Van Rensselaer Remembered

On the eve of our 175th Anniversary, a look back at our founder
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Contents

Rensselaer


Features

Catalyst for Progress
Stephen Van Rensselaer III 12

A look back at our founder.

Street Smarts 18

Rensselaer's Center for Infrastructure and Transportation Studies applies sophisticated technologies to build, maintain, and improve the infrastructure that will take us into the next century.

Life Beyond Classes 24

"The Rensselaer Experience" has changed much over 175 years. Leadership opportunities abound, arts and culture are thriving, and student life is, well, lively!

Departments

PRESIDENT'S VIEW 2
Celebrating 175 years

MAIL 3
Lacrosse legends

AT RENSSELAER 5
Milestones 6
Making a Difference 8
Alumni Book 9
Staying Connected 9
Data Base 10
From the Archives 11

ALUMNI NEWS 32
Reunion '98!

CLASS NOTES 34

IN MEMORIAM 55

ALUMNI SERVICES DIRECTORY 56

In each issue we offer unique material and relevant links for many of the articles in the print version. Find us at http://www.rpi.edu/NewsComm/Magazine/
Celebrating 175 Years

Special events planned throughout the entire year

Over the next year, Rensselaer will be celebrating 175 years as the oldest technological university in America and we hope you will join us. As graduates, you are an important part of Rensselaer's rich history and, as such, the reason for the celebration.

Since its founding Rensselaer has been educating students to apply technology to the betterment of society. In 1824, our founder, Stephen Van Rensselaer, a philanthropist and visionary, established a school "dedicated to the application of science to the common purposes of life."

Times have changed; technology has reshaped the way we live and work. Yet today our mission still reflects our founder's vision: We celebrate discovery, the creation of knowledge, and the application of technology to global prosperity.

The 175th Anniversary gives us good reason to reflect on our heritage as we celebrate today's progress and tomorrow's potential. Even as society and technology evolve, Rensselaer's drive to push the boundaries of scientific research and to provide an exceptional hands-on educational experience remains current.

The 175th Anniversary also gives us an excellent opportunity to draw the attention of others to the accomplishments of Rensselaer. While Rensselaer's achievements in research and education have garnered accolades in major media outlets in recent months, most of the world is unaware of how this university and its alumni have helped shape society over the past two centuries. Our celebration will help cast a light on our brilliant past.

Throughout the next year, leading up to our 175th Anniversary in November 1999, we will engage in a variety of activities aimed at celebrating Rensselaer's unique leadership role in higher education.

With this issue of Rensselaer magazine, we begin a series of features that both recall our past and report how far we've come in 175 years. On page 18, for example, you will read about how civil engineering has progressed from the era of "The Great Bridge" to the age of intelligent highways. Rensselaer's Center for Infrastructure and Transportation Studies advances technologies that will revolutionize the way we build and preserve our roadways, bridges, and other infrastructure systems.

We pay special homage to our visionary founder, the "Good Patron," in an article written by Carl Westerdahl, former dean of students and director of alumni relations.

For a look at how Rensselaer students have coped with the rigors of course work over the years, read David Haviland '64's account of student life. He is uniquely qualified to examine this arena, having been student, professor, dean, and now vice president for student life at Rensselaer.

And for a refreshing look back at moments on campus frozen in time, peruse the Class Notes, where we begin publishing "I remember . . .", recollections sent in by alumni. We hope many more of you will be inspired to share your memories.

Events that have been planned for the 175th Anniversary celebration are noted on page 30. Throughout the year, more events will be added; the schedule will be updated in upcoming magazines and is always available at the Web site: www.rpi.edu/web/175.

In particular, you will want to watch for events that are coming to your regions.

Many enthusiastic alumni have embraced the celebration of Rensselaer's 175th Anniversary as an opportunity to create unique events in their own areas. Of course, we are especially pleased to welcome you back to campus whenever possible.

We hope you will join us in this celebration of Rensselaer's heritage. You are the Institute's lasting legacy and a source of great pride to all of us associated with Rensselaer Polytechnic Institute.

Presidential Search Update
As you may know, a search is under way for Rensselaer's next president. A search committee has been formed and includes five trustees, five faculty, three staff, two alumni, and two students.

According to committee co-chairs Mary Good and Warren Bruggeman '46, "the committee and consultants are working very well as a team, and the level of activity under way is phenomenal. We are pleased with the progress being made toward finding Rensselaer's 18th president."

"The accomplishments of the last few years, such as our ranking in the top 25 graduate engineering programs, put us on an excellent foundation," says Good. "We look forward to finding a candidate who will lead Rensselaer to continued prominence in the 21st century."

The committee is maintaining its fast-track schedule at this time and expects to begin preliminary interviews this fall. A case statement has been posted on the Web; you can access the case statement by going to www.rpi.edu and clicking on the button for Presidential Search Committee.

Questions about the search can be directed to: Shirley Molloy, Secretary, Presidential Search Committee, Rensselaer Polytechnic Institute, Troy, NY 12180-3590; (518) 276-2130; molloy2@rpi.edu.
Lacrosse Legends

Momentary Lax

Your description of the 1948 lacrosse season was quite accurate; however, it would have been better to show a picture of the Olympic team. The picture shown (right) was not the team that went to England. I know because I was on the team and wasn't shown in the picture, nor was anyone who made the trip. I scored one of the five goals in the Olympic game.

I believe that the photo was one of the 1946 or 1947 team. Bob Wood '51, Sarasota, Fla.

The photograph on page 11 (June '98 issue) of the famed 1948 Olympic-bound lacrosse team triggered a flood of recollections of that momentous spring. It will also explain the enclosed ticket, a souvenir of a weekend unique in RPI history.

First, a note about the picture (above). I was only a first-semester sophomore at the time, just returned from military service, and getting used to post-war college life. I don't remember the names of all the team, but I do recognize some familiar faces. In the front row, the first two (L to R) are Marty Davis (one of the best centers RPI ever had and now a doctor still living in the Troy area) and Art Beard (also a mid-fielder, I believe) who went on to make significant contributions to the computer industry.

Next to last at the right is All-American Daymon Jordan, a dominant player who came to RPI from California to play football, but went on to be outstanding in lacrosse. Daymon was with duPont for many years but passed away not too many years ago. In the second row, the second person from the left was one of the most lively individuals ever to light up the campus; Ronnie Ball was Grand Marshal that year as well as a boxing champion. After graduating from RPI, Ronnie attended the University of Virginia law school and was a Wall Street lawyer before his much-too-early death. I believe that Darin Conron, Dick Anderson, and Jack (Shady) Green are also somewhere in that photo. And, of

(continued on page 4)
course, the guy in the center with the whistle, beat-up cap, and two-day beard is the immortal coach, Ned Harkness!

As noted in the article, RPI played a series of matches around England, culminating in the Wembley Stadium contest with the British All-Stars at the same time as the 1948 Summer Olympics. Naturally, everything possible was done that spring to raise money to send the team to Britain; the big money raiser was the game on Saturday, May 15, against the University of Virginia, a powerhouse team at the time. That was also spring dance weekend, which guaranteed a large crowd. To raise more money, everyone who went to the game had to pay for their tickets; student passes were not valid that day. (Note the price: a mind-boggling $1.20!)

'S6 Field was packed for the game. Virginia (or UVA, as it is better known) had played a tough Army team at West Point on Friday, and now they faced a determined RPI team the following day—no easy challenge. When they trotted out on the field, they were amazed at the size of the crowd. UVA played well that day, but RPI (a bruising, hard-hitting team, as were all of Hark's teams!) was not to be denied. RPI won, and everyone celebrated!

All this took place over 50 years ago, but the memory is still very clear of that Virginia/RPI lacrosse game, and the team that went to the Olympics!

BRUCE B. GREENFELD '51
Old Saybrook, Conn.

Your Tax Dollars at Work

I read with interest your article "Probing the Quirks of Quarks" in the March '98 issue of Rensselaer, because I spent most of my career in the U.S. Department of Energy office that funded and oversees the Jefferson accelerator. My purpose for writing is to note that only once was the Department of Energy mentioned, and only because it held a competition. You should inform your readers that these facilities are funded by taxpayer dollars.

IRA M. ADLER '57
Bethesda, Md.

Power!

The small article that appeared in the June alumni magazine ("Unpolluted Power") has yielded four extremely interesting contacts for Dais from "real firms."

Small world when connected via one university!

TIM TANGREDI '79
The Dais Corporation
Palm Harbor, Fla.

College Bowl Memories

My family, friends, and I all enjoyed the article "Varsity Scholars," June 1998. I viewed the College Bowl in Folsom Library at Reunion and it brought back many good memories. I also greatly enjoyed Reunion, and the well-treed and landscaped campus. I even successfully traversed the Approach late Friday night, before attending Saturday morning's dedication, for old time's sake.

JAY FINCH '63
GE College Bowl team member
Cleveland, Ohio

Remembering Rensselaer's 100th Anniversary

We are celebrating the 175th anniversary of the Institute. I want to mention that in 1924 a pageant was held on the campus to recognize the 100th anniversary of the Institute (see also page 11). I was present at this affair, together with my classmate, Edwin Eaton '28, who was presented to the pageant as a direct descendant of Amos Eaton. Ed has passed on after a distinguished career in the construction, subway, and freeway systems, and as a Navy captain in World War II.

Jack Kingman '28
Fairfax, Va.

In order to provide space as for many letters as possible, we often must edit them for length. Please address correspondence to: Rensselaer Magazine, Office of Marketing and Media Relations, Rensselaer Polytechnic Institute, 110 Eighth St., Troy, NY 12180, or e-mail at alum.mag@rpi.edu, or call (518) 276-6531.
ETWORKING BETWEEN RENSSLEAER RESEARCHERS AND ALUMNI HAS created a new business to market an inexpensive cellulose wound-care dressing that has demonstrated remarkable ability to promote healing. The dressing has performed well with difficult-to-treat leg ulcers and bed sores, wounds that have resisted other treatments.

Most cellulose now used by industry comes from plants, but a tiny microbe, *Acetobacter xylinum*, produces the world's best cellulose, according to Gonzalo (AI) Serafica '92. He earned his Rensselaer doctorate in chemical engineering under the guidance of Professor Henry Bungay by developing an efficient, controlled process for growing the cellulose. Rensselaer patented the process.

Serafica displayed a poster on his research at the 1995 Entrepreneur of the Year ceremonies at Rensselaer. John Brennan '62, an entrepreneur with experience in the medical products industry, met Serafica and was intrigued by the potential of the cellulose for wound care.

They formed Xylos, a Rensselaer incubator company that is partially owned by the university, with Brennan acting as president and Serafica as vice president. Brennan retained Darby & Darby, a New York City intellectual property firm, for patents and licensing work. Joseph R. Robinson '73, the attorney assigned to the case, is also a Rensselaer graduate.

Although the cellulose has potential for a broad range of applications, Xylos is concentrating first on the rapidly growing field of moist wound care. The market for these products is expected to reach more than $350 million by 2000. Xylos has negotiated licensing agreements and a “right of first offer” with Johnson & Johnson on the wound-care products it develops.

