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TECHNOLOGICAL UNIVERSITY



ALUMNUS LEADS RESTORATION OF LANDMARK

COMPUTERS CHANGE EDUCATIONAL PROCESS

GRADUATE PROGRAMS GROW

PLUS ALUMNI NEWS AND MORE!

Autumn 1990

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About the cover: One of the most exciting additions to today's Detroit entertainment scene is the rebirth of the venerable Fox Theatre. Alumnus Dennis Evoe, Ar'72, was in charge of the massive restoration and the story is in this issue. Photo of the Fox Theatre's grand lobby is by Balthazar Korab.

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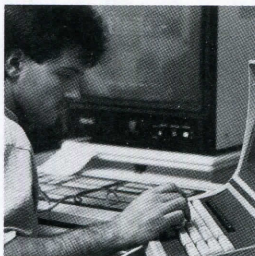


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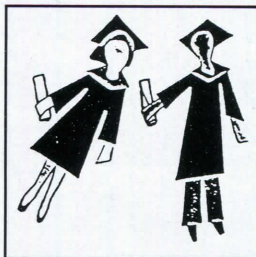
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1 Foxy! — Alumnus Dennis Evoe helped restore the magic at Detroit's grand old entertainment palace, the Fox Theatre. There have been rave reviews ever since.

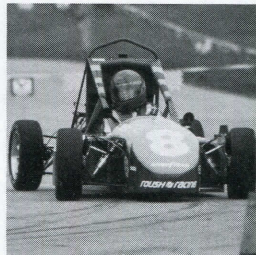


5 An Accelerating Pace — A trio of stories on the rapid growth of computer resources and the impact of computers on education at Lawrence Tech.



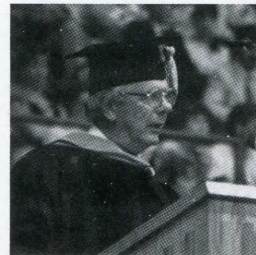
11 'Pipeline Dilemma' — Unless more students choose careers in engineering, the midwest region and our nation face grave problems ranging from loss of jobs and

industrial leadership to infrastructure deterioration, waste management, and national security problems.

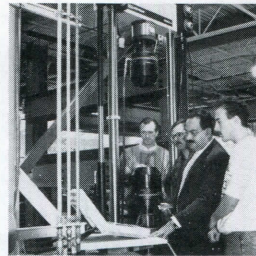


12 Winning Formula — Engineering students from across North America came to Lawrence Tech this spring to find out just who was "driven to win."

15 'Crying Giant?' — A controversial Japanese politician visited campus and offered Americans some tough talk on competition and trade with his country.



17 'The Long View' — Chrysler Motors Chairman Ben Bidwell offers advice to Lawrence Tech's newest grads.



19 On-Campus — A new dean takes reins in architecture, a new master's program in engineering, students win SAE

mini-Baja, campus champion Lew Veraldi is mourned.



32 Alumni Association News — Busy schedule for Association members, reunion wrap-up, and new officers announced.

35 Alumni Notes — Advancements, moves, and other news from Lawrence Tech and DIT grads near and far.

Welcome!

Welcome to the first issue of your new Lawrence Technological University Magazine! The Magazine you're holding represents a renewed commitment to keep you, as a member of the Lawrence Tech community, better informed about the events, personalities, and activities associated with this university. Readers of the old magazine will find that much of what made that publication popular remains the same. However, in this and issues ahead you'll see new features and other improvements all designed to help you know and understand the many contributions being made by alumni, faculty, students, and staff here at Lawrence Tech. Let us know what you think.

Bruce Annett
Director of University Relations and Alumni Services



BALTHAZAR KORAB PHOTO

A rare performer's-eye view from the stage, facing the Fox Theatre's opulent auditorium and balcony.

FOXY!

Detroit's venerable Fox Theatre has staged a comeback following a massive renovation coordinated by alumnus Dennis Evoe, Ar'72

Something magical has happened at Detroit's old Fox Theatre, and as the Gershwins might have said, "S'wonderful! S'marvelous!"

