Calif.

Kenneth Plotkin ’65AE is a chief scientist at Wyle Laboratories and was recently featured in the July issue of Popular Science in an article about experiments to decrease sonic booms.

Frederick A. Zito ’68MG ’68TC received the 2004 Ellis Island Medal of Honor in recognition of his contributions to American heritage and distinguished service to humanity. Zito is a retired NASA engineer who served as a technical liaison for the development of the Guidance, Navigation and Control System used on the Lunar Module that landed on the Moon in 1969. He received five commendations from NASA for his work. Today, he is a board director of the Long Island Wireless History Association.

Noor I. Laryngno ’69EE is an assistant professor of finance at Quinnipiac University in Hamden, Conn.

70s
George E. Brown ’71EE was inducted into the Hall of Fame in his hometown New Bern, N.C., for his skills on the high school football field. The four-letterman was a member of the 1956 state championship team. He is retired from the U.S. Army Electronics Command.

Henry Garcia ’72MA retired after more than 40 years in the information technology field, most recently as a vice president of international IT at Wyeth Laboratories. He and his wife, Janet, breed and raise alpacas on their 110-acre farm, Starry Night Alpacas, in Warner, N.H.

Stephen Kadosh ’72OR is president of Crown Consulting Inc., a Washington, D.C.-based IT company specializing in air traffic control and avionics.

Richard Oppenheimer ’72SE ’75OR has announced his retirement at age 51. After holding several management positions in the electronic-manufacturing business, he bought, then sold his company, Long Island-based Lantronics, and, in 2003, moved to the Florida Gulf Coast. Golf and cooking school now consume his free time. He invites classmates to visit and vacation. He can be contacted at roppenheimer@aol.com.
Marsha (Rabinowitz) Anderson Bomar '73MA '73IP recently wrote an article for Georgia Engineer magazine about the importance of introducing young women to the engineering professions.

Louis Robbins '73CE was named senior vice president and director of Maryland operations for Dewberry. He previously was director of Dewberry's New Jersey operations.

Richard Nottenburg '75EE has been named senior vice president and chief strategy officer at Motorola Inc., overseeing mergers and acquisitions, venture capital investments, business intelligence and new initiatives. Previously, he was a strategic advisor to Motorola, vice president and general manager of Vitesse Semiconductor Corporation and president and CEO of Multilink. He is noted for co-inventing the world's fastest transistor in 1988, when he worked at AT&T Bell Laboratories.

Dham N. Yadav '76CE is the principal engineer of water works for the City of Trenton, N.J. He and his wife, Sushila, have two children and live in Mercerville.

Arge Mayseless '77 '79IE is a senior engineer with the General Motors' Powertrain Division in Warren, Mich., where he's working on the company's six-speed, front-wheel-drive transmission program.

Randy Frey '79EE was inducted into the NASA Space Technology Hall of Fame for his work in developing laser radar (LADAR). Originally used as a tracking application for missile guidance systems, LADAR was patented and adapted for medical purposes, specifically in treating mild to moderate nearsightedness. In 1999, Frey's company, Summit Autonomous, became the first commercial eximer laser manufacturer to receive FDA approval for the LASIK procedure, which uses laser and eye-tracking device to reshape the cornea.

Michael Wendel '79EE was promoted to the rank of captain in the U.S. Navy. He is the medical director of the family practice department at the National Naval Medical Center in Bethesda, Md.

80s

Johanna Ambrosio '80TC is a freelance business and technology writer, based in Marlborough, Mass. Her work has appeared in such publications as Crain's New York Business, Application Development Trends and Investor's Business Daily.

Wilbert Q. Mandler '80EE '83BI was profiled in the August 25 issue of The New York Times for his work designing special golf clubs that can analyze a golfer's swing and post the data online. He is founder and chairman of Internet Golf Multiplied.

James Coletti '81EE presented a lecture, "EMC Design Fundamentals," to the Electromagnetic Compatibility Society of the IEEE, Long Island Section. The presentation material can be viewed on the EMC page at www.iceeli.e1i.