Johnson & Johnson had patented the idea of using microbial cellulose in wound-care dressings but was not able to produce the cellulose economically. In the license agreements signed with Xylos, Johnson & Johnson gave the new firm exclusive worldwide rights to the patents.

After a successful clinical study, the dressing received Federal Drug Administration approval in June for care of all types of wounds as well as for first- and second-degree burns.

No one is quite sure why the Xylos dressings work so well, according to Brennan. The answer may be in the physical characteristics of the microbial cellulose, which has extraordinary absorbency. It also has tremendous strength, shape memory, and durability, and it is completely non-toxic and biodegradable, he says.
Milestones

Toh-Ming Lu, professor of physics, has been named Ray Palmer Baker Distinguished Professor at Rensselaer. The new chair was named in honor of Ray Palmer Baker, 1883-1979, an eminent Rensselaer educator, administrator, and author who played a major role in transforming Rensselaer into a true technological university. Lu is associate director of Rensselaer's Center for Integrated Electronics and Electronics Manufacturing and associate director for research and development at the university's SRC Center for Advanced Interconnect Science and Technology. He served as chair of the department of physics, applied physics, and astronomy 1992-97. Lu is known for advancing the theory and practice of low-energy electron diffraction to study the ordering of surfaces, overlayers, and thin-film growth fronts. Lu received a bachelor's from Cheng Kung University, a master's from Worcester Polytechnic Institute, and a doctorate from the University of Wisconsin at Madison. He has been honored as a fellow of the American Physical Society and the American Vacuum Society. He has published more than 230 papers and holds two patents.

Kristin Bennett, assistant professor of mathematical sciences, received the 1998 Rensselaer Early Career Award, which honors productivity in both teaching and research.

Sharon Kunkel, registrar, was awarded the 1998 Pillars of Rensselaer award in recognition of her outstanding service to the university. The award was created in 1993 by Carl Westerdahl.

(continued on page 7)

RENSSELAER ASTROPHYSICAL SOCIETY

Good Reflections

The Rensselaer community now has a sharper view of the heavens, thanks to members of the Rensselaer Astrophysical Society. The group had the Institute's 16-inch reflecting telescope aligned and cleaned in April, including the resurfacing of the important mirror inside the telescope.

The $100,000 Boller and Chivens telescope, built in 1964, was donated to Rensselaer by General Electric in 1980. It is housed in the Hirsch Observatory, located atop the Jonsson-Rowland Science Center. The mirror has been restored to near-perfect reflectivity, according to Nicolle Zellner, a Rensselaer graduate student who helped organize and conduct public demonstrations at the observatory this summer.

The summer programs, sponsored by the Rensselaer physics department and School of Science, featured opportunities to view the polar caps on Mars, the rings of Saturn, the moons of Jupiter, galaxies, star clusters, and much more, according to Zellner. Members of the physics department were on hand to talk about the night sky and answer questions.

Keeping an Eye on the Chaperone

With $1 million in funding from the National Eye Institute, Rensselaer biologists Jane Koretz and John Salerno study alpha crystallin, a major protein in the lens of the eye. Alpha crystallin acts as a chaperone and protects other proteins from dangerous interactions. "But sometimes the chaperone itself goes bad and becomes self-destructive," says Koretz. "We want to know why."
SCHOOL OF ARCHITECTURE

Greene Building Renovated

Nearly $900,000 was spent on recently completed renovations to the Greene Building. Faculty architects, in conjunction with the Office of Campus Planning and Facilities Design, combined the aesthetic with the practical in bringing the building up to current safety codes.

"I had parents asking, 'If you're a School of Architecture, why is there no concern for the image of the building?'" says Architecture Dean Alan Balfour. In response, public areas were improved. The Gallery was refurbished to provide an area to display student work and "a grand new entrance was created, to seem as if it was always there," says Balfour.

With an eye toward restoration, the building's main staircase was repainted to its original green. A new fire stair was built and new stairs now connect Greene with the JEC walkway. The administrative office was redesigned and moved to the first floor, allowing space for new graduate offices and classrooms.

A new "Studio 305" lab on the third floor will be completed by the new year. According to Balfour, the lab will be equipped with drawing and modeling tables, shared work tables, print machines, and a video projection and editing suite. In the future, there are plans for a three-dimensional digitizing scanner and a rapid prototyping machine that will allow students to scan a room and construct a complete three-dimensional drawing.

The equipment will allow students to work with tools found in industry and Balfour hopes this new lab to be "the most advanced multimedia design studio in the country." According to Mark Mistur '83, clinical associate professor of architecture, "the equipment will enable students to leave Rensselaer with technological skills equal to or beyond what exists at most architectural firms today."

Cookbook, The Sequel!

The Chapel + Cultural Center has released its second cookbook and hopes it has the same recipe for success as its last.

Three years ago, a cookbook was produced as part of the C+CC's 25th anniversary. Rensselaer faculty and staff donated recipes to the cookbook, which sold out in six weeks. Last year, a committee led by Father Ed Kacergis solicited the campus for more recipes and the second edition, Give Thanks, was born.

Give Thanks contains more than 285 new recipes. Also included are seven complete menus, from appetizer to dessert, provided by the RPI Gourmet Group, a 10-year-old group formed out of the RPI Women's Club. Each month, members meet for a themed gourmet meal in the host's home.

Some of the complete menus have British, Indian, and Mexican influences, and there are also complete menus for seasonal meals and brunch.

Cookbooks are available for $10 through the C+CC or they can be mailed anywhere in the continental U.S. for $15. Send check or money order to: Cookbook, 2008 19th St., Troy, NY 12180. All proceeds benefit the Rensselaer Newman Foundation. For more information, call (518) 274-7793, e-mail kaiser@rpi.edu, or visit the Web site at: www.rpi.edu/dept/chaplains/public_html/C+CC/cookbook.html.

Milestones

(continued from page 6)

Eugene Bolton was named an active member of the Rensselaer Board of Trustees at its May meeting. Bolton, who had been an adjunct trustee since 1995, is responsible for managing the U.S. equity operations at GE Investments. Bolton joined GE in 1964 and has held a number of financial and strategic planning positions in the U.S. and Europe. He joined GE Investments in 1984 as chief financial officer. Bolton is a graduate of Mundelein College.

Steve Breyman, assistant professor of science and technology studies and director of the dual degree program in Ecological Economics, Values and Policy, was awarded the 1998 Rensselaer Alumni Association Teaching Award during Reunion weekend. The award recognizes members of the faculty for outstanding teaching techniques, contributions to the campus experience, and commitment to students.

Jonathan Newell '65, professor of biomedical engineering, was given the 1998 David M. Darrin Counseling Award at Commencement. The award was established by David M. Darrin '40 to recognize a faculty member who has made an unusual contribution in the counseling of students. The selection of the award recipient is made by Phalanx, the student leadership honorary society.
Milestones (continued from page 7)

Nick Donofrio '67, Rensselaer trustee and IBM's senior vice president of technology and manufacturing, has been elected board chair of the National Action Council for Minorities in Engineering (NACME), the nation's largest private source for scholarships for minority students in engineering. According to George Campbell Jr., president and CEO of NACME and also a Rensselaer trustee, Donofrio "understands the importance of technology to our economy, he has seen firsthand the power of the global marketplace, and most importantly, he is unequivocally committed to our mission."

Mark Rea, professor and director of the Lighting Research Center, received the 1998 William H. Wiley Distinguished Faculty Award in April. Established by Edward P. Hamilton '07 in memory of William H. Wiley (Class of 1886), the award honors those who have won the respect of the faculty through excellence in teaching, productive research, and interest in the totality of the educational process.

Kong Ki Min, professor of physics, received the 1998 Jerome Fischbach Faculty Travel Grant. The grant was funded by Jerome Fischbach '38 for contributions faculty members have made to the education and motivation of students.

James McKim '90, professor of computer science, has been named chair of the newly formed Department of Computer and Information Services at Rensselaer at Hartford. Creation of the new department is part of the continuing integration of

Making a Difference

Annual Fund Breaks Records
Thanks to over 13,000 donors and countless volunteer leaders, the Rensselaer Annual Fund raised more than $3.7 million in support of Rensselaer students and programs, a record high. Alumni participation levels also reached record levels and stand at an all-time high of 28 percent.

Investing in the Rensselaer Experience
In addition to their longstanding support of the Rensselaer Annual Fund, Lila and Gerald S. Ellsworth '50 recently made a major gift that will have a positive impact on several aspects of the Rensselaer experience. Their gift will benefit the School of Engineering's Blue Ribbon Initiative, the Herman Challenge for fellowships for women entrepreneurs at the Lally School of Management and Technology, and the Student Awareness of Drinking Project.

Measuring Success
National Instruments (NI), co-founded by Jeff Kodosky '70, is a leading manufacturer of software and hardware for measurement and automation systems. The company's LabView software product represents a complete science and engineering workbench and is considered state-of-the-art in both corporate and university environments. NI has agreed to donate to Rensselaer the LabView Software Solutions campus license, as well as a student license package. Enhancing this donation will be a student co-op program to train Rensselaer students at NI headquarters to use the LabView software; these students will then come back to campus as trainers and to assist in curriculum development.

Jhin '71 Sets Up Endowed Fund for Student Services
Former RAA President Michael Jhin '71 has established the Jhin Family Fund to support and enhance Rensselaer student life. This gift grows out of a longstanding commitment to helping students get the most from Rensselaer's excellent academic programs through a supportive and nurturing environment. Jhin was the recipient of the Albert Fox Demers Medal (1998) and the RAA Director's Award (1993).

Campaign Nears Goal
The campaign to renovate the historic Approach Building has currently raised $850,000 from a consortium of sources, including local community members and private foundations, federal grants, and Rensselaer alumni. The Howard and Bush Foundation of Troy, N.Y., contributed to this success with a $25,000 leadership gift.

Boston Named Chapter of the Year
Congratulations go to the Boston Chapter for receiving the 1998 Craig W. Angell '35 Chapter of the Year Award. This award is presented each year to recognize the outstanding programs and activities of regional alumni chapters. Over the past year and a half, the chapter has implemented a new team-centered leadership initiative that capitalizes on the combined talents of the steering committee members.

