

HELLO ALUMNI!



OWN THROUGH THE DECADES, NJIT ALUMNI HAVE DISTINGUISHED THEMSELVES IN MANY FIELDS. EACH YEAR, AT THE UNIVERSITY AWARDS CEREMONY, SPECIAL RECOGNITION IS GIVEN TO GRADUATES WHOSE ACCOMPLISHMENTS ARE ESPECIALLY NOTEWORTHY. BUT WE'RE NOT ONLY HONORING THESE INDIVIDUALS

AS WE GATHER ON CAMPUS FOR THE CEREMONY. THOSE RECEIVING AWARDS REPRESENT THE SPIRIT OF EVERY NJIT GRAD WHO HAS APPLIED KNOWLEDGE GAINED IN THE CLASSROOM AND LABORATORY TO ADVANCING SCIENCE AND TECHNOLOGY, AND TO IMPROVING DAILY LIFE FOR PEOPLE AROUND THE WORLD.

I know that you will join me in extending sincerest congratulations to the recipients of this year's Alumni Achievement Awards and the Weston Medal. Their profiles, which follow in this issue, describe how they have helped to build the commercial infrastructure of New Jersey and the nation, ensure national security, increase and protect our food supplies, make the air we breathe cleaner, and add to our knowledge of distant planets.

Every NJIT alum should be proud to be associated with a university that gives its students the education basic to these achievements, and which inspires them to work toward such goals in life. NJIT alumni also have an essential role to play in fostering the educational experience that leads to this success. There are many ways to help, among them sharing your own career insights and providing opportunities for broader personal growth in the workplace. If you would like to discuss offering NJIT students employment or internships, or mentoring students, don't hesitate to contact Jane Gaertner in Career Development Services at 973-596-5617, email gaertner@njit.edu.

You can learn more about giving back to NJIT by staying connected with your university. Be a regular visitor to the NJIT Website at www.njit.edu, especially the new "Web for Alumni" described in the letter you will be receiving. In addition to options for helping to make NJIT an even more vibrant learning community, this password-protected portal is your point of access to online resources that include an up-to-date, searchable listing of all NJIT alumni. You'll be able to stay connected to a network of some 40,000 NJIT alums through "Web for Alumni." Discuss career development, invite expert advice in a particular field, establish a professional networking group — these are just some of the interactive opportunities now available to alums online.

While the Web is a great way to stay in touch, joining the NJIT Alumni Association builds an even stronger link to your alma mater. Through active membership, you'll be able to share many enjoyable experiences with alumni, including participation in activities that support education and research at our university. In helping to provide such support, you will share even more fully in the recognition that we give each year to the outstanding men and women who have studied and learned at NJIT.

I always look forward to your thoughts about being an NJIT alum via email to njitalumni@yahoo.com, and keep those class notes coming through "Alumni & Friends" on the NJIT Website. Your comments in letters to the editor of *NJIT Magazine* are also welcome. We want to hear from you.

Rick A. de Pinho '88, '91
President, NJIT Alumni Association

What's new? Do you have a new job, addition to your family, honor, award or publication to share? We want to hear from you!

There are three ways to send us a class note at Alumni Relations:

1. On the NJIT Website (www.njit.edu), click on "Alumni Resources" under "Alumni & Friends" and then "Class Notes" to access a form that you can use to share your news.
2. By email, you can send news and photographs to alumni-classnotes@njit.edu.
3. Via U.S. mail, send news and photos with your graduation year(s) to:

Dottie David-Wilson

Acting Director, Alumni Relations

New Jersey Institute of Technology

University Heights

Newark, NJ 07102-1982

MAL & FRIENDS



AUTHOR: MAL SIMON is professor emeritus of physical education and athletics at NJIT. After joining the faculty in 1955, he served as director of physical education and athletics, and coached the men's soccer team for 30 years. In 1993, Mal was awarded the Cullimore Medal for his many years of dedicated service to the university.

Roland Barth '60 emailed to say, "How neat, after 44 years, to get *NJIT Magazine* and read 'Mal and Friends.'" Roland, Andrew Brown '63 and Lou DeVito '60 were tri-captains of the 1959 soccer team, the first team to qualify for the National Association of Intercollegiate Athletics (NAIA) playoffs, and were invited to try out for the Pan-American Olympic Team.

Roland also excelled in epee on NCE's outstanding fencing team. A member of the Air Force ROTC, he was commissioned a lieutenant in the Air Force after graduating and then went to the University of Utah for a BS in meteorology. He was assigned to Ramstein Air Base in Germany where he met his wife, Ingrid. They were married in 1962 and their son, Peter, was born a year later. Roland decided to make the Air Force his career and was sent back to the University of Utah for a master's degree. After a tour in Colorado Springs where their daughter, Heidi, was born, Roland spent a year in Vietnam. During Roland's career, the Barths virtually commuted between Germany and the United States prior to his retirement as a colonel in 1990. His final assignment was in Omaha, Nebraska, where they now live. Roland's retirement years have been busy. He has written his and Heidi's family histories, co-authored and photographed a *Field Guide to Wildflowers* and has plans to produce a nature film.