The grand old movie palace — the largest remaining in the world other than New York's Radio City — has risen like a phoenix after surviving more than 60 years of use, many of which marked periods of deterioration and neglect.

Little Caesars Enterprises, Inc. saved the historic building from the wrecker's ball by making it the world headquarters for the fast growing food service company. Today, the 5,050 seat theatre and ten story office building is restored and renovated. Costumed and lit,

like a hit Broadway musical — the "Fabulous Fox" has staged a comeback!

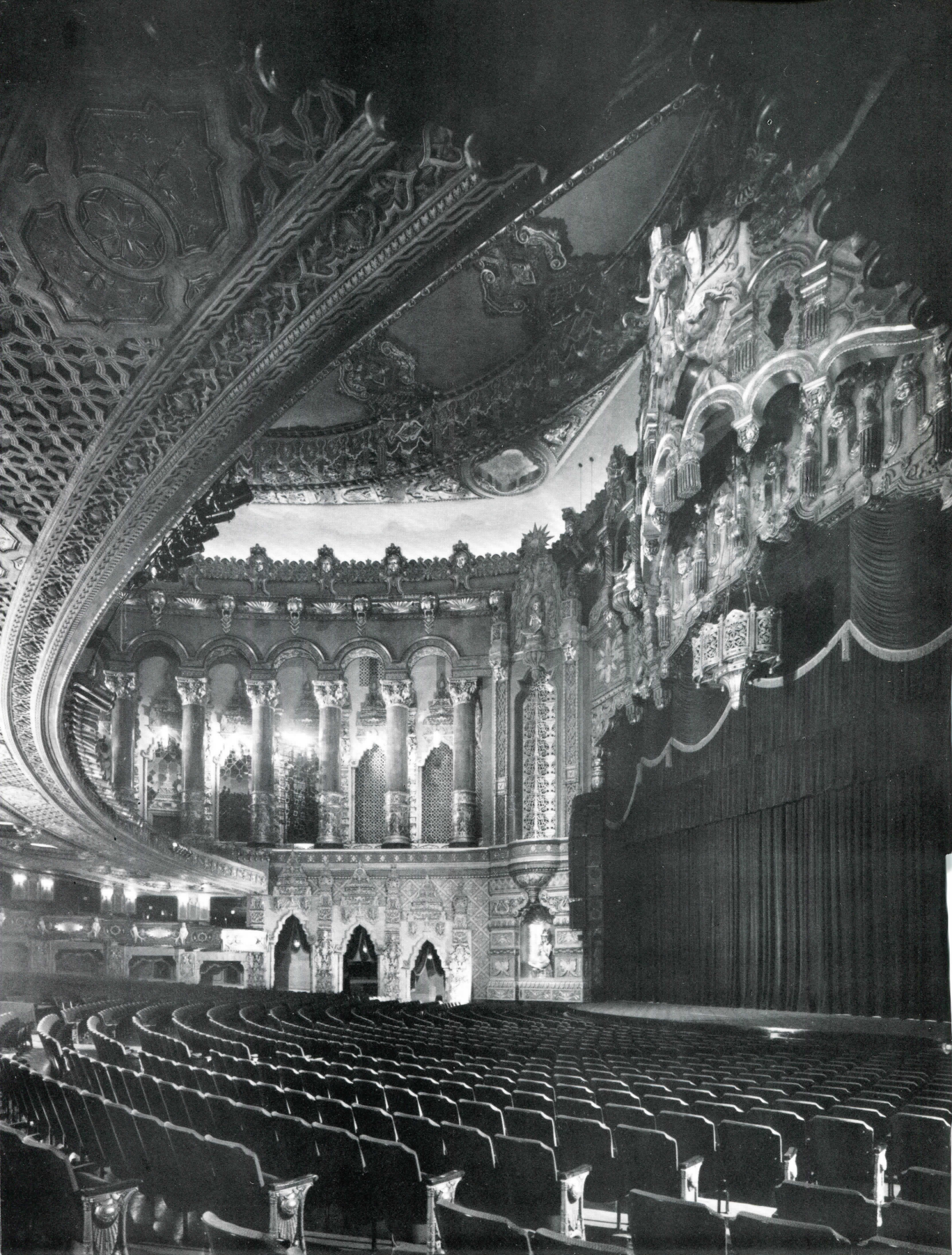
Alumnus Dennis Evoe, Ar'72, vice president of architecture for Little Caesars, coordinated the massive renovation and construction project that includes an innovative new four-story atrium in the office building, built directly above the theatre. Detroit architect William Kessler, president of William Kessler & Associates, Inc., created the plan for the revamped office building and atrium that serves as the dramatic entrance to Little Caesars corporate headquarters, moved downtown to the Fox Building from the suburbs.