Hearts as Big as Texas!
Brian McManus '61, an investment adviser with the prestigious Bass Brothers Enterprises, and his wife, Dorothy, recently made an addition to the Brian E. '61 and Dorothy W McManus Endowed Scholarship Fund for undergraduate students, with preference given to those from Texas. But their investment in Rensselaer students does not stop there. They provided an important connection for one of the high schools in their area to the Rensselaer Medal Program, which honors promising juniors in math and science. Medalists who enroll at Rensselaer receive a $10,000 scholarship per year throughout their four years. For more information on how a high school in your area can participate in the Rensselaer Medal Program, please contact Tracey Gabriel at gabri@rpi.edu or call (518) 276-8992.
$750,000 Challenge Spurs Multidisciplinary Design Lab Campaign

Rensselaer recently received a pledge of stock with current market value of $750,000 from an anonymous donor as a challenge to raise an additional $750,000 by Dec. 31, 1999 for the Multidisciplinary Design Lab (MDL) in the School of Engineering. When met, this challenge will allow the school to reconfigure and renovate existing space within the Jonsson Engineering Center high bay area for the MDL. The MDL will greatly facilitate 21st century engineering education by simulating real work environments, bringing together the resources needed to support multidisciplinary team design activities. Rensselaer must raise $750,000 to secure this donor's gift. For more information on the challenge or to make a gift, contact Marcia Hopple at hopple@rpi.edu or (518) 276-2271.

It's Who You Know

Rensselaer's Career Connection program is helping alumni make career changes and find professional contacts all over the country. Connections are made through a database of over 2,500 alumni volunteers, from which the alumni office can pull lists sorted by geography or career field. More volunteers are needed to provide career and networking advice to fellow alumni. (Only contact information specified by the volunteer is released.) If you are interested in having your information added to the database to help Rensselaer alumni, contact Valerie Beck at (518) 276-6206 or beckv@rpi.edu.

Regional Phonathon Calls for Volunteers

Tom Brudzinski '68, national phonathon chair, and Bill Pomeroy '66, national phonathon vice-chair, are asking interested alumni to join them in celebrating Rensselaer's 175th Anniversary by volunteering at a regional phonathon. Thanks to 269 student and alumni callers, the 1997-98 phonathon program secured $826,000 in pledges for the Annual Fund. No experience is necessary and training is provided. For more information on how to become involved with phonathons, contact Cindy Pepper at pepper@rpi.edu or (518) 276-2564.

Alumni Datebook

Sept. 25-26 Fall Alumni Weekend
This busy weekend includes the Technology Law and Commercialization Professionals Reunion, inaugural Hall of Fame induction, Pittsburgh Building rededication, 175th Anniversary campus kickoff, Transit Trophy football game, and much more! Visit www.rpi.edu/ web/175/ for details.

Oct. 20 Business Plan Competition
The RAA's New York City chapter is sponsoring the kickoff for the Lally School of Management and Technology's business plan competition. Speakers include Lally Dean Joseph Ecker and last year's Business Plan Competition winner. Location: Spencer Trask Securities Inc., 535 Madison Ave. Host is Dan Zettler '92. For more info, contact him at (800) 622-7078 ext. 542; DanZett@aol.com.

Oct. 28 Venture Enterprises Panel
Alex Glass '54, executive director of the Bay Area Regional Technology Alliance (BARTA), will lead this panel discussion. Contact: Megan Donovan at (518) 276-2504 or donovm@rpi.edu.

Nov. 2 Tour of Genzyme Plant
The Boston chapter will tour this growing biotech company. Contact: Arthur Cohen '63 at (617) 547-2200 or arcmail@aol.com.
Milestones
(continued from page 8)

the former Hartford Graduate Center and Rensselaer.

Rena Bizios, professor of biomedical engineering, is the 1998 recipient of the Clemson Award for Contributions to the Literature, presented by the Society for Biomaterials at its annual meeting in San Diego.

Thierry Blanchet, assistant professor of mechanical engineering, aeronautical engineering, and mechanics, is a recipient of the 1998 Ralph R. Teetor Educational Award sponsored by the Society of Automotive Engineers. Twenty outstanding engineering educators were chosen to be the society’s guests at this year’s International Congress and Exposition.

Sal Restivo, professor of science and technology studies, has been named Honorary Senior Research Fellow, School of Education, University of Birmingham (UK) and Special Professor of Nottingham University (UK) for 1998-1999. His inaugural lecture will be titled “The Rejection of Transcendence and the Existential Terrors of Sociology: In the Matter of Science and Religion.”

J. Lawrence Katz, retired Rensselaer professor of biophysics and biomedical engineering and currently professor of biomedical engineering at Case Western Reserve University, received the Career Achievement Award from the Institute of Electrical and Electronics Engineers (IEEE). The award, the society’s highest, is given to an individual who has made significant contributions through a distinguished career in the biomedical

(continued on page 11)
Merging the Technical and Creative

A NEW DUAL DEGREE PROGRAM between the schools of Engineering and Humanities and Social Sciences aims to merge the technical with the creative.

This fall, Product Design and Innovation (PDI) will offer its students "the ability to perceive needs of society, and understand how design and technology intersect with society," says Gary Gabriele, associate dean of engineering and one of the program's creators. "We take pride in both the creative thinking of an artist and in the can-do attitude of the engineer."

"The idea is to give students the understanding of how a product will interact in society as a way of life, not just as a commodity in the marketplace," says John Schumacher, chair of department of science and technology studies and one of the creators of PDI. "The uniqueness of this program comes through the balance of engineering, social science, and art."

Graduates of the program can expect careers as inventors, entrepreneurs, directors of new product development, industrial designers, and product designers.

A $200,000 grant from the National Science Foundation, National Endowment for the Humanities, and Fund for Improving Postsecondary Education was a precursor to the new program, according to Schumacher.

Larry Kagan '68, professor of art and program co-creator, calls PDI "innovation engineering." According to Kagan, the global marketplace supports a higher ratio of new products each year. For a company to keep ahead of its competition it must rely on a steady stream of innovative ideas for developing new technologies that have an increased benefit to society.

FROM THE ARCHIVES

Rensselaer's Centennial Celebration

IN 1924, RENSSELAER commemorated its 100th anniversary with a weekend-long celebration that brought thousands of people, from around the world, to campus to mark the occasion.

On Oct. 3 and 4, 1924, the Institute and City of Troy played host to national and foreign dignitaries and hundreds of representatives from institutions, associations, and societies of the U.S. and foreign countries.

Delegates attended from 23 foreign countries; 98 more sent letters of congratulations. Alumni turned out in strong force, representing 19 alumni associations and 64 classes (1857-1928).

A highlight of the event was a grand centennial pageant that portrayed the school's history. Elaborately staged at the end of '86 Field, the pageant drew more than 2,000 spectators on Friday night and nearly 8,000 on Saturday.

The weekend also included lunches and dinners, honorary degree conferrals, dedications, and speeches. Herbert Hoover, then U.S. Secretary of Commerce and himself an engineer, represented the United States.

"I have the honor to bear a message of felicitation from the President of the United States," said Hoover in his speech. "He bids me to express his appreciation and gratitude for that stream of blessings which this institution has poured forth to the American people over these 100 years . . . "I prefer to speak to you this morning not as a scientist about science in general but as an engineer about engineering in particular; for it is in its pioneer leadership in the creation of a new profession amongst men, devoted to the application of sciences to the human need and comfort, that Rensselaer Polytechnic Institute especially deserves our gratitude."

Milestones

(continued from page 10)

engineering field. Katz spent 33 years at Rensselaer, retiring in 1989 to become dean of engineering at Case Western. While at Rensselaer, he was awarded the 1989 William H. Wiley Distinguished Faculty Award.

Martin Glicksman '57, the John Tod Horton Professor of Materials Engineering, has been named a fellow of the American Association for the Advancement of Science for his contributions to the science and engineering of solidification and crystal growth.

Patrick Quinn. Institute Professor of Architecture Emeritus, has been chosen for a Fulbright grant to lecture on American architecture in India for four months in the next academic year. He will also co-teach a course in architectural design at the College of Environmental and Design Technology in Ahmedabad. Quinn, who served as Rensselaer's dean of architecture from 1971 to 1980, is internationally known for his design work, particularly in the area of religious architecture.

Joseph Haus. professor of physics, has been elected as a fellow of the Optical Society of America. In honoring Haus, the society's board of directors cited his accomplishments "in understanding quantum noise and propagation in superfluorescence and stimulated Raman scattering, and linear and nonlinear response in composite materials."
SHORTLY BEFORE HIS FIFTH BIRTHDAY, STEPHEN VAN RENSSELAER III, the future founder of Rensselaer, became sole heir to one of the greatest fortunes in Colonial America. The year was 1767.

Fifth in line of descent from Kiliaen Van Rensselaer, a merchant of Holland, Stephen Van Rensselaer was the eighth Patroon (or proprietor) of the enormous manor Rensselaerwyck, and the largest landholder in New York state.

Too young to manage his estates, Van Rensselaer was educated at Princeton and Harvard and extensively trained by his patrician relatives to assume his role in the New York "nobility." It was expected and necessary that the Patroon be well-grounded in the fundamentals of a titled lifestyle.

At age 21 Van Rensselaer gained full control of his fortune. It was 1782, the last year of the American Revolution against the aristocratic rule of England. If aristocrats remained in America, the youthful Patroon was certainly among them. Wealth, education, and family created a wide gulf between Van Rensselaer and the average citizen of the new country. He lived in one of the country's most elegant manor houses, sat for a portrait by Gilbert Stuart, and moved in New York's most exclusive social circles. This Hudson Valley royalty included the Livingstons and the Van Cortlands. Alexander Hamilton, America's first Secretary of the Treasury, was Van Rensselaer's brother-in-law. His father-in-law was the affluent Revolutionary War hero General Philip Schuyler.

The Patroon's fortune was more than sufficient to enable him to maintain his grand lifestyle in almost total isolation from his fellow citizens. He rejected this course and chose instead to devote a large measure of his life to service. He used his wealth, prestige, and energy to support individuals, institutions, and public works that created growth and prosperity for all Americans. During his lifetime, he became a catalyst for progress by transforming himself from "lord of the manor" into "wealthy citizen philanthropist."

Van Rensselaer seemed to value creativity more than social rank. He sponsored the ideas of individuals from all walks of life. He backed Scottish immigrant and inventive genius Henry Burden of Troy, whose revolutionary plow design was tested and demonstrated at Rensselaerwyck. The tutor for Van Rensselaer's children was Joseph Henry, a brilliant young graduate of the Albany Academy who later became first secretary of the Smithsonian Institution. And in perhaps his most unorthodox

**STEPHEN VAN RENSSELAER by Gilbert Stuart (American, 1755-1828), ca. 1793-95; oil on canvas, 36 x 28 1/8 inches.**

Andrew W. Mellon Collection, Photograph © 1998 Board of Trustees, National Gallery of Art, Washington, D.C.
Nov. 5, 1824

Dear Sir:

I have established a school at the north end of Troy, in Rensselaer county, in the building usually called the Old Bank Place, for the purpose of instructing persons, who may choose to apply themselves, in the application of science to the common purposes of life. My principal object is, to qualify teachers for instructing the sons and daughters of farmers and mechanics, by lectures or otherwise, in the application of experimental chemistry, philosophy, and natural history, to agriculture, domestic economy, the arts, and manufactures... I am inclined to believe that competent instructors may be produced in the school at Troy, who will be highly useful to the community in the diffusion of a very useful kind of knowledge, with its application to the business of living... It seems to comport better with the habits of our citizens and the genius of our government to place the advantages of useful improvement equally within the reach of all...