Sufian A. Khondker '82CE was named Engineer of the Year 2004 by the American Association of Bangladesh Engineers and Architects. He recently joined the New York City office of Dewberry as a senior associate and chief water resources engineer.

Hans Mark '82HON was awarded an honorary degree from the Royal Military College of Science in the United Kingdom. Mark is a trustee of Polytechnic and the John J. McKetta Centennial Energy Professor of Engineering at the University of Texas at Austin.

Rajiv C. Modh '82IS is founder of Susan Ltd., a major wireless-technology firm in India.

Conrad R. Leikau '83PH is a registered patent attorney in Branchburg, N.J.

Julio A. Trujillo '83EE is a senior electrical generation engineer for Oglethorpe Power Corp. in Rome, Ga.

Ravi Bhatia '85EE '01TIM has joined Madison Equities as a project executive in charge of the real estate firm's new construction projects. He lives in Roslyn, N.Y., with his wife, Sony, a travel agent.

Peter Coen '85AE works at NASA's Langley Research Center, heading a new supersonic vehicle team. He was quoted in the July issue of Popular Science about attempts to reduce sonic booms.

Donald Lee '85ME is a senior operations manager for IT consultant firm nruns GmbH in Oberursel, Germany. He and his wife, Marcia, have two boys, Brandon and Andrew.

Raymond J. McCabe '85CE is the president-elect of the Metropolitan Section of the American Society of Civil Engineers.

David Miller '85CS and his wife, Jodi, welcomed triplets, Alyssa, Madison and Rachel, in February. Already, the girls have appeared in several TV shows and films, including "Seventh Heaven," "The Bold and the Beautiful," the upcoming "Kicking & Screaming" (playing Will Ferrell as a baby) and "The Ring, Part 2" (playing baby Samara). Follow their burgeoning career at www.hometown.solar.com/themillerettes.

Peter Bouloukos '86EE is running for state assembly of District 26 in Queens, N.Y. He owns the engineering firm Metersdirect.com.

Horace McCormack '89IE '90MG and his consulting and training firm, HCM Management and Technologies Inc., received the 2004 Small Business of the Year Award from the Washington, D.C., Chamber of Commerce. McCormack is president and CEO of the company.

Uttam M. Reddy '89IE and his wife, Anu, welcomed son Kavan Neil, born in July in Austin, Tex. Reddy is a strategist at Dell Managed Services; his wife works in Dell Small and Midsize Business Sales.

Jack Tsai '89CS lives in Apple Valley, Minn., and works as a lead database administrator for Notiva.

Steven Van Vliet '95 is director of validation at Protein Design Labs Inc. in Fremont, Calif.

90s

Pamitharn Paynachakoon '92MG is a department director at Total Access Communication Ltd. Pte in Bangkok, Thailand.

Marcel Requejo '93EE works for Delta Airlines as a commodity manager in Atlanta, Ga.

Steve Eisenberg '95CE is a senior project manager at Louis K. McLean in Brookhaven, N.Y. He married Christine Roche in August.

Sung-Heon Jang '95EE is a chief research engineer for LG Electronics in Seoul, Korea.
Patrick F. Lynch ’95EE was named one of the Business Council of Westchester’s “Rising Stars,” honoring individuals under the age of 40 who demonstrate great business leadership and vision for the future of Westchester County, N.Y. Lynch is principal and president of O’Dea, Lynch, Abbatista Consulting Engineers.

Wil Vergas ’95AE was promoted to director of knowledge management for the United Way at its national headquarters in Alexandria, Va.

Roger D. Eisenhardt ’97OE is deputy director of human resources for the Kings County District Attorney’s Office. He also teaches at Long Island University. He and his wife, Eloise, have two sons, Roger, 17, and Christopher, 12.

Russell S. (Trey) Reynolds ’97IM was promoted to president and COO of the Director Search Group, an executive search firm. He and his wife, Lynda, and three children live in Greenwich, Conn.

Ahmed Aslam ’98CS ’02IS moved to Australia in 2003 and works for Computer Associates as a technical support representative in the company’s Data Protection Group.