Roland tells of the time he got together with Andy and Lou in 1961, when Lou was in the Air Force and Andy was serving in the New Jersey Air National Guard. During the Berlin Crisis, they were detailed to bases in France, Roland and Andy to Chaumont in central France and Lou to Dreu, just outside of Paris. Discovering Lou's whereabouts, Roland and Andy surprised him and they had a short, but great, visit to Paris. Unfortunately, they lost touch after that. Lou told me he cried when I forwarded Roland's email to him and they have been in touch since. Sadly, Andy has passed away so their reunion in Paris was the last one for them. Hopefully, Roland and Lou will make it to the next reunion and we can have a drink in Andy's memory.

Ed Nyland '72, asked me to be a surprise guest "roaster" at the fiftieth birthday party for Joe Griffin '76. Ed and Joe are long-time employees with the George Harms Construction Company, where Ed is completing his thirty-second year. Active in the Utility and Transportation Contractors Association of New Jersey and the American Road and Transportation Builders of Washington, DC, Ed has served as past president and is currently a member of the boards of directors of both organizations. Ed was an active participant in intramurals at NJIT and a member of the famous "Handicaps" who fielded teams in most intramural competitions. Ed and his wife of 30 years, Jill, live in Freehold, New Jersey.

Joe worked for the town of Bloomfield, New Jersey, and Sun Oil Company before joining Harms in 1981. He acquired his license as a professional engineer in 1989, and in 2003 was named Engineer of the Year by the New Jersey Professional Engineers in Construction. Joe played four years of varsity soccer and was captain and MVP in his senior year. He resides in Freehold with his wife of 25 years, Janet.



Ingrid and Roland



(left to right) Pete Strong, Ed Nyland, Joe Griffin, Bill Griffin, Mal and Marty Aiken

Other NJIT alumni at Joe Griffin's party were Joe's brother, Bill Griffin '73, Marty Aiken '75 and Pete Strong '73. Bill is director of risk control services with the St. Paul Travelers Insurance Company. He played soccer at NJIT for four years and was co-captain in his junior and senior years. He was also a teammate of Ed on the Handicaps and, like Ed, seemed to have a problem keeping his shorts up when rebounding against the faculty team during our hard-fought basketball games. Bill lives in Bloomfield, New Jersey, with his wife of 28 years, Eileen, who is proud of receiving her PHT degree from NJIT when Bill received his MS degree in 1981.

Marty, a teammate of Joe's on the soccer team, continues to enjoy a career of managing construction projects for companies such as Foster Wheeler, Fluor and Jacobs. He is presently with Jacobs Applied Technology in South Carolina. Marty lives with his wife of 29 years, Sue, in Summerville, South Carolina.

Paul Tubbs '68 spent much of his career as a security engineering officer for the U.S. State Department in Europe, the Middle East, Mexico, West Africa and Washington, DC. He designs, installs and maintains security systems, and does other work to ensure the security of U.S. diplomatic missions. Paul retired in 1996, and after several years doing freelance security work, is now assisting the State Department part time. During his two-year assignment at the American Embassy in Warsaw, Poland, he met his wife, Karen, while she was teaching at the American School of Warsaw. Their son, David Charles, named after Paul's twin brother and older brother, was born at the U.S. Army Hospital in Tehran, Iran, in 1978. Paul and Karen live in Spring Hill, Florida.

NJIT Alumni Soccer Chapter News

The fall soccer reunion, originally scheduled for October 15 and 16, 2004, will be held on October 22 and 23, 2004. Activities will begin at 9:00 a.m. on Friday morning with a scramble golf outing at the Lake Mohawk Golf Club in Sparta, New Jersey. The cost of the outing is \$100 and is limited to 40 players. For complete details on the golf outing, please contact me at coach7157@yahoo.com or 973-872-1783. The annual alumni soccer game will be held at 6:00 p.m. that night at NJIT on Lubetkin Field's new artificial surface. A reception will follow the game. On Saturday, the field will be dedicated as part of NJIT Day. The varsity soccer team will play Howard University and we hope to get a super turnout of soccer alumni and their families. For information, please contact Bill Morris at b.morris@epicbuilds.com.

Plans for a 2005 cruise have been postponed, and in early February the reunion will return to the Palm City/Stuart area in Florida. Hosts will be Bob and Beth Altenkirch, Cesar '77 and Griselda Gavidia, and Hank Krauss '54 and Betty Wallace.

All alumni are welcome at the soccer chapter reunions.

There's more news about NJIT grads in the class notes that begin on page 33, and keep the news coming to me at coach7157@yahoo.com.

SENSING THE FUTURE AT L-3

From remote sensors that warn of an approaching enemy on the ground to virtual-reality systems for training pilots, James Dunn is expanding the envelope of technologies vital for national defense and security at L-3 Communications. In January, 2004, Dunn was named to the newly created position of corporate senior vice president of L-3's Sensors and Simulation group, a post he assumed after serving as president of the Link Simulation and Training division.

Dunn, who joined L-3 Communications in 2000, has developed a keen sense of what the future will demand of electronic systems for defense over a career spanning more than 35 years — a career that began with his 1967 BS in electrical engineering from Newark College of Engineering. Dunn remembers a stimulating academic environment at NCE, which he chose because of reputation, affordability and the experience of an older brother who had attended the school.



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“When I came to NCE, I already had an associate’s degree from a community college in Connecticut,” Dunn says, “but I really flourished in Newark.” He also says that his professional experience has confirmed the exceptional quality of his NCE engineering education in preparing him for the workplace. Complementing his NCE degree is the master’s in engineering and business administration that he earned at New York University.