Stephen Van Rensselaer was 60 years old when he addressed his letter to the Rev. Samuel Blatchford, Presbyterian minister of Lansingburgh. (Blatchford, a friend of Van Rensselaer, would serve as the young school's president until his death in 1828.)

Van Rensselaer had long been interested in finding a way to educate the poorer families in his tenantry and he had concluded that the most valuable education was one that would enable them to apply the principles of science to the “business of living.”

The Rensselaer School began its life in “The Old Bank Place” located on River Street in Troy, several blocks north of today’s Green Island Bridge. The first 30 students began classes on Jan. 3, 1825. Fees charged were $25 per term, and $5 per course. Board and lodging were available at the school for $1.50 a week.

Amos Eaton was the man chosen by Van Rensselaer to take charge of the new school, as Senior Professor and Agent. Eaton was a well-respected scientist, lecturer, and educator whom Van Rensselaer had employed to conduct geological surveys of state lands.

It was Eaton who advocated the then-revolutionary idea of learning-by-doing, which continues at Rensselaer today. Eaton’s method placed the student in the role of instructor. After some preliminary instruction, students would perform rather than watch experiments, and lecture their classmates on the principles demonstrated. (Read more about Amos Eaton in an upcoming issue.)

Together, Eaton and Van Rensselaer created an extraordinary institution that would have a lasting impact on technological education and whose faculty and graduates would make an indelible mark on the world.

In an article on U.S. engineering schools in the 1892 Engineering News, A.M. Wellington praised Van Rensselaer: “The founder was not of the class of rich men who found colleges only from a vague philanthropic instinct and to perpetuate his name... His love of thoroughness, his determination that the instruction should be of the best, if there was any, and that the school should take a high rank among the kindred institutions of the world, crop out instantly in his letters and deed of foundation...

“He was no common founder and he founded no common school. The cause of engineering education owed much to him indeed.”

—Tracey Leibach
relationship, Van Rensselaer recruited a former convicted felon, Amos Eaton,* to assist in applying science to the Patroon’s many agricultural and commercial interests.

Those related to the Institute know Van Rensselaer best as the founder and financial supporter of Eaton’s ideas for the Rensselaer School (see sidebar). This act alone established the Patroon as a man of vision, one who understood that science could be harnessed to improve not only his holdings but the quality of life for all. However, the Rensselaer School represented only part of his interest in education. Van Rensselaer was a trustee of Rutgers, Union, and Williams colleges and chair of the first Board of the Albany Academy for Boys. These institutions, as well as Princeton, Harvard, and Yale, benefited from his financial support.

A key element in the success of the American experiment was the development of public education. New York’s efforts to educate its citizens profited from Van Rensselaer’s leadership. He served as a member and later chancellor of the New York State Board of Regents. During his 26 years of service, the board established many of the policies that built a solid foundation for New York’s national leadership in public education at all levels.

American leaders in the first quarter of the 19th century were intrigued with science. Thomas Jefferson and Benjamin Franklin are often cited as leaders of this movement. Perhaps second only to Franklin’s Philadelphia, Van Rensselaer’s Albany was a beehive of scientific interest. Statewide interest in science led to the establishment of the Society for the Promotion of the Useful Arts in 1808. The group might be described as a science club for gentlemen. Its officers included Robert Livingston, De Witt Clinton, scientist David Hosack, engineer James Geddis, physician and educator T. Robeyn Beck, and E.C. Genet, a member of the National Institute of France.

The enthusiasm of Albany’s citizens for science also led to the establishment of the Albany Lyceum of Natural History, a combination museum and library that featured lectures by distinguished scientists. This organization was the forerunner of today’s Albany Institute of History & Art. Van Rensselaer was the first president of both organizations.

A devout member of the Dutch Reformed Church who read the Bible from cover to cover every year, Van Rensselaer contributed time and money to the establishment of two organizations that helped to spread Christianity on the American frontier and around the world. The American Bible Society and the American Tract Society both continue their missions today. Van Rensselaer gave large parcels of property to Dutch Reformed, Lutheran, Presbyterian, and Baptist congregations to enable them to establish churches on his lands.

The Patroon embraced democracy and took a very active role in state and national politics. His aristocratic roots were reflected in his lifelong commitment to the conservative agenda of Hamilton’s Federalist Party. However, he often exhibited an abil-

* In 1811, Amos Eaton was found guilty of forgery and sentenced to “hard labor for life” in the state prison. As an educated man, he was quickly afforded privileges not available to other prisoners. He corresponded frequently with leading scientists, educators, and public figures of the day who were convinced of his innocence and worked for his release. In November 1813 he was granted a pardon from the governor.

Erie Canal was an immense factor in opening up the American West. The New York Canal System was perhaps the greatest public works undertaking in the western world had seen since the Roman Empire. The construction of New York's canals set the successful pattern for state and later federal support of infrastructure improvements in America. Governor Clinton was certainly the canal's most important advocate, but Stephen Van Rensselaer's leadership and support were critical to the project's success from beginning to end. As early as 1810 he was an advocate of the "grand canal." He served as a member of the commission that set the route for the project in 1816. The Patroon was the president of the board of commissioners during the construction phases. And it was Stephen Van Rensselaer who stood with Governor Clinton during the many grand opening ceremonies that took place from Buffalo to New York City in October 1825.

Investments in the Future

Stephen Van Rensselaer III founded, financially supported, or held leadership positions in a wide variety of educational, social, governmental, religious, and cultural organizations. Though some have evolved from their original mission or changed their names, the following still exist today.

**ALBANY ACADEMY**
First president of the board of trustees, supporter
**ALBANY LYCEUM OF NATURAL HISTORY**
now Albany Institute of History & Art
First president
**ALBANY ORPHAN ASYLUM**
now Parsons Child and Family Center
President, supporter
**ALBANY SAVINGS BANK**
now Albank
Founder
**AMERICAN BIBLE SOCIETY**
Original board manager, supporter
**AMERICAN TRACT SOCIETY**
First president, supporter
**COLLEGE OF NEW JERSEY AT PRINCETON**
now Princeton University
Alumnus, supporter
**ERIE CANAL COMMISSION**
now New York State Thruway Authority/Canal Commission
Original commissioner, president of the board
**HAMILTON ONEIDA ACADEMY**
now Hamilton College
Supporter
**MOHAWK AND HUDSON RAILROAD COMPANY**
now CSX (formerly Conrail)
Original commissioner, first president
**NORTH DUTCH REFORMED CHURCH OF ALBANY**
now First Church in Albany
Deacon, supporter
**REGENTS OF THE UNIVERSITY OF THE STATE OF NEW YORK**
now New York State Board of Regents
Regent, Chancellor of the Board of Regents
**RENSSLEAER SCHOOL**
now Rensselaer Polytechnic Institute
Founder, supporter
**RUTGERS COLLEGE**
now Rutgers University
Trustee, supporter
**SOCIETY FOR THE PROMOTION OF AGRICULTURE, ARTS AND MANUFACTURES**
now New York State Department of Agriculture and Markets
First president
**UNION COLLEGE**
Trustee, supporter
**WILLIAMS COLLEGE**
Trustee, supporter
**YALE COLLEGE**
now Yale University
Supporter, honorary degree recipient

Perhaps the least successful undertaking of the Patroon's life was as a soldier in the War of 1812. He had little military training, no combat experience, and was opposed to the war. However, his political opponent, Governor Daniel Tompkins, ordered him to active duty as a major general in command of the New York Militia. By October 1812, Van Rensselaer was in command of the American forces at the Battle of Queenston on the Niagara frontier. The battle ended in an American defeat when Van Rensselaer's inexperienced and badly New York troops refused to fight in Canada. The judgments he made at Queenston have been severely criticized by military historians. Such assessments have detracted from the Patroon's many positive contributions to American life.

As the largest landholder in the state, Van Rensselaer was New York's ultimate "gentleman farmer." Rensselaerwyck measured 24 by 48 miles and encompassed most of today's Albany and Rensselaer counties. The Patroon leased this vast property to more than 3,000 individual farmers. In an effort to enable these farmers to prosper, he hired Amos Eaton to undertake a series of "geological and agricultural surveys" of his lands. These surveys stressed using science to improve farm productivity. Crop rotation, fertilizers, ideal time for planting, cultivating, and harvesting in the upper Hudson Valley were all addressed in the unique documents that were produced.

The Patroon fostered the agricultural publications *Plough Boy* and *The Cultivator*. They were farm journals designed to give farmers the latest information on new technologies in agriculture. He also provided large prizes and incentives to encourage agricultural exhibitions that included plowing contests and demonstrations of new machinery. These exhibitions were sponsored by county agricultural societies to motivate farmers to improve their livestock and other agriculture products. This concept contributed to the growth of what we know today as the county fair.

Van Rensselaer was president of New York's first Board of Agriculture. The editor of the *American Farmer* called him "the Coke of America," in reference to the Englishman Thomas Coke, who
motivated his tenants to improve their farms and use new machinery. When his fellow agricultural enthusiasts suggested an agricultural school with a “pattern farm” Van Rensselaer agreed in 1822 to provide the state with a 250-acre site on his lands in Greenbush. While this effort did not become reality, the seeds were planted for the birth of institutions like Cornell and the agricultural schools of the land grant colleges.

Stephen Van Rensselaer died on Jan. 26, 1839 at the age of 75. During his lifetime he had a tremendous impact on his own tenants, on New York state, and on the whole of the young America. He was unique, an enormously wealthy individual with an eye toward “the common purposes in life.” He had an unwavering conviction to support people, ideas, and organizations that would prove to have lasting value to America.

William B. Fink, Van Rensselaer’s only in-depth biographer, believes, “his greatest significance in American life was as a philanthropist.” Certainly Stephen Van Rensselaer III must be counted among the individuals who provided a role model for citizenship and philanthropy in the young republic. His great wealth, deep religious conviction, ability to champion progressive ideas, and sense of public service were combined with his desire to improve his own estates. The result was the creation of a uniquely American figure, the wealthy citizen who uses his fortune and leadership skills for the public good.

Carl Westerdahl spent 24 years at Rensselaer, serving as dean of students and director of alumni and community relations. He would like to learn as much as possible about Stephen Van Rensselaer III. If you have any information, clues, or even questions, Carl would love to hear from you. He can be reached at: 27A Heritage Hills, Somers, NY 10589; (914) 276-2717; ucuiz@aol.com.
At one time or another, we've all crawled along in a traffic jam, hunted for a flashlight to get through a power outage, or skipped a shower during a water main break.

And there's no doubt we've all paid higher taxes to repair a public works project.

But perhaps we haven't adequately recognized the larger problem signaled by such irritations: a tottering civil infrastructure so inefficient, outmoded, and costly that it poses a threat to economic prosperity, and our very health and safety.

Rensselaer's Center for Infrastructure and Transportation Studies (CITS) addresses just such issues. Center researchers from across the Institute are engaged in a wide range of programs that provide technology-based solutions in the areas of measurement and instrumentation, design for safety and performance, information integration, and materials and structural systems.