Little Caesars Enterprises, led by president

and chairman of the board Mike Iltich, invested \$35 million in the project overall with the hope that the Fox Building will help spark the redevelopment of Woodward Avenue and the resurgence of Detroit's theatre district. The project includes the office building, theatre, and a new parking garage that serves both.

Directing the rehabilitation of an exotic movie palace and office complex was a new role for Evoe, who usually supervises the preparation of new Little Caesars outlets opening at a rate of two per day.

As conceived in 1928 by its architect C. Howard Crane, the Fox Theatre is a glamorous mix of Far Eastern and Art Nouveau decorative styles, complete with fanciful dream-like cast



plaster figures, jeweled woodwork and marble floors. Sadly, the ravages of time and layers of dirt had dulled their luster.

When Evoe got involved, the heavily carved and gilded plasterwork was black with age, the brass fixtures were tarnished, and the porous Belgian marble panels on the ticket booths had deteriorated.

Legions of craftspeople, artisans and restoration specialists — some of whom were local residents formerly out of work — were trained in the delicate art of removing the accumulated dirt and grime with special cleaning solutions. Under their meticulous care the sumptuously opulent interior soon began to shine again.

During a visit in the middle of the nine-month theatre project two years ago, Evoe led a guided tour to demonstrate how the restoration was being accomplished.

Electric cords and conduits lay covering beautiful terrazzo floors that had been buried for years beneath layers of threadbare carpet. Scaffolding was everywhere. But, one could enter the lobby and look up to see the great vault of the ceiling that soars four stories overhead upheld by heroic red “marble” columns. Azure, emerald and ruby stained glass “jewels” shimmered in the light of the worker’s lamps. Gilded niches grace the walls. The great marble staircase, guarded by inscrutable stone lions, tirelessly awaited the arrival of potentates and movie moguls from the past.

Going to the movies here involved much more than watching just the silver screen!

“The Fox Theatre — with its Moorish tent atmosphere, and 5,050 brocade covered seats — is one of the largest and grandest movie palaces remaining in the world,” said Evoe. “William Fox planned to use this as a prototype for six other theatres he hoped to build. The architectural motifs are truly spectacular.

“Siamese Byzantine” or “Cambodian Gothic” is the way some people describe it,” he said laughingly, “but when you enter the theatre for the first time the effect is awesome.

“The red ‘marble’ columns that had to be cleaned or restored are really scagliola,” Evoe explained. “It is a mixture of plaster, glue and pigments. It is applied with a trowel or mold, then oiled, rubbed and polished until it gleams. It’s definitely not fake marble. It’s an authentic material that artisans use to achieve color and veining not found in natural materials. Its use dates back to the Roman emperors.”

He pointed out massive holes being filled where ill-conceived ‘50s-era concession stands had been hacked into the bases of two

Left, the 5,050 seats and incredible craftsmanship in the Fox Theatre made it one of the largest and grandest movie palaces in the world. Today, the Fox hosts a variety of entertainment venues.

columns. (The repairs are now invisible to current theatergoers.)

“Water leaking through the roof damaged the ceilings and plaster everywhere,” he continued, “but we found a skilled artisan, right here in Detroit, who knew how to make molds to recreate the damaged areas. To restore the ceiling we put artists up on this scaffolding — like Michelangelo in the Sistine Chapel — applying paint and glazes.”

The tour led on to the main auditorium where a giant chandelier, thirteen feet in diameter, had been lowered to floor level on the end of a chain.