In his career, Dunn has contributed to the development of a very broad spectrum of cutting-edge electronics technologies, starting with Doppler radar at General Precision Laboratories in New York. Dunn’s career also reflects the corporate evolution of the U.S. aerospace and defense industry, which has been reshaped by

mergers and acquisitions. In addition to General Precision Laboratories, Dunn has held positions of increasing responsibility with Singer Kearfott, Loral Corporation and Lockheed Martin.

The technologies that Dunn has worked on include systems for navigating and landing aircraft, guiding missiles, and enabling fighter pilots to detect enemy radar and take evasive action against attack. He has also helped to give military personnel the capabilities of advanced electronic imaging, and he has supervised avionics upgrades for aircraft such as the U.S. Navy’s P-3 *Orion*.

When Dunn joined L-3 Communications as president of Link Simulation and Training, he became part of one of the country’s largest, most broadly based suppliers of high-technology products and services to the U.S. government and prime contractors such as Boeing and Northrop Grumman. L-3 serves clients through divisions employing some 38,000 people. L-3’s international services are provided on behalf of the U.S. government or directly to other governments under license by the U.S. State Department.

At the Link division, whose flight-training heritage extends back over 75 years, Dunn was responsible for an organization that leads in providing products and services now used to train people for service at sea as well as in the air. Reflecting on the transforming technological changes he has seen in his career, Dunn points to the AVCATT system developed by Link for the U.S. Army as an example. The acronym stands for Aviation Combined Arms Tactical Trainer, he explains. AVCATT and its virtual-reality helmet not only give pilots-in-training the experience of flying helicopters as individuals, but simulators can be networked to allow trainees to hone their abilities for maneuvering together.

In his current position with L-3’s Sensors and Simulation group, Dunn has broader responsibilities for products applicable to homeland security as well as the military sector. These products include systems that can be deployed remotely for automated detection of chemical and biological agents. Here, too, Dunn says that technologies that didn’t exist a decade ago have become part of the developmental picture, technologies such as microelectromechanical systems, or MEMS. But whatever the product or service, Dunn and all of his colleagues at L-3 share the same mission — to provide a technological edge for ensuring the safety and security of individuals and the nation.

James Dunn received an Alumni Achievement Award at the University Awards Ceremony in October.

ICONS JOHN J. MOONEY

WINNING THE RACE FOR CLEANER AIR

We can all breathe a lot easier thanks to John Mooney, who was awarded the National Medal of Technology in 2002 for pioneering the automotive catalytic converter. In presenting the nation's highest honor for science and technology to Mooney and his colleague, Carl D. Keith, President Bush remarked that the true reward for such innovators is the "good they do and the knowledge they leave behind."



John Mooney wearing the National Medal of Technology he was awarded in 2002

THE SOCIETY OF AUTOMOTIVE ENGINEERS CONSIDERS THE THREE-WAY CATALYTIC CONVERTER ONE OF THE TEN MOST IMPORTANT INNOVATIONS IN THE HISTORY OF THE AUTOMOBILE.

For Mooney, the path to this achievement includes his 1960 MS in chemical engineering from NCE, a cross-country race involving a motley assortment of vehicles dedicated to cleaner air, and racking up some 50,000 test miles by driving laps around Newark Airport. But all this came after Mooney's 1955 BS in chemistry from Seton Hall University, a few years in the Army, and more than a decade of employment with Public Service Electric and Gas (PSE&G).

Born and raised in Paterson, New Jersey, Mooney went to work for PSE&G immediately after high school. "I was basically a clerk," he says, "but I was also encouraged by some of my co-workers to 'do something with my life.'" So Mooney mustered the energy to combine working with pursuit of a degree in chemistry. He then learned that he could readjust his professional focus and do graduate work in chemical engineering at

Newark College of Engineering. "Although I liked my chemistry courses well enough, I've always had a practical bent. I like to make things happen, and that's what engineers do — they take the basic science and make things happen."

While studying at NCE, Mooney also helped to make things happen at PSE&G's gas utilization laboratory. This experience would be valued by his next employer, Engelhard Industries, where he spent 43 years before retiring in 2003. "Being known as a 'gas man' when I joined Engelhard led to some terrific assignments," Mooney says. These included developing a process for the U.S. Air Force that used a ruthenium catalyst to produce hydrogen from liquid ammonia. The catalytic system made it easier for the Air Force to supply hydrogen for weather balloons, since it was more efficient to ship liquid ammonia to distant locations than cylinders of gas.

Another innovative application of catalytic technology became the focus of Mooney's work as the process engineer for Engelhard's chemical division, which was headed by Keith. Their association brought results to the company's nascent efforts to develop a catalytic approach to cutting undesirable vehicular emissions. They developed a "monolithic" catalytic converter that greatly reduced emissions from propane-fueled forklifts.

In the 1960s, Keith and Mooney promoted catalytic control of automobile emissions. By the end of the decade, the less-than-enthusiastic response from Detroit had been tempered by mounting social and legislative pressure for environmental improvement, particularly as a result of the smog problem in California. An important balance was tipped in favor of catalytic emissions control when Ford led car manufacturers in endorsing the concept and the federal government mandated production of gasoline without the lead that renders catalysts ineffective.