Dominick Marciauto ’98EE is manager of Customer Premise Equipment (CPE) operations for Verizon Wireless in Beminston, N.J.

Tadahiro Sekimoto ’98PHON was featured on the June cover of IEEE Spectrum. The former NEC Corp. chairman recently received the 2004 IEEE Medal of Honor for his work in integrating computers and communications. He is currently chairman of the Institute for International Socio-Economic Studies in Japan.

Nicholas Cornia ’99EE is an electric-system design engineer for Central Hudson Gas and Electric Corp. in Poughkeepsie, N.Y. His son Riley just turned 1. He is currently enrolled in a master’s program in power engineering.

Claudia S. Tom ’98CS recently transferred from IBM Global Services’ New York office to its Virginia office. She celebrates five years with the company’s Integrated Technology Services Division, and will now work on projects in the greater Washington, D.C. area.

00s

Ibrahim Almohamad ’00MN is a consultant for the Water Authority of Jordan.

Kathryn E. Cooperman ’00MOT joined the Sprint Corp. in 2001 and was appointed a senior account executive for the Connecticut and New England areas. She was recently recognized as a “Sprint Peak Performer,” for her sales record.

David N. Rosenshaft ’00MOT is teaching management courses at Polytechnic this semester.

Arunak Aziz ’01CompE is a consultant for IBM in New York.

Shun Wah (Ken) Yap ’02CS is a systems engineer for Poly’s Department of Computer and Information Science.

Victor Diaz Jr. ’03MOT is a systems engineer for Verizon. He and his wife, Wendy, and son, Jariel, live in Tampa, Fla.

Travis Gates ’03CHE has joined Polytechnic as an admissions counselor while continuing his graduate studies in chemical engineering.

Christopher Rivera ’03IC is an analyst for JP Morgan Chase in New York.

Anika Williams ’03EE recently graduated from the Emerging Minority Business Leaders Summer Institute, an entrepreneurial and technology-management educational program, held at the Robert C. Byrd National Technology Transfer Center in Wheeling, W.V.

Diana Yang ’03CS is a financial aid counselor at Polytechnic.

Madrid Gathic ’04CompE is a technical consultant for New York City Transit.

Song Lin ’04CS and his wife, Wendy, welcomed their first child, David, in June. Lin is a database administration for Poly’s development office.

Sonja Moin ’04BTM recently graduated from the Emerging Minority Business Leaders Summer Institute, an entrepreneurial and technology-management educational program, held at the Robert C. Byrd National Technology Transfer Center in Wheeling, W.V.

Laurence Nassivera ’04TP is a transportation planner for Arup in New York.

Kevin Power ’04BTM is an admissions counselor at Polytechnic.

In Memoriam

Richard D. Keiler ’30
James W. Fitzsimmons ’41
Theodore A. Endresen ’44
Joseph J. Byrne ’48
Harry H. Heyson ’49
Walter R. Pflueger ’49
Edward Polen ’52
Thomas H. Hakala ’54
Louis V. Divone ’55
Wilfred F. Violette ’57
Stanley Shell ’58
John P. Thomas ’58
Sam Friedman ’59
John D. Giombi ’59
Walter S. Wilson ’60
William J. Cumming ’65
John H. Lewler ’65
Roger B. Gaugler ’66
Peter J. Coleta ’57
Robert M. Dollard ’68
Charles P. Bukowski ’62
Robert Jorgensen, faculty

Last issue’s PolyThinker Quiz

What did Poly’s South Building at 94 Livingston Street originally house? Some said a razor-blade factory, others recalled it being a morgue. While no one could guess the original inhabitant—Juvenile High School—Gordon Krager ’44EL, Allen Parrmet ’31 ’55CE and Daniel R. Stoller ’58BTM correctly answered the next tenant was the Brooklyn Eye and Ear Hospital. All three win a Poly golf shirt.

The Juvenile High School, bought the land across Poly in 1865 and built a three-story brick structure. The hospital occupied the building from 1882 to approximately 1920, when it was purchased by Poly. The University sold the building in 1957, along with 96 and 85 Livingston, when it moved to 333 Jay Street (the original razor-blade factory), now called Six MetroTech Center. Today, 94 Livingston is a parking lot.