“It’s like a living room inside,” Evoe smiled. “We can actually climb into the fixture to change the light bulbs. The original steam heating and cooling system was also restored. The motors are well built and usable and the water filter system that cleans the air actually works as well as any electronic air filter.

“The office building had been unoccupied since 1977,” he added. “Its 1920s origin meant it had the typically low ceilings of the



While overseeing the opening of hundreds of pizza outlets each year, Dennis Evoe, Ar 72, found restoration of the Fox Theatre a special opportunity. He holds new carpet samples milled to match a fragment uncovered in original pristine condition under the theatre’s huge organ console.

period and no air conditioning. With just eleven feet from floor to floor, we had to work with eight foot ceilings and fit the ducts in that space. The historically significant corridors with glass doors and transoms have been retained, but the office space is completely remodeled.”

Back in the theatre and up several flights of stairs, a hallway richly decorated with a Peacock motif leads to the massive free-span balcony. The ascent continued across a metal catwalk to the projection booth. From this vantage point — six stories above the stage — we mounted the temporary scaffolding that encircled the ceiling of the main hall, like

mountain climbers approaching the summit. A small wooden bridge led to a platform high above the auditorium floor.

The forest of scaffolding, with more than 2,000 sections, was an engineering feat in itself, but the gilded elephant with a jeweled crown at the peak of the proscenium arch was the main attraction. Workers with buckets of water and trisodium phosphate were tenderly bathing the pachyderm and carefully washing the cast plasterwork. Stained glass jewels as big as ostrich eggs that had “disappeared” into tons of accumulated grime had begun to emerge. Plaster “tassels” as big as fence posts and giant golden spears defined the perimeter of the ceiling, shaped in imitation of a huge tent.

Ray Shepardson, a theatre consultant who has been involved in the restoration of 22 theatres, and Sonya Winner, a restoration specialist, assembled a battalion of 200 workers to do the painstaking cleaning job.

“We specialize in cost-effective restoration. We want to be sure that no money is wasted,” Shepardson told us.

Evoe said they were able to save about 80 percent of the original finishes. Clearly, restoring and saving as much as possible was the key.

“Every day we looked for ways to reuse, re-implement, or re-create what was already there,” he explained. “The real trick was figuring out how to make what was there work!

“For example,” he continued, “we found a clean piece of the original carpeting under the big Wurlitzer pipe organ. It was a gorgeous bright red with an elephant motif. A textile mill used a computer to recreate the carpet for us. Fact is, it does not cost any more to get a strike-off of a special pattern than it does to buy it off the shelf. We also had a mill copy the original brocade monogrammed fabric for the theatre seats at a very competitive price. When you are dealing in volume — 5000 seats — any mill loves to do it.”

“Every job is different,” Shepardson observed, “and every job requires a new set of skills, so we usually find a different group of local craftsmen and artists for every project. Then we work with them and train them so they will be here to maintain the building after the restoration is complete.

“The management team that runs the theatre for Little Caesars was on hand working with the restoration team. They know more about the building than anyone else in the world and they understand exactly what it takes to maintain it.”

According to Evoe, the street lighting

outside the Fox has been restored in keeping with the original design. The molds for the original dual-headed acorn-style lighting fixtures on the Woodward facade were recast by Union Metal. A shopping arcade may someday connect the Fox and the nearby State Theatre, which has been rehabilitated.

"The City of Detroit is refurbishing the whole area," said Evoe. "They have improved the streets, put in new sidewalks, and added more lights. The Central Business District Association adopted a master lighting plan. Detroit's theatre district has a brand new ambiance.

"This was a real big undertaking," Evoe reflected, "because it all happened at once! It's the biggest project I've ever been involved in — a real challenge to coordinate.

"But Mike Ilitch was really committed to this effort," Evoe explained. "He feels that Detroit has always been good to him. I guess you could say this is his way of playing out the commitment he feels to the city that has given him so much."

During the 1988 "renovation in progress" tour, Shepardson predicted the Fox would be a hit. "Detroit is a great market for theatre!" he said then. "There are more than 4 million people in the Detroit metropolitan area. That puts Detroit in the big leagues — right up there with Chicago and New York."