Rensselaer's center stands apart because it integrates the Institute's traditional strength in civil engineering with a mastery of state-of-the-art information technology (IT). These dual capabilities enable Rensselaer researchers to view transportation and infrastructure issues from a systems point of view, and to develop innovative, cost-effective solutions that elude more piecemeal analysis. The power of this approach gives Rensselaer national prominence in one of the hottest areas of the field, so-called intelligent transportation systems (ITS).

Intelligent transportation systems can include everything from cars that drive themselves to video monitoring systems that gauge traffic flow and flash up-to-the-minute traffic conditions to motorists.

At its most futuristic, the potential for intelligent transportation systems holds out the day when one can drive to a superhighway, then relax and have
George List, director of Rensselaer's Center for Infrastructure and Transportation Studies
That Was Then...This Is Now

Rensselaer alumni have long played significant roles in building the infrastructure of our nation and the world. A brief look through the history books would reveal the following Rensselaer alumni:

Transcontinental Railroad
Early alumnus Theodore Judah dreamed of a transcontinental railroad linking America's East and West coasts. He presented a plan for the Sacramento-to-Folsom line to California merchants. A bill authorizing a railroad to the Pacific was signed into law by President Abraham Lincoln in 1862.

Brooklyn Bridge
Following distinguished service in the Civil War, Washington Roebling, Class of 1857, returned to his profession of civil engineering with the firm of his father, John Roebling. Having studied the principles of caisson foundations in Europe, he prepared the detailed plans and specifications for the Brooklyn Bridge. When John Roebling died, Washington succeeded him as chief engineer of the great bridge, the longest suspension bridge in the world in its day.

Penn Station
As president of the Pennsylvania Railroad, Alexander Cassatt, Class of 1859, was a major force behind the railroad's project to tunnel into Manhattan and build Pennsylvania Station. Cassatt was perhaps America's most outstanding railroad manager at the turn of the century.

Panama Canal
Anízto García Menocal, Class of 1862, was the engineer for all surveys made in Panama and Nicaragua for an interoceanic canal (he favored the Nicaraguan route). Menocal was chief engineer of water works construction in Havana, 1870; he was commissioned Chief Engineer in the U.S. Navy in 1874, and was chief engineer of the Norfolk Navy Yard and Brooklyn Navy Yard 1892-98.

West Coast Railroads
A construction and consulting engineer for railroads in North and South America, Canada, Mexico, and New Zealand, Virgil Gay Bogue, Class of 1868, was known as someone who understood the economic aspects of railway operation. He served as chief engineer of the Union Pacific Railroad and the Western Pacific Railroad, charged with constructing its railroad and western terminus on San Francisco Bay.

Imperial Railways of Japan
Seijiro Hirai, Class of 1878, was president of the Imperial Railways of Japan and a prominent figure in the building and nationalization of Japan's railway system.

Verrazano-Narrows Bridge
A leading contributor to the development of the high-speed turnpike design and construction, Milton Bruner '23 is perhaps best known as the builder of the Verrazano-Narrows Bridge, the longest suspension bridge in the world (4,260 ft.) in 1965. He also was a designer on New York City's independent subway project, and worked as an engineer with the New Jersey, Connecticut, and Ohio turnpikes, the New York State Thruway, Long Island Expressway, and more.

Today, just as a century ago, many Rensselaer alumni are helping to build, maintain, and improve the nation's transportation and infrastructure systems. Following is a sampling of some of the projects and organizations involving Rensselaer grads:

Boston's Big Dig
The Central Artery/Tunnel Project in Boston (more commonly known as "the Big Dig") is the largest and most complex highway project ever undertaken in the core of a major American city. Not surprisingly, many Rensselaer alumni have been involved in this massive undertaking, including Paul Goguen '73, Roger Ludlam '64, James Michielutti '81, Paul Muzzey '89, Keith Sibley '72, and Linda White '96.

Metro New York E-ZPass
Marc L. Bennington '82 works as a senior project manager for TransCore, a subsidiary of SAIC (Science Applications International Corporation). As part of TransCore, Bennington provides technical consulting and project management services for the MTA and Port Authority electronic toll collection facilities for most of the major toll bridges and tunnels in and around New York City. TransCore consults for the IAG (Inter-Agency Group) on regional E-ZPass interoperability, and is also working on the design and integration of several advanced traffic management systems projects in the greater New York metropolitan area.

Houston METRO
In 1978, residents of the city of Houston, Texas, and surrounding Harris County voted to form the Houston METRO, a comprehensive regional transit system charged with providing public transit, traffic management, and infrastructure improvements and reducing traffic congestion and air pollution. Today, traffic congestion has been reduced with a fiber optic network of computerized traffic signals, roadway sensors, video cameras, changeable message signs, and other incident detection systems that control traffic and bus flow. The METRO operates the world's two most advanced buses. With the aid of video, radar, and laser technology, the buses operate on Houston streets—without drivers! Robert MacLennan '59 has been general manager of the Houston METRO since 1989.

Rochester, N.Y., Traffic Control Center
Rochester (Monroe County) operates a computerized traffic signal system that includes over 370 signals. A recent Federal Highway Administration survey identified the system as one of the best-managed in the country. The focus of ITS deployment in the Rochester area includes implementation of an area-wide Advanced Transportation Management System. This will allow for a more flexible and reliable traffic signal control system as well as provide for future connections for NYSDDOT arterial signal systems and a future freeway surveillance and control system. In addition, a comprehensive emergency vehicle priority routing system is being installed. Jim Pond '89 is a senior traffic engineer with Monroe County DDOT and is responsible for the operation of the traffic control center. In addition to the 370 system intersections, Pond also is responsible for 230 other signalized intersections. He is president of the New York Upstate Section of the Institute of Transportation Engineers.

Long Island INFORM
Long Island motorists have a choice between several parallel east-west highways. If an accident occurs on the Long Island Expressway or the Northern State Parkway, they will receive notification on one of 100 variable message signs, and be able to switch to a less congested route. The New York State Department of Transportation operates INFORM (INformation FOR Motorists), one of the largest freeway systems in the country. The system also includes roadway detectors every half mile, television cameras, ramp meters, and traffic signals, in a corridor 35 miles long and 5 miles wide. Paul Cuerdon '70 worked on the project from the planning phase through operations. He is currently the assistant regional traffic engineer for the Albany area.
“What’s changed is the rapidly increasing use of information technology to bring a big payback from the retrofit of existing infrastructure. Rensselaer’s contribution has value because of our strengths in IT, which is really our niche market, and in smart materials.” —Al Wallace ’61

the car “driven” to its destination by a geo-based autopilot, much like the manner in which jumbo jets are flown today.

“Infrastructure”—water systems, sewers, roads, bridges, waterways, ports, power, and communications—is critical to society and its economic vitality. New York state alone spends about $15 billion annually to operate, maintain, and improve transportation systems, while the U.S. has an estimated $20 trillion invested in civil infrastructure.

“There’s such a large cost to infrastructure that you have to think of it as a system. That was the driving idea behind the center, to develop models, analytical analyses, and representations of systems,” states Professor George List, chairman of the civil engineering department and recently appointed director of the center.

Building on a vision

“Universities, in partnership with highway system owners, can often form the best teams for combining advanced technical skills with pragmatic considerations,” says Anthony Kane ’67, executive director of the Federal Highway Administration and a member of the civil engineering department’s advisory board. “The university environment is ideal for bringing together multidisciplinary faculty in engineering, business, and planning to help expand the state of the art in analysis tools and operational systems for complex highway systems.”

Indeed, the center grew out of collaborations the center’s founding director, Civil Engineering Professor Dimitri Grivas, developed with both the U.S. Army Corps of Engineers and with the New York State Thruway Authority, particularly a major, multiyear contract with the Thruway Authority beginning in 1988 to build advanced infrastructure management systems for their pavements and bridges. “We at Rensselaer built a vision and influenced the national agenda through our involvement in national initiatives. We were the first to develop a set of courses in infrastructure engineering, back in 1988,” Grivas said.

Nationally known for his work in asset management, Grivas, in cooperation with the New York State Department of Transportation, organized a national conference at the Institute last fall to discuss asset management initiatives in the 21st century. More than 100 delegates from all the states and from the federal government attended.

Not really working

Despite the importance of a functioning infrastructure, people take these systems for granted until something goes wrong. Increasingly, though, the lack

of maintenance, aging, overuse, poor planning, demographic shifts, inefficient operation, and lack of resources are making their effects known.

In the Atlanta area, for example, the highway system has strained to keep up with the increasing number of commuters. Early this summer, when a thunderstorm caused power outages that knocked out hundreds of traffic signals during morning rush hour, cars jammed bumper-to-bumper on highways and at intersections. One notable tie-up stretched for three miles, in what the local paper called “a traffic free-for-all.” But at least it precipitated no major act of violence as had occurred the previous summer. Then, a driver—apparently angry at long delays—fired a shot into a traffic sign on one of the area’s most crowded roads.

Gridlock isn’t unique to Atlanta, and it’s growing. Today U.S. drivers are logging 84 percent more miles than in 1973. That’s not surprising, given 45 percent more licensed drivers and 60 percent more vehicles on the road, but only a 3 percent increase in new highway miles in the same time period. Meanwhile, federal statistics show that almost a third of the most heavily traveled roads are in poor or mediocre condition, with an estimated 1,000 deaths per month from accidents in which the poor road condition was a factor.

In addition, there are some 575,000 bridges 20 feet or longer in the United States, and more than 180,000 of them are in need of repair. These include 70,000 bridges built in the 1960s that were designed to last 30 years—under 1960s travel conditions.

And these are only the problems with roads and bridges, and only in the United States.
There are some 575,000 bridges 20 feet or longer in the United States, and more than 180,000 of them are in need of repair. These include 70,000 bridges built in the 1960s that were designed to last 30 years—under 1960s travel conditions.

"I think we've all been living on borrowed time," says James M. Tien '66, recently re-appointed as acting dean of engineering. During his first tenure as acting dean, Tien established the center in 1993. "One example is the phenomenal number of bridges out there that need repair. We've got to build them for maintainability and also for eventual disposal."

Tien said that problems related to infrastructure and transportation systems will only continue to grow. "We can see clearly that the U.S. will have to look more and more at infrastructure issues, and although we're getting smarter we've yet to put in place the adaptive and intelligent systems we need to address these problems," he believes.

In years past, List says, society met the needs of expanding populations by building more roads, bridges, and other civil engineering works. Indeed, after Rensselaer became the first U.S. school to grant a degree in civil engineering, in 1835, its graduates played major roles in building the roads, bridges, canals, dams, and other civil engineering works that fostered the growth of the country. (See sidebar, page 20.)

Today's goal, however, is to apply sophisticated technologies and methods to preserve and better use existing facilities, and to plan and design new ones.