For Mooney and the Engelhard team, the Intercollegiate Clean Air Car Race of 1970 was the ideal opportunity to prove the environmental effectiveness and commercial potential of their first-generation catalytic converter. Several dozen universities entered vehicles designed to minimize emissions while traveling from MIT in Massachusetts to the California Institute of Technology in Pasadena. There were steam cars, turbine cars, all-electric vehicles, and some fueled with propane. The entrants also included cars running on unleaded gasoline and incorporating, without charge, prototype catalytic converters from Engelhard.

The cars with the catalytic converters demonstrated the best combination of commercial practicality and emissions reduction — releasing 90 percent less hydrocarbons and carbon monoxide to the atmosphere than their non-catalytic counterparts. However, nitrogen oxide control with exhaust gas recirculation was inadequate. A unique solution to this problem was discovered — the three-way catalytic converter, which permitted destruction of the three exhaust pollutants in a single catalytic bed.

The momentum behind commercialization of the catalytic converter continued to build with the 1970 amendments to the federal Clean Air Act. Working with Volvo, Mooney and his colleagues introduced the three-way catalytic converter, proving it in large part on a 1973 Volvo station wagon. Bearing the names of Mooney and Keith on its patent, the three-way converter was first included in assembly-line cars for the 1976 model year. In combination with an oxygen sensor, the single catalytic bed in this type of converter greatly reduces emission of carbon monoxide, hydrocarbons and nitrogen oxides.

The Society of Automotive Engineers considers the three-way catalytic converter one of the ten most important innovations in the history of the automobile. Mooney's role in this singular social and technological advance has also been recognized by the Finnish Academies of Technology, which awarded him and Keith the prestigious Walter Ahlstrom Prize in 2001. This honor recognizes advances in the industrial use of energy and natural resources that also contribute to social well-being.

Over the years, as some 17 patents attest, Mooney has continued to expand the potential of catalytic technology for reducing emissions. One of his recent patents applies to small two-stroke engines, the type that powers chainsaws and leaf blowers. Among the worst of internal-combustion polluters, such engines can be very inefficient as well, wasting as much as 30 percent of the gasoline used to fuel them.

Mooney explains that his catalytic solution not only reduces hydrocarbon emissions by 60 to 70 percent. "You also get much greater fuel efficiency and a 40 percent boost in power — now that's really something," he says with undiminished enthusiasm for technology that has made the air cleaner for all the people of our world.

John Mooney received an Alumni Achievement Award at the University Awards Ceremony in October.

1960s

_Marshall A. Lerner `62 writes that he has been awarded a retroactive BS in electrical engineering, cum laude, from NJIT. He suggests that fellow NCE grads who earned their degrees before the university became NJIT contact Dottie David-Wilson in Alumni Relations to learn how they might also receive NJIT degrees. Lerner has been practicing intellectual property law in Los Angeles since 1973 and is managing partner at the Century City firm of Kleinberg and Lerner LLP. He would like to hear from members of the Class of 1962 interested in setting up a Website for their class, and possibly starting to plan for their 50th reunion in 2012. His email address is mlerner@Kleinberglerner.com.

_Anthony A. LaPlaca `69, director of the U.S. Army Communications-Electronics Command Logistics and Readiness Center (CECOM LRC) at Fort Monmouth, NJ, has received the prestigious Senior Executive Service Presidential Rank Award. Each year, the President recognizes a small group of career senior executives with this award for exceptional long-term accomplishments. As the director of the LRC at Fort Monmouth, LaPlaca is responsible for seven directorates and a staff that has a worldwide mission. The LRC is the Weapons System Manager, National Inventory Control Point, National Maintenance Point, production and industrial base manager, and organic repair manager for over 68,000 items. Its budget is over \$1.4 billion.

1970s

_Robert Naftali Zloczower `70 is in Israel working for ARI Flow Control Accessories, a manufacturer of air valves and other water-

and wastewater-system components used in countries around the world. He is also helping to develop environmental treatment equipment for dairy farms.

_Walter S. Stevens `79 writes to bring us "up to speed" on what he's been doing. "I'm a licensed PE, licensed master plumber and a licensed Blue Seal boiler engineer. I worked for Worthington Pump in Harrison, NJ, until the company closed in the 1990s. I'm currently employed as a shift engineer at Barnert Hospital, Paterson, NJ. Since I work nights, I go on bicycle rides in the daytime all year round. I've ridden along the D&R Canal from Frenchtown to Washington Crossing State Park. I've ridden to Coney Island for hot dogs, fries and coffee. I've also ridden down the shore from West Long Branch to Manasquan...life is good!"

1980s

_David T. Gockel `81 has been promoted to president of Langan Engineering & Environmental Services, Doylestown, PA. Gockel has been with Langan for 20 years as a consulting engineer and manager in charge of projects that include the Colgate Center redevelopment in Jersey City, NJ, Xanadu in the New Jersey Meadowlands and several Rockefeller Group projects.

_Takis Yaelis `84, who is living and working in Athens, Greece, would like to "locate and contact old professors and classmates alike." He also writes, "I would like to extend an invitation to students or professors that may have any architectural or other interests in Greece to contact me for info." Yaelis' email address is dands@spiti.gr and his Website is www.dands.gr.

STEPPING FORWARD, MOVING AHEAD

“To move ahead in life you have to be willing to step forward, to be confident enough in your abilities to take the chances that can lead to success.” This is some of the advice Herb Iris ’51 offers to young NJIT grads from the perspective of nearly 50 years as the head of a highly successful construction company. “If you’re willing to be a leader and make decisions,” he adds, “the odds are you’ll make more right decisions than wrong ones along the way.”