In the nearly two years since the Fox reopened, many of the biggest names in entertainment have appeared on its stage — Hope, Sinatra, Cosby, and scores of others — much to the delight of the sellout crowds attracted from throughout the Midwest.

With the Fox project, Dennis Evoe has helped save an important piece of Michigan history. The legions of visitors who experience the magnificently restored Fox Theatre would also doubtless agree that he's helped rekindle some magic for us all. □ HCB

Goddesses, peacocks, elephants, and sprites — somehow they all tastefully come together within the eclectic surroundings of the Fox Theatre. The restoration and rehabilitation of the Fox Building heralded the beginning of what many hope will be a rebirth of Detroit's Grand Circus Park and theatre district area. And, about that elephant behind Evoe? It's at the peak of the proscenium arch in the theatre auditorium but appeared near his foot level during restoration, due to a huge temporary floor on scaffolding that allowed workers easy access to restore the ceiling areas.



BALTHAZAR KOCAB PHOTO



BRUCE ANNETT PHOTO



BALTHAZAR KOCAB PHOTO

AN ACCELERATING PACE

Rapid advances in
computer technology
spur growth of resources
at Lawrence Tech

The pace of technological development at Lawrence Tech is accelerating at an exponential rate as high-tech computer hardware and software reaches the market.

To provide students with vital current knowledge and experience, the University's computer network must be frequently updated to stay abreast of innovations. This essential effort is costly, but according to Dr. Richard E. Marburger, Lawrence Tech president, partnerships with alumni and industry are helping the University meet this challenge.

"Industry has provided state-of-the-art instrumentation for applied research projects that offer students opportunities to gain

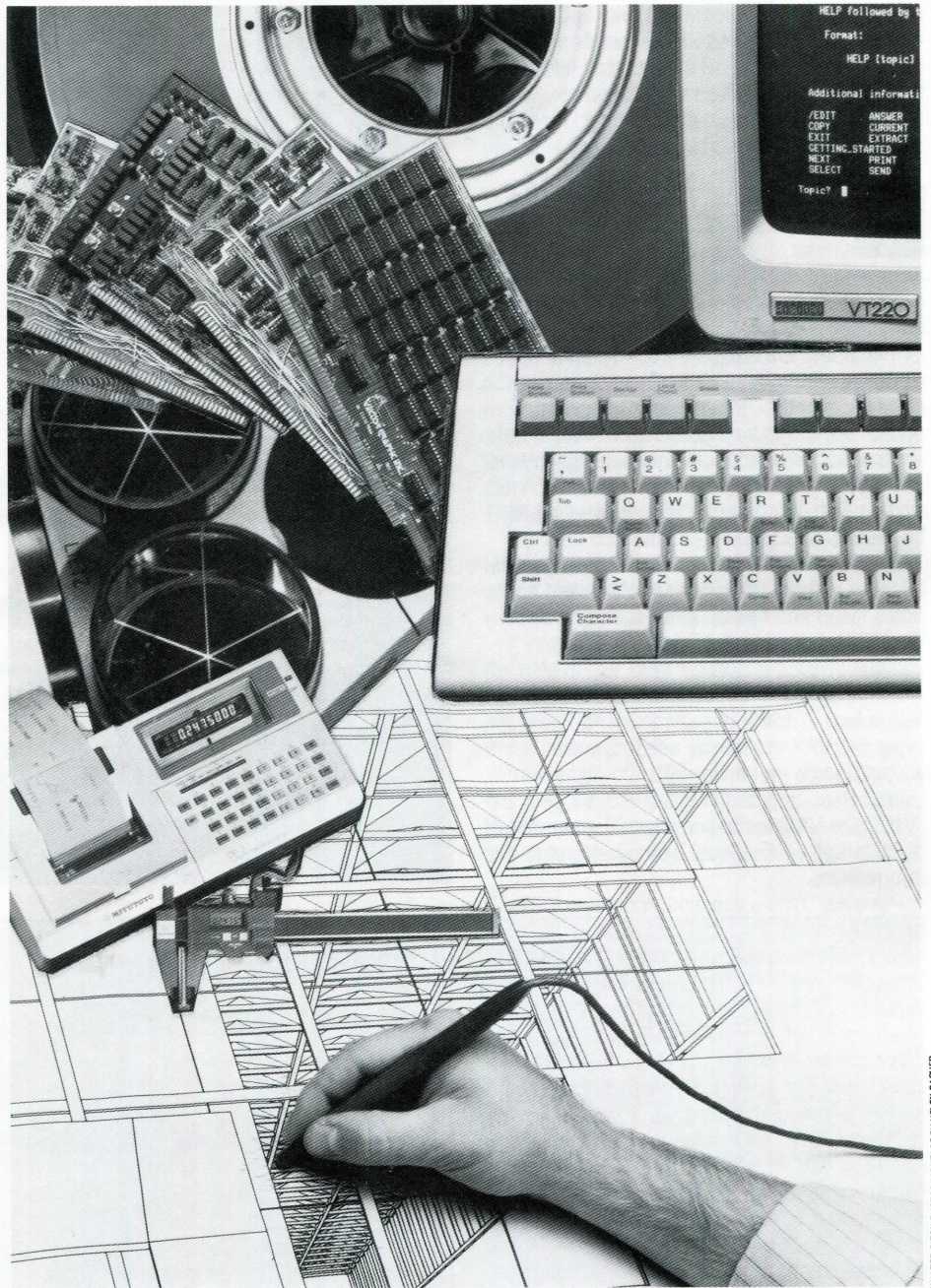
essential hands-on experience," Marburger explains. Alumni, the business community and foundations have also supported the University's efforts to sustain the development of laboratories and teaching environments that are needed to attract students and assure academic quality.