"New large-scale construction is fading, even in developing countries," says William "Al" Wallace '61, director of research for CITS and professor of decision sciences and engineering systems. "What's changed is the rapidly increasing use of information technology to bring a big payback from the retrofit of existing infrastructure. Rensselaer's contribution has value because of our strengths in IT, which is really our niche market, and in smart materials."

The highway engineer's bane—the joints between sections of the road—offers one example of where these unique capabilities are making a difference. These joints are weak points. When they fail, road deterioration sets in.

"We are working on a new highway gasket that will actively expand and contract according to the needs of the moment, thereby preserving the roadway. The joints need to be able to sense external conditions and react to them, and information technology will give them that capability," Wallace says.

**Smart roads**

The center places a key focus on intelligent transportation systems because they hold so much promise for better, safer roads.

While the traditional solution to traffic congestion would be an expensive new road or additional lanes, the intelligent solution might be the addition of electronic sensors, embedded in the road and tied to an information system. The data would be passed along to drivers as minute-by-minute traffic updates that would enable motorists to make informed decisions about routes and speeds, and to avoid tieups and hazardous conditions.

"It's desirable to have cars and highways interact. Just think about the early days of aviation, when airports were only a place to take off and land. As various systems were developed to track planes, to gather weather data and to communicate, far more information became available to the pilot. It's common now to fly under instrumented control from one airport to another," List says, and as a result there are high levels of safety and regular flight schedules despite variable weather and crowded skies.

"On the ground, it used to be that you built roads, and vehicles moved over them, and that was it. Now, we're seeing a more direct tie between the vehicles and the road. The road monitors them and also monitors itself, and the vehicles are getting the data," List says.

That's the thinking behind one of the center's showcase ITS projects, the I-90 Connector, a three-mile, four-lane stretch of highway that by the year 2005 will run between Exit 8 of Interstate 90 and Hudson Valley Community College, passing through the Rensselaer Technology Park.

The I-90 Connector will serve as a national "test bed" for developing and experimenting with ITS technologies like traffic management systems, in-vehicle navigation aids, and road-embedded sensors. "Information technology will be the most visible aspect of the project," List says. Engineers will be able to monitor every aspect of traffic flow by means of a ring of video cameras positioned near the top of the WRPI broadcast tower located in the Tech Park.

In the future, List says, drivers could avoid traffic tieups like the one in Atlanta with the aid of these ITS technologies. In the case of the I-90 Connector, people moving to and from places such as the Rensselaer Tech Park and Hudson Valley Community College will be able to spot the congested location ahead of time and plan their trip, ahead of time and while en route, to avoid delays. No more surprises will occur along the way.

Through the efforts of Senators Alfonse D'Amato and Daniel Moynihan and Congressmen Michael McNulty and Gerald Solomon, the I-90 Connector project has so far received almost $1.5 million from the federal government and New York state for engineering studies and preliminary design, out of a total cost estimated at $33 million. Rensselaer, Hudson Valley Community College, Rensselaer County, and the town of North Greenbush are the project's core constituents within a broader working group that includes state and local government and local business.

The design work is being performed by Parsons Brinckerhoff Quade & Douglas, a firm headed by Michael Della Rocca '77, who sits on Rensselaer's Civil Engineering Advisory Board.

In other ITS-related work, Rensselaer is one of only seven institutions to have received a "Professional Capacity Building" contract for educational services from the Federal Highway Administration, where ITS is a major emphasis. Under the contract, Rensselaer will develop and conduct national and local educational programs, and develop training tools for highway professionals in the area of intelligent transportation systems.

The center is presently working with Rensselaer's Academy of Electronic Media and Office of Continuing and Distance Education to utilize advanced educational technologies in professional training and
education for intelligent transportation systems.

And, Rensselaer is collaborating with the Intelligent Transportation Society of New York and with the Civil Engineering Research Foundation, affiliated with the American Society of Civil Engineers, to develop educational programs.

**Varied research**

As important as it is, ITS represents only one of the center's research thrusts. Federal, state, and local governments and private industry are working closely with center researchers on many other projects.

- Despite the promise of the North American Free Trade Agreement to speed border crossings, trucks often wait for hours in long lines. Under a $100,000 contract from the Buffalo and Fort Erie Public Bridge Authority, Rensselaer and Cornell University researchers are looking at ways to speed things up at the Peace Bridge crossing into Canada, near Buffalo, N.Y. The idea calls for creating a pre-approved packet of computer data that identifies the truck, driver, and contents, so that when the truck reaches the border all the information is immediately available and all the guard needs to do is to confirm it. Initial indications are the system can reduce time spent in inspections by up to 40 percent.

- Under a Sandia National Laboratory-sponsored contract, CITS researchers are looking at defense-related issues dealing with the safety and security of waste-management movements within the U.S. They are examining which types of wastes should be moved, when they should be moved, and where to move them. The team is developing complex routing algorithms that address these and other concerns.

- Materials science is an area of keen interest for center researchers. Researchers are using finite-element analysis to understand materials down to the atomic level, investigating composites for bridges, and studying high-strength concrete and geotextiles.

- Other CITS researchers are creating realistic models of pedestrian flows and driver behavior, such as how and why drivers update their decisions when they have new information.

- The center is working with New York state to create a database of environmental factors that relate to transportation construction projects, such as impact on wetlands and cultural resources, and hazardous materials concerns. The goal is to apply the database on a regional level for consistent tracking, reporting, and implementation.

- The center also conducts one of the largest Undergraduate Research Programs at the Institute, where students from all five schools have pursued more than 200 infrastructure-related projects.

**A Rensselaer education**

Rensselaer is also developing educational programs in ITS. The university has new certificate and degree programs in the works, in such areas as civil infrastructure and sustainable development. One or more of these programs will not only be offered on the Rensselaer campus, but also at remote sites via Rensselaer's distance-learning satellite program, RSVP.

Sciences Institute is forming as a joint initiative among the departments of civil engineering and computer science and the School of Architecture. It will be affiliated with CITS and offer degree concentrations focused on sustainable development. These will be targeted at mature students who hope to work in parts of the world where there is extraordinary construction activity, such as Shanghai, China. The goal is to create professionals equipped to lead world development in the 21st century. Team-based case studies will be the centerpiece of the concentrations, and List says the goal is to have the first students by mid-1999.

**Remarkable record**

As we approach the 21st century, the civil engineer's challenges, methods, and tools are far different from those of the Institute's earliest civil engineering graduates. Those involved in designing and building today's civil works might not even be civil engineers per se, but may come at it from computer science, materials, or other viewpoints.

In addition, Rensselaer's tool kit includes prowess in smart materials, the ability to develop new tools for industry professionals, professional distance education with a global reach, and its historic commitment to both education and research.

But just for a moment envision Rensselaer's faculty and graduates standing shoulder to shoulder in a long, unbroken line from the early 19th century to today. No matter where we might look along that line, we would find Rensselaer people with a major role in making the world a better place.

Despite the almost inconceivable changes that have occurred in the world since the founding of the Institute, Rensselaer and its Center for Infrastructure and Transportation Studies remain committed to building, maintaining, and improving the infrastructure that will take us into the next century.

**Are You On Our List?**

When the Transportation Research Board, a unit of the National Research Council, holds its annual meeting in Washington, D.C., it represents one of the largest groups of transportation and infrastructure professionals in the world.

CITS holds a Rensselaer reception during TRB's annual meeting. More than 200 Rensselaer alumni and friends from the transportation and infrastructure industry have had the opportunity to make connections, both with each other and with Rensselaer.

This year's TRB meeting is scheduled for Jan. 10-14, 1999, in Washington. A Rensselaer reception is being planned for Jan. 11, 1999.

Rensselaer would like to compile a comprehensive list of alumni in the transportation and infrastructure industry. To make sure you're on the list and to receive an invitation to the reception, please write: George List, Center for Transportation and Infrastructure Studies, Rensselaer Polytechnic Institute, 110 8th St., Troy NY 12180. Or call (518) 276-6362; or e-mail listg@rpi.edu.
"The Rensselaer Experience" has changed much over 175 years. Leadership opportunities abound, arts and culture are thriving, and student life is, well, lively!

By David Haviland '64
I remember vividly, it was September 1960. We, the Class of 1964, had taken our seats in West Hall Auditorium. Beanie-bedecked, we were about to endure the next step in Freshman Orientation. The class had assembled and we were about to hear from the dean and from the faculty. This was it: The RPI experience was ready to begin!

The room was hot and we were uncomfortable. Some looked around to catch sight of the lone female in our class: Who was she and why did she choose life among 800 men? Others were intent on learning more about their roommates and hall-mates.

Me? I was scared. In a small high school, I knew everyone and did everything. The sea of faces around me gave me pause; surely they had done the same at their high schools, and now I was in a big pond. And, did I really want to get to know the dean sitting up there, or would I do better laboring in obscurity and out of his sight?

Like many sitting around me, I had done well academically in high school. How well would I do at RPI? What would that faculty member up there on the stage think of my high average in high school? Or, would I be better off keeping out of his way too?

Finally, in those uncomfortable seats on a warm September evening, I wondered this: What kind of place was this new school? Where would the next years take me?

Fast forward to July 1998. I have spent nearly 40 years at Rensselaer—as student, researcher, faculty member, academic dean, and vice president. Now it is I who stands at the front of Darrin 308, about to address the incoming Class of 2002 at their Student Orientation. It occurs to me that these bright, eager young women and men are asking the same questions I did: What kind of place is this, and how will I do?

I tell them this: They will do well. We have chosen them carefully, and they have chosen well in selecting Rensselaer. They are builders, and Rensselaer is a magnificent workshop, full of raw materials, like-minded co-workers, supportive mentors, great imagination, and extraordinary ingenuity. In this workshop, the Class of 2002 will build structures, machines, software, simulations, communications, organizations, and even companies. They will do what Rensselaer students and alums have done for nearly 175 years: They will build the world, and for the Class of 2002, this means a new century as well.

The workshop is an apt analogy. Today's student workstyles, and even their lifestyles, resemble life in a workshop in many ways: Today's students do much of their academic work in groups and teams. Drop in on classes, and you will find group discussions, studios, small-group break-outs with flip charts, and groups of students electronically linked in a "collaborative classroom." This is not to say lectures are dead, but the lecture is no longer the be-all, end-all I recall in my student days. Places like Walker 303, Ricketts 203, Troy 101, and the Sage Lecture Hall will live in infamy!

(Here's a side note: Rensselaer has just renovated the Troy Build-
ing, creating state-of-the-art classrooms for some of our award-winning teaching methods. Troy 101, created in the late 1950s for the "new educational technology"—rear-screen projection and television—is now a studio featuring the latest wave of technologically infused teaching. What comes around...

Look in offices, laboratories, and conference rooms, and you will see students working on research and other projects. Some undergraduates participate in faculty research work. Others are challenged to take ideas invented in class to the next level, perhaps preparing a patent application or a business plan. Today, many campus jobs are tied in some way to students' disciplinary and professional interests. Gone are the days when the only available work-study jobs were washing dishes in the dining hall.