Iris, who earned a BS in civil engineering at NCE, has certainly made his share of right decisions, including the one that led to starting Iris Construction Company in 1959 after working for a few years in sales and construction and a hitch in the U.S. Navy Civil Engineering Corps. Over the decades, Iris Construction has been the general contractor for the design and construction of major commercial, industrial and office facilities throughout New Jersey. The first dorm built for Rutgers-Newark, across the street from the NJIT campus, is among these projects.

A licensed professional engineer in New Jersey, Iris says that a half century of technological advances has transformed the way people do business in his field, most notably through the use of computers in design and project management. “I guess you could say that a lot of the work is less ‘hands-on’ than when I started,” he reflects. But he is quick to emphasize that one thing has remained constant — making sure that people with the necessary talents are there to do the job.

“I’ve always tried to build teams of people who know their strengths as well as their limitations,” Iris says. “Much of a project’s success depends on individuals who have the knowledge and confidence to make a decision on the spot. However, it’s equally important to know when you have to consult with others to avoid problems. That’s the combination of individual initiative and teamwork that keeps a project moving as quickly and efficiently as possible.”

As important as his professional activities are to Iris, he devotes a great deal of energy to other areas as well. He has served on the South Orange Planning Board and the Board of Newark Beth Israel Medical Center, and he was chairman of the annual campaign of the United Jewish Appeal for



New Jersey’s MetroWest United Jewish Communities. He is also national chair of NJIT’s new Highlanders Athletics Campaign, which aims to raise five million dollars to improve campus facilities for team sports and personal physical fitness.

Iris is a lifelong sports enthusiast who enjoys playing tennis and golf. As a student at NCE, he was a guard on the basketball team. “Getting out on the court, which was then on the third floor of Campbell Hall, was a great way to relieve the pressure of a very heavy, hard course load,” he says. “Having that sort of outlet actually made us better students. You could go back to the books with a better focus after the exercise.

“I think physical activity that takes you away from the stress of study or work is even more important today. That’s why it’s great to see the effort to promote the athletics program at NJIT, and to upgrade the facilities available to everyone on campus. Sometimes, when you’re dealing with the challenges of life, you just have to take a break and clear your mind.”

Herbert Iris was awarded the Edward F. Weston Medal for Professional Achievement at the University Awards Ceremony in October.

PHOTO: BILL WITTKOP

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BRINGING THE BASICS TO MARKET

“We do the legwork, the basic research.” That’s how Peggy Tomasula sums up what she and her colleagues do at the Agricultural Research Service (ARS) of the U.S. Department of Agriculture. Tomasula, who has MS and PhD degrees in chemical engineering from NJIT, has been helping to carry out the ARS mission since the mid-1980s — making discoveries basic to agriculture that can be transferred to society as knowledge and technology useful in many areas, including ensuring the safety of the nation’s food supply.

Chemistry, not chemical engineering, was Tomasula’s initial undergraduate focus at Seton Hall University. But when she expressed interest in a career beyond the “small scale of chemistry,” a Seton Hall faculty member suggested chemical engineering, and additional undergraduate courses in chemical engineering at NJIT. After obtaining her BS in chemistry from Seton Hall, Tomasula chose NJIT for graduate work, where she taught diverse chemical engineering courses as a teaching assistant and special lecturer. “NJIT was just what I was looking for,” she says, “the chemical engineering program had a great reputation and was really grounded in the industrial world I wanted to enter.”



“NJIT WAS JUST WHAT I WAS LOOKING FOR, THE CHEMICAL ENGINEERING PROGRAM HAD A GREAT REPUTATION.”

However, suitable jobs in industry were hard to come by at the time Tomasula completed her PhD. Then a newspaper ad for a position with the ARS caught her attention. Today, she is a research leader at the service’s Eastern Regional Research Center in Wyndmoor, Pennsylvania. Tomasula came to the ARS with precisely the knowledge and skills that the service needed, just when it was looking to integrate state-of-the-art computer-modeling and process-control technologies into its programs. Tomasula also brought expertise in other fundamentals of chemical engineering to her job, expertise that has contributed to significant advances over the years.

Recently, Tomasula led a multi-faceted effort that has produced several patented innovations. The basic breakthrough is a mass-production process that uses carbon dioxide at high pressure instead of mineral acids to isolate proteins from a feedstock. This also entailed developing a method for removing the isolated material from the system while it is still under pressure. The process was initially demonstrated with continuous production of casein from cow’s milk. Casein is used to make cheese and other food products, as well as to manufacture adhesives, paints, paper and textiles.

Tomasula says that this is an “open-ended technology.” It could be a step in large-scale protein purification and serve to process other feedstocks, among them the corn- and soy-based ones now being studied. What’s more, there are considerable environmental and economic benefits. The process uses less water, does not have an acidic waste stream that requires special handling for disposal, and much of the CO₂ employed can be recycled.

Another feature of the new process is its potential for turning casein into widely useful water-resistant films and coatings, something virtually impossible to achieve in the past. Locking in moisture, the resulting edible coatings could be used on dairy products such as cheese, and they might be enhanced with flavorings, vitamins or minerals for taste and nutrition. Additionally, application of this method could lead to casein-based biodegradable packaging materials for nonfood products.