"Building from a solid foundation of contributory support and past administrative leadership, Lawrence Tech has developed a computer system that places it in the forefront of computer technology," he notes. "What is essential is that we maintain leadership in this area."

The nucleus of the campus-wide network of

computer services and technology supporting academic programs in the four colleges is the Edward Donley Computer Center. Resources include nearly a dozen Digital Equipment Corporation (DEC) mainframe computers and workstations that operate in a cluster configuration supporting a wide range of educational, research, scientific and administrative applications. Demand for these resources continues to increase.

"As technological advances and a competitive market keep lowering the cost of sophisticated computer and communications technology, the number of computer terminals on campus has increased dramatically."



WALTER BIZOW PHOTOS/MONTAGE BY HELEN BACHER

Marburger says. "Students, faculty and staff now have easy access to increasingly powerful computer hardware and increasingly 'user-friendly' software. This proliferation of technology is having an enormous positive impact on education here."

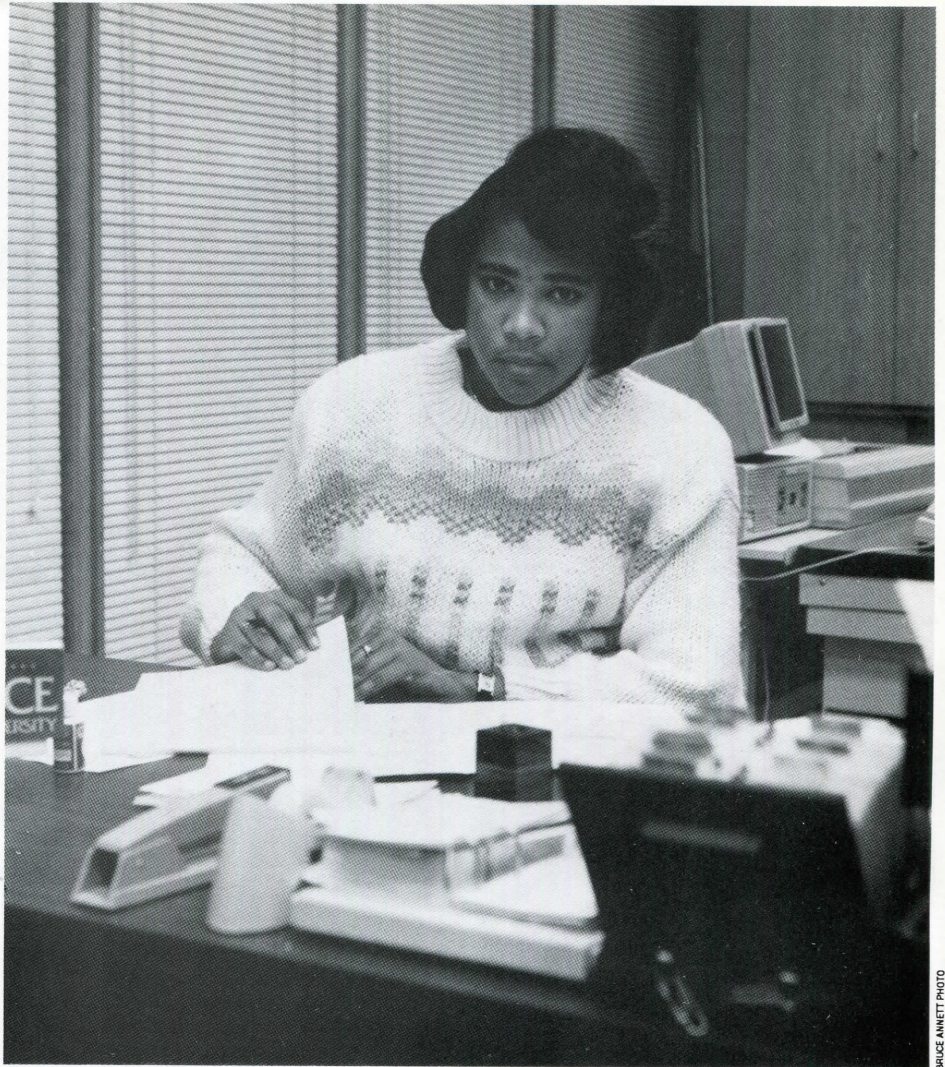
John Grden, EE'77, director of the University's Edward Donley Computer Center, agrees. He said Lawrence Tech has come a long way since 1961 when the first computer, a Burroughs Model E 102, was purchased.

"That first Burroughs E 102 had an 11 column keyboard similar to those on desk calculators of that era," says Grden. "The memory unit was a magnetic drum capable of storing 2,500 bytes of information. Nineteen years later, in 1980, we were using a META 4 system with 16 computer terminals — small by today's standards. The first DEC VAX 11/780 with 400 million bytes of disk storage was installed in 1982. Because the VAX ran 12 times faster and had 10 times the capacity of the META 4, the number of terminals on campus swelled to 100 by 1983.