Speaking of dining halls, alumni of my vintage won't recognize the Commons, the Freshman Dining Hall. The room resembles a food court—with salad bars, grill and wok stations, dessert tables, etc.—and is open for continuous dining throughout the day. Thinking back, I cannot remember a single meal my freshman year for which I did not stand in line!

Visit Rensselaer's student union at night and you will encounter groups of students all over the place, dissecting a problem, preparing an analysis, designing a process, or structuring a PowerPoint presentation on someone's laptop. The subject is probably academic, but it might also be a club activity or project. In my time as a student, "group study" was a euphemism for a bull session that inevitably devolved into a card game or perhaps into a few beers (or more). Laptop? Well, it meant something else! (How many out there remember the name of the faculty member who advised the sometimes-raunchy campus humor magazine in the early 1960s? Does Prof. Sencer come to mind?)

Today's workshop extends far beyond the walls of the classroom or laboratory. As an example, the Rensselaer Union has become a giant hothouse for entrepreneurial activity. The Union is in full command of its budget, directing scarce resources to the full range of student interests. Today this includes 130 student organizations as well as concerts, coffeehouses, dances, readings, trips, and a huge community service program. Entrepreneurism abounds: Students can form organizations around common interests (yes, there is an X-Files Club!). The student Executive Board considers a club budget as a subsidy; each organization is expected to take its own steps to raise revenue and fulfill its business plans.

Student entrepreneurship has remained a constant during my time at RPI. As an example, consider what we know today as the Mary Jane and Hugh M. Archer '37 Center for Student Leadership Development. In 1985, Rensselaer students saw the need to learn leadership and followership skills. Four years later, the Union created the Archer Center to provide team-building and organizational development instruction to clubs, fraternities, and anyone else with an interest. Last year, the Archer Center touched 4,000 students in a varied program of activities ranging from one-hour "Slice of Leadership" luncheons (yes, it's a pizza slice!) to daylong workshops (the Fall Stu-
dent Leadership Conference was sponsored by GE and attracted 300 registrants) and a required course sequence in the Lally School of Management and Technology. Today, the Archer Center is admired around the world.

The Archer Center is a terrific case study in student initiative. Those founding and funding the center (the majority of funds come from the Union) saw a need, understood strategic importance (now, the Institute's stated mission is to "educate the leaders of tomorrow in technologically based careers"), and got it done. Many faculty, particularly those renovating their courses to include teamwork, have seen the value in including segments on team building, cross-cultural communication, ethics, and styles of leadership and followership in their courses and have brought Archer Center into the academic mainstream. This year, the School of Engineering is rolling out an Archer Center-taught professional development program for all its students.

I must say: I don't recall widespread student initiative in the early 1960s. It's true, a small and important subset of student leaders had terrific leadership experience. (Remember when Phalanx truly tapped new members? I will say today's tapping ceremonies are a little more civilized!) Today, hundreds of students have, and take advantage of, opportunities for leadership, both in and out of the classroom, and both on and off campus. I am very heartened when I think about the influence these students will have in the coming century.

It's still true that fraternities can provide outstanding leadership and followership experiences. This hasn't changed in 40 years. There are only a few fewer fraternities (some of the reductions came from mergers) and now we have another Greek species on campus: the Sorority (more than a quarter of the campus is now female). The Interfraternity Council (IFC) shares the stage with the Panhellenic Council, and we have created the Alumni Inter-Greek Council for advisers and house corporations.

Ten years ago, Rensselaer and its Greek organizations negotiated a formal statement of relationship. Each gained a set of rights and accepted a set of obligations to keep the system strong and to focus on the common goal: leadership education and practice. As I watch

This year's undergraduate enrollment includes more than 1,100 women, and that's about 1,099 more than in the early '60s.
Greeks under attack in many quarters, our system has remained strong and a vital force in the lives of many students (30 percent of the men and women are Greeks).

In the 1960s, the fraternities were often seen as beacons in an otherwise gray landscape populated by a lot of hard work, crummy weather, and not a few faculty for whom a "C" was reserved for extraordinary achievement! Thanks to global warming, the weather doesn't seem as onerous. While the faculty hold "rigor and relevance" to be as important as "knowledge and thoroughness," we don't have any whose first names are "2.0."

This is not to say there weren't other bright spots on the '60s landscape. Big-name concerts brought us together: I especially recall Dave Brubeck, The Kingston Trio, and Peter, Paul and Mary (how's that for dating oneself?). IFC Weekend, Saturnalia, and Soiree were major events, requiring weeks of planning and days of execution (how about a booth requiring 1,200 Bud cans all glued together?). When cold weather arrived, hockey brought us in full frenzy to the high altar of ice.

Reflecting on then and now, perhaps the biggest change in Rensselaer student life lies in its very breadth. Most students are involved and engaged—with their classmates, with their professors and others doing research, and with like-minded students in some form of student enterprise.

Engagement extends to every facet of campus life. A work-study student in my office last year was into—and I mean into—ballroom dancing. This student organization includes more than 100 members and, like similar groups at other colleges, has brought ballroom dancing to a competition sport where dancers seek excellence as well as just good fun.

Music and performing arts are enjoying similar attention. Two years ago, a committee of students, staff, and alumni assembled a Rensselaer Arts Week. In only its second year, Arts Week grew to include a full month of quality performances. The emergence of electronic arts and music, as well as successful new H&SS majors like EMAC (electronic media, arts, and communication) are fueling increased interest in the arts.

And then there is athletics. Seven hundred of last year's 1,100 freshmen played sports in high school. Two hundred of them were team captains, already the kind of step up, take it on, get it done leader that is the Institute's "signature." Once on campus, two-thirds of these students play intramural sports. Many more join one of 23 varsity teams or 32 club sports.

Talk about progress! Last season's football team assembled a 9-1 record and played in the ECAC championships for the fourth time in five years. Yikes! I recall the loss streak that just about consumed my five undergraduate years. Today, success extends far beyond football: last season, 21 teams had winning seasons and 11 finished first or second in conference play. Our 11 women's teams have played a major role in expanding varsity opportunities for women on campus; today 35 percent of RPI letter-winners are women.

Women! This year's undergraduate enrollment includes more than 1,100 women, and that's about 1,099 more than in the early '60s. What's more, these students (as a group) did better than the men
Assembled at Student Orientation, we don’t ask them to “look to the left, and then to the right...” We challenge them to look only in one direction, and that’s ahead to the next century.

in high school and they do better than the men in their years at Rensselaer. They earn higher GPAs, graduate at a higher rate, and are more satisfied with their Rensselaer experience than their male counterparts. Quoting Ned Harkness, after meeting a number of our women athletes at an event not too long ago: “Where were these folks when I was at RPI?”

The complexion of the campus has changed in other ways as well. In the 1980s, Rensselaer became a national leader in educating African-American and Hispanic-Latino engineers. The Institute’s commitment to access goes back to its founding, but the last 20 years have seen the greatest strides. Returning to mission, Rensselaer educates the “leaders of tomorrow,” and tomorrow’s leaders must be effective in a world characterized by an increasing global perspective and diverse ethnic mix. Diversity is essential.

Programs for minority students emphasize professional as well as academic, social, and personal growth. When formed in 1979 under the leadership of Assistant Dean Eddie Knowles—today Eddie is Dean of Students—the Office of Minority Student Affairs placed special emphasis on professional enterprise. The Rensselaer student chapters of the National Society of Black Engineers (NSBE) and the Society of Hispanic Professional Engineers (SHPE) are recognized as leaders in their realms. As one example, NSBE and SHPE sponsor an annual career fair that brings 140 companies to campus to interact with all students seeking co-ops, internships, jobs on graduation, or just career guidance.

Back to the workshop. Even as the student experience has broadened, I find more and more students actively engaged in the business of becoming tomorrow’s leaders.

At all hours of the day and night, you can find students involved in planning, designing, and making things. Consider this assignment in Introduction to Engineering Design, a course taken by nearly all Engineering sophomores: Design, build, and test something that will enhance a game or a sport. From this simple-sounding charge, teams of students are challenged to think out of the box. Can a ball become interactive and thus an active partner in child’s play? What might help a cross-country skier scramble up rocky terrain? (After all, it can’t be all downhill!) Projects like this require total commitment and a high level of teamwork. They require both conceptual thinking and specific manual skills in the fabrication shop. In the end, the work must be presented and tested. If, for example, the goal is to enhance child’s play, then the judges will be who else but children?

The workshop is everywhere. Computers are so ubiquitous that Yahoo has declared Rensselaer the nation’s fourth most wired campus. There are endless planning sessions, meetings, workshops, and dry runs. Beyond the classroom, community service is at record levels, with classes, clubs, and fraternities and sororities piling up tens of thousands of community service hours each year. These students know they are being called to lead, and service to others is an essential component in leadership.

A mission to educate leaders insists that our students engage in opportunities to practice their growing leadership skills. This imperative has further expanded the number of ways in which students can become engaged. Many academic departments, as well as entities such as the Department of Athletics and the Student Health Services, have formed student advisory committees. Students carry important loads in Admissions, the Career Development Center, and the Advising & Learning Assistance Center. The senior staff member in every Rensselaer residence hall is a student. The Student Senate and the Union Executive Board are proactive groups, launching projects and addressing issues of importance to the student body as a whole.

Now, there’s something that hasn’t changed: the quality and commitment of Rensselaer students. Yes, fellow alums: They are, well, almost as good as we were!

The scene changes. I am no longer standing before the Class of 2002. Instead, I am standing before a class of 25 architecture students who are about to probe the pleasures of a contemporary building code. I look at these students, most of whom I am meeting for the first time. I remind myself: In this room are the future leaders of my profession. Someone here may win a design Gold Medal. Someone may invent a roof that won’t leak. Someone may lead our principal professional society. I ask: Who? I answer my own question: I don’t know. No one knows. I need to treat every one as a future leader.

Perhaps, herein lies the most significant change I’ve witnessed in the Rensselaer student experience over the past 40 years. The Institute has placed “tomorrow’s leaders” at the center of its mission, and thus at the center of its being. Assembled at Student Orientation, we don’t ask them to “look to the left, and then to the right...” (If you go back far enough, you remember the rest of it.) Today, we challenge them to look only in one direction, and that’s ahead to the next century with, of course, a full dose of knowledge and thoroughness.

David Haviland ’64 is uniquely qualified to examine the evolution of student life at Rensselaer. He holds or has held the Rensselaer titles of student, alumnus, professor, dean, Patroon, RAA Board Member, and (currently) vice president for student life at Rensselaer.
Now, on the eve of a new millennium and the beginning of our 175th year, we have good reason to celebrate.

This is our chance to say to professors, alumni, students, classmates, colleagues, and friends, "Now look what you’ve done!"

It’s a great opportunity to remember and praise the Rensselaer women and men who tackle tough questions, unravel mysteries, create modern wonders, explore new worlds, transform learning, and improve our lives.

They haven’t stopped since 1824.