Nominations Sought for Poly Honorary Degrees

Alumni and friends are invited to submit nominations for honorary degrees to be conferred at Commencement 2006. Candidates need not be Polytechnic alumni, but should have demonstrated extraordinary contributions to technology, science or society. Send nomination, including biography and statement regarding the nominee’s contributions, to

Vice President Richard S. Thorsen
Polytechnic University, Six MetroTech Center
Brooklyn, NY 11201; fax: 718-260-3755.
UPCOMING SESQUICENTENNIAL ALUMNI EVENTS

Saturday, November 13
11 a.m. - 9 p.m.
Homecoming 2004
MetroTech Campus

Monday, December 6
6:30 - 9 p.m.
Long Island Holiday Party
Carlyle on the Green
Bethpage State Park

Wednesday, January 19
6:30 - 9 p.m.
Westchester Alumni Reception
Tarrytown House

For more information: alumni@poly.edu,
Serving Our Country

In its 156-year history, Polytechnic has served the United States on the front lines and in the laboratories. This article is not a comprehensive record of the services and sacrifices of faculty, students and alumni during wartime; it can only highlight a select few that have made an indelible impression upon the evolution of Polytechnic, the country and the world.

For the blue and gray

As the American Civil War raged in the spring of 1861, the Brooklyn Collegiate and Polytechnic Institute, then seven years old, joined the fray. The Institute assumed a semi-military stance with students wearing uniforms of blue trousers, black coat with brass buttons and military cap. They were organized into a military corps, the “Polytechnic cadets,” forming a complete battalion and drilling regularly in the Institute’s Livingston Street back yard. Each was armed with a musket, on loan from the government. The school awarded half-day holidays any time the North was victorious in battle. At war’s end, Poly adopted the colors blue and gray to symbolize the unification of a nation.

Sources say that more than 100 Poly students, alumni and faculty members served in the war; however, no record remains of who they were, except for two: alumni George W. Melville and Professor Joshua W. Sill. One year after graduating from Polytechnic, in 1861, Melville joined the Navy as a lieutenant on the USS Florida. Sill served on the CSS Florida in 1864. He went on to a distinguished career in the Navy, retiring as a rear admiral. (See article “Making Their Mark” in the summer issue of Cable).

Whereas Melville served on the water, Sill took to the land—and to history books—as the youngest brigadier general in the Union Army. A professor of mathematics and civil engineering, Sill led Polys at the war’s start to organize Union forces from Ohio, his home state. On the last day of 1862, Sill, 31, was killed by rifle fire while leading his men forward in one of the war’s bloodiest battles, at Stone’s River near Murfreesboro, Tenn. Today, his name lives on at Fort Sill in Oklahoma, the largest artillery center in the world.

By 1866, the Institute abolished the military drills and returned to expanding its curriculum. The end of the century was approaching, and with it came advances in transportation, communications and production, embraced by a strong, young country. The next 20 years saw Polytechnic emerge as an established training ground for the manpower and leaders needed for a growing city and nation.

In 1948, the Reserve Officers’ Training Corps (ROTC) was established at Poly, the only senior ROTC unit in Brooklyn. The ROTC was considered an academic department and the military cadets in command were members of the faculty. By 1950, approximately 40 percent of each incoming freshman class registered for the ROTC course. Both socially and militarily, the ROTC pervaded Poly life, with drills in a local park, military balls and a symphonic band.

A school interrupted

The opening years of the 20th century saw the Polytechnic Institute undergo momentous changes. Polys third president, Frederick Addison, was developing a model school for engineers, a “West Point for captains of industry.” By 1917, much had been done to more fully develop Polys engineering program. The Institute was one of the first to offer a “mill administration” and “work engineering” and the first to offer “aeroplane,” which was compulsory for students in locomotive engineering. All was halted, however, when the country entered the First World War in April, and the Home Defense League took over the Institute, conducting “physical examinations” in Poly’s Gymnasium, and practically the entire student body was mobilized, according to trustees minutes. The faculty developed a course in radio engineering and created a military science program to supplement a state-mandated drill for students. Poly was given permission to form a company of the 23rd Infantry Regiment of the New York Guard, and a commission was granted to Professor J.B. Chatterton, who recruited 52 students. In 1918, the Poly unit of the Students Army Training Corps (SATC) was organized. Poly’s chapel and gymnasium were converted into barracks for the 267 enlisted men who now attended the Institute, swelling the registration to 468 (over a high of 264 the year before).