The ARS has also been charged with helping to ensure the safety of food in the U.S. since the service was founded in 1953. This aspect of its mission has gained new urgency in recent years, especially since the events of September 11, 2001. Tomasula’s responsibilities have evolved accordingly. Along with advising foreign as well as domestic food processors on best practices to protect the health of consumers, she is involved in implementing better ways to guard against deliberate chemical and biological contamination of agricultural products.

Tomasula’s achievements clearly reflect both the breadth of her expertise and the essential role of ARS teams who are translating research on many fronts into practical reality. Their continuing efforts are basic to the quality and safety of our food, and to the agricultural industry’s economic well-being.

Peggy Tomasula received an Alumni Achievement Award at the University Awards Ceremony in October.

PHOTO: PAUL PIERLOTT/USDA-ERRC

ICONS THOMAS M. MYRICK

PUTTING RATS TO WORK ON MARS

As chief engineer at Honeybee Robotics, Tom Myrick has had a key role in sending two RATs to Mars — the Rock Abrasion Tools critical to analytical experiments conducted on Martian rocks by the twin rovers Spirit and Opportunity. Mounted on the end of each rover's robotic arm, the RAT Myrick helped to design grinds away a few millimeters of a rock's surface, removing the dust and "weathering rind" that hinders determining the rock's true nature and composition.

Since making the move to Honeybee in the late 1980s, Myrick has been part of the company's evolution into a leading developer of highly customized robots and related technologies. Founded in 1983 and headquartered in New York City, Honeybee received its first NASA contract in 1986 and has completed projects for companies such as Coca-Cola, Con Edison, 3M, Nike and IBM. According to Myrick, the prevailing corporate wisdom about the origin of his own company's name is that it reflects the Asian heritage of one of the founders. In parts of Asia, the honeybee is esteemed symbolically as a master builder and engineer.



Tom Myrick at a lathe in the Honeybee shop, and a Honeybee RAT on Mars

MYRICK'S MARTIAN ODYSSEY BEGAN WITH HIS 1984 BS IN MECHANICAL ENGINEERING FROM NJIT, THOUGH THERE WAS A POST-GRADUATION INTERLUDE AS A HOUSE PAINTER.

Myrick's Martian odyssey began with his 1984 BS in mechanical engineering from NJIT, though there was a post-graduation interlude as a house painter. Myrick says that quality, cost and proximity to his New Providence home were the deciding factors in choosing NJIT, to which he commuted for one year before moving into the Sigma Pi fraternity house near campus. His two years of painting houses after graduation stem from wanting to choose his first engineering job very carefully, to find just the right position. This turned out to be with the division of a large international company that imported industrial robots from Japan.

Helping his employer's sales staff advise clients on the best use of their robots, Myrick became involved with maintaining the complex equipment and developing innovative ways to integrate the company's products into the industrial environment. Honeybee Robotics, then mainly an integrator of off-the-shelf systems, had purchased some of these products, and Myrick learned that the chief engineer at Honeybee was transitioning out of the company soon after Honeybee embarked on work for NASA.

Honeybee has worked on nearly a hundred projects for NASA, including the development of leading-edge hardware for four spaceflight missions. One entailed designing a robot whose configuration of head, arms and legs would be similar to that of a human being, and which would perform hazardous work in space by mimicking the motions of an astronaut using a special control system in the relative safety of the Space Shuttle or the International Space Station. Other projects involved the drills and related equipment needed for remote examination of a comet's solid core and for obtaining samples on Mars that would be returned to Earth.

Myrick speaks very enthusiastically about the equipment he and his colleagues envisioned for the Martian sample-return mission. "It was just a great design, capable of drilling rock core samples, breaking them off with a capture feature, and exchanging drill bits. The samples would have then been sent into orbit around Mars and snared by another spacecraft for the trip back to Earth."

NASA agreed that Honeybee's work for this Martian mission, as well as for the extravehicular

robot and comet coring projects, was indeed outstanding, and within budget. “Unfortunately, larger budget concerns at NASA and the reassessment of program costs in the mid-1990s resulted in the cancellation of these contracts before the missions were flown,” Myrick says.

Then came the “good, fast and cheap” NASA missions that have included sending the Spirit and Opportunity rovers to Mars, and the simpler Sojourner rover before them. With Honeybee hardware on Mars at last, Myrick and several colleagues joined the Martian rover control team at the Pasadena, California, headquarters of Jet Propulsion Laboratory (JPL) to assist with experiments on the planet. “We helped to select appropriate target rocks,” he says, “ones that we felt were especially ‘RATable.’ It was an incredibly exciting experience.”

Myrick explains that Honeybee’s biggest challenge was to switch from designing a drill capable of penetrating target areas on the Martian surface to developing a grinding mechanism for removing several millimeters of rock. “You have to deal with an entirely different set of forces and target characteristics,” he says.

“I think it’s fair to say that this has been the most fruitful interplanetary landing effort to date,” Myrick says of the mission, echoing a sentiment that’s universal among participating scientists and engineers. “It’s been amazingly successful in terms of both hardware performance and the knowledge we’ve gained. We’re getting information about Mars that’s orders of magnitude greater than what we had before Spirit and Opportunity.”

Myrick also shares the consensus that the mission’s most significant result is the mounting evidence that water was once abundant on Mars, which greatly increases the likelihood that the planet supported life in the past. And he anticipates that more sophisticated equipment from Honeybee will be aboard the roving laboratory NASA plans to launch by the end of this decade to continue the search for evidence of past life on Mars and to determine if some form of life exists there today.