So join the celebration—it’s about you!

You’re Invited!

The Institute will be buzzing with 175th Anniversary activities and events throughout the coming year, and alumni especially are encouraged to take part in the celebrations. We hope you’ll plan to visit campus and view the many exciting things happening here today.

And if you can’t make it back to campus, Rensselaer may be coming to you! Rensselaer Alumni Association regional chapters are busy planning special events to help commemorate the occasion.

Following is a listing of events planned thus far. A host of annual Institute events throughout the year also will take on a 175th Anniversary flavor and feel. Visit the 175th Anniversary Web site (www.rpi.edu/web/175) often for updates and additions to the schedule.
been designing destiny.

Sept. 12 1998 175th Anniversary Greek Week Kickoff
The 175th Anniversary Greek Week is dedicated to sharing the talent, resources, and diversity of Rensselaer’s vibrant Greek culture. Campus and local community members are invited to Greek open houses, a field day, entertainment and games, team-building activities, and special community outreach projects throughout the week.

Contact: Frank Zadroga; (518) 273-9507; zadrof@rpi.edu.

Sept. 22 Laurie Anderson’s “The Speed of Darkness”
Audiences interested in the merging of technology and art are invited to this performance at the Troy Savings Bank Music Hall. Multimedia performance will present an informal “meditation on the future of technology.”

Contact: Dawn Edgar; (518) 276-4778; edgard@rpi.edu.

Sept. 26 FallFEST 175-The 175th Campus Celebration
Students, faculty, staff, local alumni, and their families are invited to campus for a fun-filled day of education, entertainment, and enjoyment. The Armory will come alive with hands-on exhibits, children’s activities, and a free picnic for all. Plus, fans are invited to a special half-time show at the annual Transit Trophy football game on ’86 Field.

Contact: Judy Austin-Rancourt; (518) 276-2832; austin@rpi.edu.

Sept. 26 175th Anniversary Gala Celebration
The annual dinner celebration honoring Rensselaer’s Patroons will also include the inaugural Hall of Fame induction and the commencement of Rensselaer’s 175th Anniversary celebration. By invitation only.

Contact: Paula Bentley; (518) 276-8569; bentfmr@rpi.edu.

Fall 1998 Rensselaer in the Regions
If you can’t make it back to campus, let Rensselaer come to you! Alumni chapters in the United States, Asia, and South America are planning exciting events that will showcase “Rensselaer today” and capture Rensselaer’s history in a brief presentation. Check with your local chapter for further details about events in your region. Regional events scheduled so far include: Long Island (Oct. 14), Southern California (Oct. 24), and Cincinnati (Oct. 25).

Contact: Lisa McGrath; (518) 276-2737; mcgrath@rpi.edu.

Oct. 16-18 Celebrating 100 Years of Latino Presence
One hundred years ago, the first Latino student organization on any U.S. college campus—Union Hispano Americana—was founded at Rensselaer. To commemorate the occasion, the weekend will include entertainment, displays, roundtables, and a celebration dinner and dance. Rensselaer also will celebrate significant anniversaries of other Latino student groups, including Alianza Latina (20 years), the Society of Hispanic Professional Engineers (15 years), and the 20th Annual NSBE/SHPE Career Fair.

Contact: Adam Ortiz; (518) 276-6272; ortiza@rpi.edu.

Nov. 6 Founder’s Day 1998: “The Magnificent Experiment”
When it was founded in 1824, Rensselaer was considered to be a radical departure from traditional schools of the day. At this symposium, expert historians will talk about life in 1824, the link between Rensselaer and the Silicon Valley phenomenon, and how it is connected to and the technological university. Pulitzer Prize-winning author David McCullough, host of PBS’ The American Experience and narrator of Ken Burns’ Civil War documentary, is a featured speaker.

Contact: Thomas Phelan; (518) 276-2039; phelan@rpi.edu.

March 26 and 27, 1999 Making a Difference: Women in Technology
At this two-day conference you will join technological leaders from academia, government, professional organizations, and industry. You will network, build personal and professional skills in hands-on workshops, and uncover future technology trends. Speakers to date include Rita Colwell, director of the National Science Foundation, Linda Sanford ’75, general manager for IBM Global Industries and Rensselaer trustee; and Mary Good, Rensselaer trustee and managing member of Venture Capital Investors.

Contact: Vicki Lynn; (518) 276-6203; lynnv@rpi.edu.

April 4-11, 1999 Space Week
In conjunction with the 30th anniversary of the first Apollo moon landing and the 40th anniversary of NASA, this weekend celebration (coinciding with GM Week ’99) will present some of Rensselaer’s impressive history of involvement in the space program. Dan Goldin, administrator of NASA, will kick off the week, which will also feature speakers on the space program from the perspective of NASA and its international counterparts, the astronauts, NASA contractors, and even the science-fiction world. And the Houston Field House will be turned into a “Space Museum.” The Space Week committee is seeking space-related artifacts and memorabilia to exhibit during the weeklong event. If you have something you’d like to share, please use the contact below.

Contact: Laura Tanski; (518) 276-6529; tanski@rpi.edu.

April 1999 Community Service Day
Rensselaer has long been a “good neighbor” in Troy. The Institute’s strong history of volunteerism and community service will come together for this day, when faculty, staff, alumni, and students will take part in a massive Community Service Project involving organizations and agencies in Troy.

Contact: Cynthia Smith; (518) 276-6505; smithc@rpi.edu.

April 9-11, 1999 20th Anniversary of OMSA
The Office of Minority Student Affairs is committed to supporting underrepresented minority and HEOP students at Rensselaer by facilitating academic excellence, leadership skills, and entry into professional careers. This 20th anniversary conference will include showcase exhibits, roundtables, workshops, and the annual OMSA Awards banquet.

Contact: Mark Smith; (518) 276-6272; smithm@rpi.edu.
Reunion '98 welcomed hundreds of alumni and their families and friends back to Troy for a weekend of campus tours and class gatherings June 4 through 7.

"The 40th Reunion of the Class of '58 was absolutely marvelous—an event which will live long in our memories," said Todd Walsh '58.

"Simply marvelous," echoed Arthur Goldstein '53. "The 45th was all it was supposed to be."

The Class of '58 just edged out the Class of '53 for bringing back the largest percentage of classmates, and for that they were named "Top Gun" by the Reunion Parade judges.

The Parade and the Reunion Picnic that immediately follows are festive events that bring together all returning classes for fun and a little friendly competition.

The Class of '68, dressed in red and orange tie-dyed polo shirts, won the award for best (and only) float, a rolling bed composed of "found objects" and assembled with duct tape by sculptor Larry Kagan '68. "Uncle" Sam Wait '53 led his patriotic class to a "Best Spirit" award, and Gary DiCamillo '73, chairman of Polaroid, provided all his classmates with cameras. In return, the judges named them "Most Photogenic."

For all returning classes true moments of camaraderie were the heart of the weekend. Bonds of friendship, formed from five to 50 years ago, were renewed and strengthened.

One special reunion took place among members of the Olympic lacrosse team that had traveled to England in 1948 and brought home medals for their Olympic exhibition play. They were honored by the attendance of their famed coach, Ned Harkness.

After a full weekend, goodbyes brought promises to meet again. "We each resolved, with firm handshakes and hugs," said Walsh, "See ya in five!"
Class Notes Deleted for Privacy Concerns
Rensselaer Alumni Association

Chapters Near You!
For more information on U.S. chapters, visit AlumServ or contact Heliena Fox at (518) 276-2794 or foxh@rpi.edu. If you'd like to learn more about the RAA's international chapters, contact William Shumway at (518) 276-8571 or shumway@rpi.edu.

- Austin, TX
- Baltimore, MD
- Boston, MA
- Buffalo, NY
- The Carolinas
- Chicago, IL
- Cincinnati, OH
- Dallas/Ft. Worth, TX
- Detroit, MI
- Finger Lakes Region, NY
- Georgia
- Hartford, CT
- Houston, TX
- Hudson-Mohawk Region, NY
- Long Island, NY
- Los Angeles, CA
- New Jersey
- New Mexico
- New Orleans, LA
- New York City, NY
- Northern California
- Orange County, CA
- Pittsburgh, PA
- Rochester, NY
- San Diego, CA
- Seattle, WA
- South Florida
- Southern Connecticut
- Washington, D.C.
- Westchester/Rockland

Chapters Abroad
- Hong Kong
- Japan
- Korea
- Malaysia
- Taiwan

Rensselaer Hockey on the Road!
With several former Rensselaer hockey greats in the limelight this spring, Engineers fever is running high. The Washington Capitals made their NHL Stanley Cup debut thanks in part to some clutch playing by Adam Oates '91 and Joe Juneau '91. Meanwhile, Neil Little '94 and Bruce Coles '91 helped bring home the AHL's Calder Cup for the Philadelphia Phantoms.

It's never too soon to start making hockey plans! Rensselaer fans in the metro New York area can catch the Engineers vs. the University of New Hampshire at Madison Square Garden on Tuesday, Dec. 22. According to head coach Dan Fridgen, the game was arranged to give college hockey exposure in a relatively new market in a professional venue (the New York Rangers play at the Garden). "It should be a great event and we are looking forward to seeing some New York City area alumni," Fridgen says.

Back at the Field House, former Rensselaer players will face off in the annual battle of Red vs. White during Alumni Hockey Weekend Jan. 30.

Alumni across the country can watch the Engineers take on the Clarkson Golden Knights in the seventh annual Satellite Hockey telecast Feb. 12. The game will be broadcast live via satellite to some 40 sites across the country.

The ever-popular Big Red Freakout takes place at home Feb. 20 as the team goes up against Dartmouth. From the pregame Ice House (complete with dinner and face painting) to the postgame dessert reception, Big Red Freakout is an event the whole family can enjoy.

For tickets or further information for any of these events, contact Peter Pedone at (518) 276-6061 or ppedone@rpi.edu.

Visit AlumServ, the Rensselaer alumni World Wide Web source, at http://www.rensselaer.ai. You'll find news, sports, and RAA information. Add yourself to the alumni e-mail directory, submit class notes, update your address, find your local chapter contact, or catch up on the latest Rensselaer news on AlumServ.

Moving?
We don't want you to miss a single issue of Rensselaer! If you've moved or are planning to move, please let us know your new address as soon as possible. You can update it electronically on AlumServ, e-mail us at alum.mag@rpi.edu, or write to: Rensselaer Magazine, Office of Marketing and Media Relations, Rensselaer Polytechnic Institute, Troy, NY 12180. Or call (518) 276-6531.
Rensselaer's founders designed the destiny of this great Institute. Our diverse students today continually give it life. Our dedicated alumni, though, will help it live for the next 175 years.


Whether this is your first gift of $17.50, an increase in your annual gift by $175, or if you decide in this anniversary year to join Rensselaer's dedicated annual supporters—the Patroons of Rensselaer—with a gift of $2,000, your participation matters.

This is a very special year. Join the excitement.
Join the Celebration!
www.rpi.edu/web/175