It was estimated that 133 Poly men, not counting alumni, served in World War I. The 1920 Polytechnic yearbook reported that a Poly student was the first of the American Expeditionary Forces to reach the Rhine. Michael C. Meseritz ’22, then a student in the 26th Engineers and in command of a sanitary patrol, reached Remagen, Germany, on December 7, 1918, four days ahead of the advance guard of the Army of Occupation.

“No man in the entire army, I believe, was so much admired, respected and beloved by superiors as well as inferiors as General Sill,” wrote an officer about Joshua W. Sill, the Civil War’s youngest brigadier general of the Union Army. A memorial plaque dedicated to the Poly professor now hangs on an entrance wall at Poly Prep.

Photo: Ross County Historical Society
Advancing the technology of war

As the Great Depression settled over America in the 1930s, its effect was being felt in colleges and universities. Enrollment at Poly declined greatly, losing 500 students between 1930 and 1932, and continued to drop nearly another hundred the subsequent year. Harry S. Rogers assumed the presidency of Polytechnic in 1933, and with him came a new direction for the beleagured institution: If Poly was to succeed as an institute, to advance its teaching program and attract leading scholars and students, he decreed, it must develop a research program. His foresight presaged a collision of fates. World War II was knocking at America's door, and with it came government contracts, refugee scientists and students to the Institute, ushering in a renaissance for Brooklyn Poly.

Blitzkrieg, German for "lightning war," was a concept that changed forever the way war is fought. This was fast-moving warfare, which made use of both the tank and aircraft. With it came the need for advanced technology and the advent of revolutionary ideas and innovation in the areas of communications systems, electronics and aerodynamics. The U.S. government turned to educational institutions for help. As Polytechnic took its first steps toward developing a mature research program, World War II accelerated the process. In 1942, Poly had research contracts worth $61,000. Three years later, contracts totaled half a million dollars, a nearly 800 percent increase.

The largest contribution, however, to Polytechnic's growth during this era was the arrival of prominent scientists and engineers from Europe. Among them: Ernst Weber in electronics, Herman F. Mark and Frederick Eirich in polymer science, Isidor Fankuchen and Paul P. Ewald in X-ray crystallography and Nicholas Hoff and Hans J. Reissner in aeronautics. Here was the nucleus around which a solid research program could be built. Here were the giants in the very fields that after the war would be to among the most dynamic and important in terms of research: development, production and contribution to the economy and culture worldwide.

"Ironically, I infer made Poly," says University Professor E. R. Pearce '58Chem. "Without his rise, we wouldn't have benefited from these men doing their research at Poly."

With most of the faculty engaged in government work, Polytechnic became a living laboratory for students, Charles Strang '48ME remembers when the U.S. Navy sent one of its new Victory-class ships, which were cracking and sinking at an alarming rate, to the Institute to study. "I will never forget the sight of those huge sections of ships set out on the sidewalk in front of the school," he says, "with students crawling all about, examining the cracks."

Herbert Hanft '48EE recalls his first government-classified project under the auspices of Weber, "conducted in a secret, locked lab. Dr. Weber, himself, would sweep up, because the cleaning staff was not allowed in. We did all sorts of crazy things," he adds, which included photographing and developing top-secret reports in the school's coat closets to avoid detection.

As well as participating in warfare research, Poly students were also fighting the battles. More than 2,000 Poly men served in the war. As the impact of the war reduced enrollment of full-time students below 200, President Rogers welcomed a contingent of 750 soldiers from the Army Specialized Training Program (ASTP). They were housed in an unfinished building in Fort Greene and began the day by marching down Livingston, "singing lustily in time for eight o'clock classes."