"That was an impressive advance in technology in 1983," he observes, "but the expanded VAX system we use today can accommodate more than 500 simultaneous users. Operating on the latest version of "VMS" the VAXcluster provides 20 gigabytes of disk storage — that is 20 billion bytes of information.

"A byte," Grden explains, "contains 8 bits, or binary digits. Each byte represents the binary code for a single character. Computers store this information on disks that have the capability of holding millions of bytes (megabytes) of information. One component of the cluster, Lawrence Tech's VAX 8700 alone, provides a processing capability of more than 7 million instructions per second."

The powerful VAXcluster also supports an electronic mail system that offers high-speed communications between all remote terminals and laboratory facilities throughout the campus. Faculty, students, and administrators use this system to exchange messages electronically, obtain information, transfer data and files, or "talk" to other users of the University's VAXcluster. Students can send electronic mail messages directly to the president of Lawrence Tech, the deans, or members of the faculty, and turn in "computerized" homework assignments. Many professors require extensive use of the computer. Some classes have become



"Technospeak" — is it Greek to you?

"Technospeak" — the jargon used by technical professionals to describe the power and capabilities of digital computers and other electronic wonders — may seem like a different language if you are not familiar with the terminology, but it has a logical structure.

Many computer terms are acronyms and some are based on Latin and Greek root words. A prefix placed in front of the root changes its meaning. A suffix at the end of the term usually modifies or describes the root. Some computer terms begin with a prefix and some start with a root. Some terms use two or more roots and some combine a root word and an acronym.