Thomas Myrick received an Alumni Achievement Award at the University Awards Ceremony in October.

PHOTO: MARS IMAGE COURTESY OF NASA

_Lisa E. Hailey ’89, MS ’90 has received tenure as an assistant professor of engineering at Brookdale Community College in Lincroft, NJ.

1990s

_Sanjay Apte ’90 has been appointed executive vice president at Icarz, Inc., which develops and markets store and distributor-management software systems. Apte has extensive experience in technical management, software engineering and development of cross-industry solutions.

_Santosh Lolayekar MS ’90 is vice president of storage-solutions architecture at Xiotech Corporation, a company specializing in leading-edge automated solutions for applications that include data protection, disaster resilience, data migration and content distribution among multiple sites.

_Neil W. Sauer ’91 has joined the Raleigh, NC, office of Clark-Nexon Architecture & Engineering. Sauer’s architectural experience encompasses educational, retail, hospitality, recreational, laboratory and healthcare projects, and the historic preservation and renovation of railroad stations.

_Andre E. Grebenstein ’95 has joined Turner Logistics, the supply chain management subsidiary of Turner Construction Company. As national manager for client direct services, he is responsible for developing Turner Logistics’ business model outside Turner Construction’s project base.

_Michael E. Smith ’95 is vice president and general manager of operations for Forbes.com, where he leads all information technology initiatives, including application development, network engineering and operations management. His previous position was with TheStreet.com as vice president and chief information officer.

_David McClelland ’99 has started a company, Cleanzones, LLC, to manufacture cleanroom equipment. McClelland’s extensive experience in the field includes the patented design of a revolutionary fan filter unit and participation on industry standards committees. Visit his company on the Web at www.cleanzones.com.

2000s

_Tara J. Siegel MS ’04 has received a Frederick P. Rose Architectural Fellowship from The Enterprise Foundation. Siegel and other new fellows will be embedded in a community and work with a sponsoring nonprofit community development organization to meet a defined need in a low-income area. Each fellow receives guidance from local professionals who provide mentoring, as well as ongoing training from national experts. Siegel will work with the Pratt Institute Center for Community and Environmental Development based in New York City.

In Memoriam

Kenneth R. Rinehart ’43

John F. Hohnholt ’74

Paul Johnson ’77

A CIVIL PATH TO POLITICS

“I work best with a full plate,” says Paul Sarlo. And the plate is indeed full these days for Sarlo, who holds BS and MS degrees in civil engineering from NJIT. In addition to being chief engineer for Bishop-Sanzari, a major construction firm, he is mayor of the Borough of Wood-Ridge in Bergen County, New Jersey. Sarlo also represents District 36 in the New Jersey Senate, where he’s assistant majority leader.

A lifelong resident of Wood-Ridge, Sarlo took pre-med courses at William Paterson University after high school. But the more he thought about the future and listened to the counsel of a sister and brother, both NJIT grads in chemical engineering, he realized that engineering was far more compatible with his interests and personality.

“Transferring to NJIT was the best move I could have made,” says Sarlo, who today is a professional engineer and planner licensed in New Jersey. “I received a great education in a field where I could take what I learned in the classroom and apply it to changing things in the real world.” But studying was not the only focus of Sarlo’s attention at NJIT. An outstanding athlete in high school, he became a star NJIT baseball player and was elected to the NCAA Division III All-American Baseball Team.

Sarlo says that he wasn’t interested in entering politics when he embarked on his engineering career. But a friend involved with local government persuaded Sarlo that their community needed someone with his abilities to sort out delays in completing several municipal construction projects. This led to running for the Wood-Ridge Borough Council in 1994. “I walked the town twice and knocked on every door to get my message out,” Sarlo remembers. The voters liked what they heard, and Sarlo was elected to two terms as a councilman. He was elected mayor in 1999 and reelected in 2003, garnering 70 percent of the vote.

Sarlo says that serving on the borough council showed him how citizens can help to change things for the better in their community through public office. He then tossed his hat into a larger political ring and was elected to the New Jersey Assembly in 2001. Selected by the Democratic County Committee to fill an unexpired senate term for District 36 in May 2003, he was elected to a full term in November of that year. In the senate, Sarlo is chairman of the Legislative Oversight Committee, vice-chairman of the Law, Public Safety and Veterans Affairs Committee,



and is a member of the prestigious Judiciary Committee and the powerful Budget and Appropriations Committee.

A leading advocate of Meadowlands redevelopment, Sarlo helped secure \$150 million from the Port Authority of New York and New Jersey to fund a rail link to the Meadowlands Sports Complex and planned Xanadu development. Since joining the legislature, he has been the prime sponsor of 35 bills signed into law. These include the bill creating a \$29-million-dollar grant to establish a state-wide bioterrorism response plan and the bill providing over \$500 million to New Jersey hospitals to provide charity care for uninsured patients.

As an engineer, Sarlo continues to build. He has managed projects worth more than \$150 million, among them the reconstruction of the Routes 4 and 17 interchange in Paramus. This award-winning project, initially planned for three years but completed in just one year, was featured in *Engineering News-Record* magazine. In government, Sarlo continues to build as well, working to make a positive difference on various legislative fronts for his constituents and all the people of New Jersey.

Paul Sarlo received an Alumni Achievement Award at the University Awards Ceremony in October.

“I WALKED THE TOWN TWICE AND KNOCKED ON EVERY DOOR TO GET MY MESSAGE OUT.”