Soon after the war's end in 1945, returning veterans, armed with the G.I. Bill, created long lines stretching down Livingston Street and bought total registration to 6,000. William J. Ferracane '50Chem was one of the returning soldiers. "When I arrived at Poly in 1946," he recalls, "there were thousands of GI's just like me trying to enroll. I was one of the 500 who got in and one of the 350 who graduated in my class."

By war's end, the teaching and research had been expanded and enriched, and the student body was at record levels. President Rogers, in a speech to alumni in 1947, titled "The Greater Polytechnic is Bursing at the Seams," cited government research contracts of more than $1.2 million and a campus that occupied seven buildings throughout downtown Brooklyn. This was all in preparation for the final decade in the Institute's first 100 years, a period that has been called its golden decade.

The golden decade

The men who had found a safe haven at Polytechnic during the war were now bringing the Institute to pre-eminence in research. Weber had established the Microwave Research Group (now called the Weber Research Institute) and the Polytechnic Research and Development Company, which invented and manufactured basic components needed for radar, improving its performance during World War II. By the late 40s and early 50s, Weber's institute broadened to include all aspects of the microwave field.

Mark established the Polymer Research Institute, the first of its kind in the nation. The institute helped make polymer science an important scientific discipline, responsible for products from the plastics that encase computers to the synthetic fibers people wear. During the 1950s and early 1960s, the institute grew and attracted first-class scientists and students from all over the world, many of whom would later establish polymer institutes at other universities.

Ewald, who developed the dynamic theory for diffraction, and Fankuchen, who altered the field of virology with his discovery of a substructure of the tobacco mosaic virus, built a center for X-ray crystallography that became world renowned. They also brought David Harker to Poly, who, during the 1950s, mapped the structure of the protein molecule. Future Nobel Laureate Francis Crick of DNA fame studied with Harker at Poly in 1953.

Hoff, an aircraft structure analyst whose calculations have become a godsend in aircraft design, and Reissner, who built and flew the first all-metal airplane in Germany in 1913, established (with R. Paul Harrington) a Department of Aeronautical Engineering, which gained an international reputation for its supersonic and hypersonic aerodynamics. Much of its progress is traced to aerospace pioneer Antonio Ferris, who had worked in Italy during the war on high-speed flight and advanced technology in rocketry. At Poly, he oversaw the development of the first hypersonic tunnel heater in the world and the building of a wind tunnel facility at Freeport, Long Island, which became an important research component of the national missile program.

The Korean Conflict, which began in 1950, did little to diminish Poly's advancement. Annual registration averaged around 6,800 students, with the graduate school regularly having the largest number of engineering registrants in the country. The Institute celebrated its centennial during the 1954-55 academic year under the theme, "Science, Engineering, Research, for Human Well-Being." During that year, the school also found a new home, at 333 Jay Street in what had once been the American Safety Razor Company. In 1957, Weber became Poly's sixth president. The Board joins with the Polytechnic alumni, staff and student body in a spirit of profound optimism that Polytechnic's greatest years lie ahead," said then Chairman Preston R. Basset '44ME at the Institute's Centennial Convocation.

In his native Vienna, Herman F. Mark developed what is today called the kinetic theory of rubber elasticity, making possible the future large-scale production of synthetic rubber. His laboratory also attracted many future Nobel Laureates, including Max Perutz, who discovered the structure of hemoglobin, and Linus Pauling, considered the father of molecular biology.
A crisis in the research laboratory

By the mid-1960s, however, Polytechnic received a financial blow from an unexpected place: its main source of research contracts, the U.S. Department of Defense (DoD), phased out its large programs of applied research on orders from Congress, which also cut support for NASA, the National Science Foundation and other government agencies.

Although history had shown that wartime aided Poly's research development, the Vietnam War was the exception. For the first time since the American Civil War, the country was divided, and the impact was felt not only in government, but also in academic research institutions. In 1961, government grants comprised 94 percent of Poly's research revenue, of which the DoD was the main stakeholder. By 1969, the government still controlled Poly's research income at 94 percent, but the amount had dropped dramatically—more than $1 million in that seven-year span. DoD grants to Poly shrank from $3.4 million in 1961, to $1.8 million in 1969, a staggering 48-percent decrease.

"It appears that we should never seek the support of a single national agency or office for science funding on a substantial scale, because sooner or later its favor with Congress might be lost, or its mission de-emphasized, thus impairing the stability of university operations," a report Weber wrote in his 1967 annual report to the Board of Trustees.

Although major government grants had dried up, research still continued strong at Poly mainly in aerodynamics and electrophysics. The Institute moved its aerodynamics laboratory in 1965 from Freeport to its Farmingdale campus and constructed a $1 million facility. It also received federal funding for two multimillion-dollar continuing programs that combined interdisciplinary teaching and research in electromagnetics and electrophysics. In 1963, Professor Nathan Marcuvitz '35, '41, '47EE, director of the Microwave Research Institute, was named assistant director of defense research and engineering for the U.S. Department of Defense. The same year, Weber was appointed to the advisory board to the Secretary of Defense.

Jasper H. Kane '28Chem, at Pfizer, led the development processes for the mass production of penicillin, streptomycin and other antibiotics, with the aid of fellow alumni John McKeen '26ChemE (later to become Pfizer president) and Elmo F. Harper '45ME, who helped build the equipment necessary for mass production. Their work saved thousands of wounded soldiers from death during World War II.

Peace signs flashed to all

While Poly's administration was watching the dark clouds gather over its financial house, its students and faculty were witnessing a storm brewing in American foreign policy. Even engineers and scientists with their primary hours spent in windowless labs weren't immune from the political climate. The Institute hosted Vietnam War protests to packed audiences, including Norman Thomas, who ran for president many times on the Socialist Party ticket; and actress/activist Jane Fonda and her future husband Tom Hayden, founding member of the Students for a Democratic Society (SDS) and one of the Chicago Eight. There were a few faculty teach-ins and student sit-ins in front of the Rogers Hall elevators, and a fire was set in the ROTC office. The largest demonstration took place in May 1970 after Nixon's announcement of the Cambodian invasion, and the subsequent Kent State shootings. For three days, students and faculty protested on campus until the school cancelled final exams and closed for the semester. A few weeks later, audience members scuffled with protesters at Commencement at Camden Plaza.

For the most part, however, the environment at Polytechnic was moderate, compared to what was occurring elsewhere. "Polytechnic was unique as the fact that most of our students were immigrants and first generation Americans. They wanted to believe in the government, they emotionally needed to feel secure in their new country," says Professor Emeritus David Mermelstein. "Their views eventually changed over time, but more slowly than what you saw on campuses such as Columbia and UC Berkeley."

Mermelstein and his fellow faculty members of the Department of Social Sciences, on the other hand, were the Institute's most outspoken critics of the war. "We were known as the 'Red Department' for our views," he says. Professor Murray Rothbard, the founder of the Libertarian movement, joined the department in 1963 and "finally found his lifelong academic niche because his opposition to the Vietnam War...made him acceptable to the left-wing stuff," he was quoted as saying for an article in Forbes. The faculty also made its views felt in print. Professor Louis Menashe published, with Ronald Radish, Teach-ins, USA; Professor Marvin E. Gentelman published Viet Nam: History, Documents, and Opinions on a Major World Crisis; and Mermelstein edited, with Gentelman, The Great Society Reader: The Failure of American Liberalism.

A new beginning

As the end of the 1960s saw the United States in crisis, Polytechnic was in a similar quandary. Significant damage had been done by the loss of defense government funding and, with an historical aversion to fundraising, resulting in a too-small endowment. The Alumna Fund was a recent effort, established by Weber during his presidency, the Institute had to consider its options for survival. In 1973, as the last U.S. troops pulled out of Vietnam and the nation began its reconciliation, Polytechnic began its own course of renewal, merging with New York University, School of Engineering and Science. Its progress continued with the advent of two presidents, George Bugliarello in 1973, the visionary behind Metatech Center, which brought industry to Poly's backyard and transformed an area of urban decay; and David Chang in 1984, the principal behind Poly's historic $275 million capital campaign and the Brooklyn campus' recent growth and enhancement.