ALUMNI CALENDAR

SAVE THE DATE!

Saturday, October 23
NJIT Day

9:00 a.m. – 9:00 p.m.

A campus-wide festival of entertaining competitions, art, food and music

Visit www.njit.edu for information or contact Shakeria Phipps at 973-596-3470 or phippss@njit.edu

OCTOBER

Class of 1954 Welcome Reception

Thursday, October 14

6:00 p.m. – 8:00 p.m.

Four Points by Sheraton
901 Spring Street

(Route 1 & 9 Northbound)

Elizabeth, New Jersey 07201

For information: Contact Dottie David-Wilson at 973-596-3441 or d.david-wilson@njit.edu

Class of 1954 50th Anniversary Reunion

Friday, October 15

9:30 a.m. – 7:00 p.m.

NJIT Campus

For information: Contact Dottie David-Wilson at 973-596-3441 or d.david-wilson@njit.edu

Class of 1954 Farewell Luncheon

Saturday, October 16

12:00 noon

Skyline View Restaurant,
110 Vincent Drive
Clifton, New Jersey

For information: Contact Dottie David-Wilson at 973-596-3441 or d.david-wilson@njit.edu

Lecture: Molecular Dynamics for Biomolecules and Nanosystems

Wednesday, October 20

Tiernan Hall, Room 373

11:30 a.m.

For information: Contact: Dr. Carol Venanzi at 973-596-3596 or venanzi@njit.edu, or Dr. Sanjay Malhotra at 973-596-5583 or malhotra@njit.edu

Dorman Honors College Alumni Association Dinner

Wednesday, October 22

For information: Contact Albert Dorman Honors College Alumni Association Committee at ADHCalums@yahoo.com

Lecture: Bacillus Anthracis Decontamination of the U.S. Postal Service Trenton Mail Processing and Distribution Center

Tuesday, October 26

Tiernan Hall, Room 373

11:30 a.m.

For information: Contact: Dr. Carol Venanzi at 973-596-3596 or venanzi@njit.edu, or Dr. Sanjay Malhotra at 973-596-5583 or malhotra@njit.edu

Women's Networking Event: Ice-Cream Social

Wednesday, October 27

2:30 p.m. – 5:30 p.m.

For information: Contact Talina N. Knox at 973-642-4671 or talina.knox@njit.edu

Fall Campus Open House

Sunday, October 31

11:00 a.m. – 4:00 p.m.

For information: Contact Kathy Kelly at 973-596-3300 or kathryn.kelly@njit.edu

NOVEMBER

Residence Life Birthday Party

For information: Contact Lynn Riker at 973-596-3039 or reslife@njit.edu

NJIT and Rutgers-Newark Career Fair

Wednesday, November 3

12:30 p.m. – 4 p.m.

Zoom Fleisher Athletic Center

For information: Contact Heidi

Young at 973-596-3246 or

heidi.young@njit.edu

Government Contracting for Small Businesses

Friday, November 5

Guttenberg Information

Technologies Center, Room 3710

10:00 a.m. – 1:00 p.m.

To register: Contact Letty Jumbo

at 973-596-3105 or

letty.jumbo@njit.edu

A Class Act – Musical Production by the NJIT-Rutgers Theatre Program

Wednesday, November 10 –

Sunday, November 14

Jim Wise Theatre

For information: Contact Michele

Rittenhouse at 973-596-3457 or

rittenhouse@njit.edu

Celebration 2004

Friday, November 12

Pleasantdale Chateau

West Orange, New Jersey

By invitation

For information: Contact Jacquie

Rhodes at 973-596-3407 or

Rhodes@njit.edu

Lecture: Antibiotic Targeting of Ribosomal RNA — The Energetics and Dynamics of Recognition

Wednesday, November 17

Tiernan Hall, Room 373

11:30 a.m.

For information: Contact: Dr. Carol

Venanzi at 973-596-3596 or

venanzi@njit.edu or Dr. Sanjay

Malhotra at 973-596-5583 or

malhotra@njit.edu

Women's Networking Event: An Evening on Broadway

Thursday, November 18

6:00 p.m.

Tickets are limited. Advance reservations required.

For information: Contact Talina

N. Knox at 973-642-4671 or

talina.knox@njit.edu

DECEMBER

Lecture: Ionic Liquids — The "Designer" Reaction Medium for Future Technology

Wednesday, December 8

Tiernan Hall, Room 373

11:30 a.m.

For information: Contact Dr. Carol

Venanzi at 973-596-3596 or

venanzi@njit.edu, or Dr. Sanjay

Malhotra at 973-596-5583 or

malhotra@njit.edu

Women's Networking Event: Stress-Relief Techniques

Wednesday, December 1

2:30 p.m. – 5:30 p.m.

For information: Contact Talina

N. Knox at 973-642-4671 or

talina.knox@njit.edu

Seminar: Government Contracting for Small Businesses

Friday, December 3, 2004

Guttenberg Information

Technologies Center, Room 3710

10:00 a.m. – 1:00 p.m.

To register: Contact Letty Jumbo

at 973-596-3105 or

letty.jumbo@njit.edu

JANUARY 2005

Seminar: Government Contracting for Small Businesses

Friday, January 7

Guttenberg Information

Technologies Center, Room 3710

10:00 a.m. – 1:00 p.m.

To register: Contact Letty Jumbo

at 973-596-3105 or

letty.jumbo@njit.edu