A May 1970 article in the Polytechnic Reporter detailed Poly's 'first meaningful student demonstration in over 100 years," including sit-ins in Roger Hall, speeches by members of the Black Panthers, and a march to Borough Hall. "Peace signs were flashed to all.

Looking downstream through the propeller in closed return of the 42-inch wind tunnel. Photo published in the December 1939 issue of Aero Digest, which featured Poly's aerodynamic engineering program.
Combating the war on terror

As part of the White House "Star Wars" program in the late 1980s, Professor Zivan Zabar, Enrico Levi ’56 ’86EE and Leo Birenbaum ’86EE ’74PH received a $3.5 million grant to develop a hypervelocity coil launcher, originally to be used to intercept in space incoming nuclear missiles before they penetrated the atmosphere. Faculty in microwaves and electromagnetics research made many contributions during 1992’s Gulf War, from the Patriot anti-missile system, which shot down Iraqi Scuds, to the Navstar Global Positioning Satellite, which sequenced ships, guided cruise missiles to their targets and alerted soldiers in the featureless desert.

The new millennium has marked a turning point with military technology advancements. Well behind the front lines, America’s military has recruited the best and brightest scientists working the research labs of college campuses. Current research at Polytechnic covers the spectrum necessary for a high-tech war, from improving communications to combating bioterrorism and protecting the nation’s IT infrastructure. Professor Kalle Leven is leading the effort to develop new field tests that can detect deadly microorganisms, including the spore-forming bacteria that causes anthrax. Professor Richard A. Gross ’86Chem and his researchers at the Polymer Research Institute are at work to make environmentally friendly plastics that can be converted to liquid fuel to run generators or replace a portion of gasoline in vehicles. Professor Yao Wang and her team, in collaboration with SUNY Downstate, are developing methods to remotely control rats for search and rescue missions. Professor S. Umapathy Pillai and Ivan V. Selenski are investigating techniques to enhance performance of underwater sonar systems, increasing the range and the quality of submersible detection. Professor Spencer Kwok is also working on submarines, improving the efficiency of the sonar for better communications, as well as developing a plasma-torch module for use in an Air Force scramjet engine. The module will provide plasma-aided ignition and fuel injection to the engine, which will be used to power air-to-surface missiles under development with a range greater than 750 miles and a speed of Mach 8.

The work of Professor Nasir Memon in computer and cyber security has led the U.S. National Security Agency to designate Polytechnic as a Center of Academic Excellence in Information Assurance Education. As a NSA Center of Excellence, the University was one of an elite few to receive a $3.5 million, four-year scholarship program to support students pursuing advanced studies in information-technology security. Complementing Memon and his team’s work, Professor H. Jonathan Chao and his researchers are advancing computer network security by creating a processor that prevents malware intrusion and authenticates, encrypts, and decrypts documents.

In 2002, Polytechnic created the Urban Security Initiative to develop public and private partnerships dedicated to finding solutions to urban security issues through science, technology and engineering. The initiative was established by Bagharia, who served as vice chair of the National Academies Committee on Army Science and Technology for Homeland Defense—of which Professor Henry L. Bertoni ’62 ’68EE is a member—and as co-chair of a U.S.-Russia committee that is exploring terrorism challenges confronting both countries.

"Polytechnic University has been a leader in solutions to urban problems," said U.S. Senator Charles E. Schumer at the inaugural conference for the initiative. "The technology developed by the Urban Security Initiative will make a valuable contribution to the war on terror."

In 1987, Poly President Emeritus Ernst Weber, with then Vice President George Bush, was awarded the National Medal of Science for his "distinguished and pioneering contributions to the professional of electrical engineering and allied areas as educator, academic leader, author, researcher and entrepreneur, which have inspired several generations of students and colleagues around the world." In 1948, Weber was awarded the Presidential Certificate of Honor by President Harry S. Truman.

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