When a new or unfamiliar computer term seems like Greek to you, break the word apart and check your dictionary to find the meaning of the Latin or Greek elements. Here are a few definitions of some computer terms and acronyms to help you get off to a good start.

bit An acronym for "binary digit," the smallest unit of information in the computer world. In the digital computer, data is stored as strings of bits or binary (base two) digits each with a value of 0 or 1 that work like on/off switches routing messages among the silicon chips in the memory of the computer.

byte Bits of data together form a "byte." A byte contains 8 bits. Today's IBM PCs and Macintoshes are 16-bit machines.

kilobyte Kilo is a term used in the metric system for the decimal unit "thousand." One kilobyte is a thousand bytes of information. It equals 2 to the 10th power or 1,024 bytes. The size of the memory in a microcomputer is measured in kilobytes, for example: 64K, 512K, or 640K.

megabytes A megabyte is a million bytes of information. The Greek root word megas means large, great, extended or powerful. In physics, mega is the term used in the metric system to mean a million, or a million times — as in megampere, megavolt and megohm. It equals 2 to the 20th power or 1,048,576 bytes. The capacity of a hard disk drive for a personal computer is measured in megabytes, for example: a 20 meg drive or a 40 meg drive.

gigabyte A gigabyte is a billion bytes of information. A gigabyte equals 2 to the 30th power or 1,073,741,824 bytes. A compact disk or "CD" has a storage capacity of more than a gigabyte. That is the equivalent of fifty 20 megabyte hard disks. A tape backup system with a storage capacity of 2.2 gigabytes could easily make a copy of a 2000 megabyte hard drive.

Student Judy Jackson uses campus computer resources for classroom work and also to accomplish her work as a student assistant in the Institutional Advancement Office.

essentially paperless because all assignments must be done on the computer.

Students access the University's computer resources through terminals or microcomputers on campus using individual accounts that are provided free of any additional charge to students. Student use a password to access their accounts through terminals or microcomputers on campus or from one of the 40 dial-up lines for off-campus terminals supported by modems. Thus, students using a home or office terminal have near 24 hour access to Lawrence Tech's computer resources as a tool for learning, research or problem solving.

Three major computer-aided design (CAD) laboratories support the University's architecture and engineering academic programs. Six general computer laboratories equipped with the latest microcomputers, terminals, and architectural, business, engineering, and scientific application software are also available.

Microprocessor and programmable controller laboratories also support the educational program. Many of these laboratories use computers for on-site data analysis. Computer integrated manufacturing (CIM) work cells in the Robotics Center provide opportunities for "hands-on" experience with industrial robots and a broad range of computer numerical control (CNC) equipment is also provided for instructional

purposes.

"I really learned how to use a computer in my classes at Lawrence Tech," says Judy Jackson, a senior majoring in industrial management in the College of Management. She also has two part-time jobs that utilize her knowledge of computers. As a student assistant in the Office of Institutional Advancement, Jackson uses her computer skills to keep records for Lawrence Tech's giving clubs up to date. She also maintains the contribution records at Detroit's United Congregational Christian Church.

When I started at Lawrence Tech I knew very little about computers," says Jackson, "but I learned to use them in class. Now I am very comfortable with them. I've learned FORTRAN and Lotus and I frequently use the word processor.

"As a student, I can use the computer as much as I need to without paying any additional fees, and that has been a great help to me," she notes. "Many colleges and universities give a certain amount of free computer time to students, but when the time allotted is used up, they have to pay for extra time. That really adds up when you're trying to write a program and things aren't going right. Here at Lawrence Tech I can have as much computer time as I need to work things out when I'm trying to write a program — and that has certainly made it much easier to learn how

to do it.

"I'm completing my degree program this November," she adds, "so I'm now looking for a position in industrial management that will utilize my knowledge of computers, and practical experience maintaining records."

"Our computer resources now in place at Lawrence Tech provide excellent opportunities for students to obtain 'hands-on' experience working with the same hardware and software they will find when they enter the workplace," Marburger says. "But, the University must continue to refine, enhance and upgrade equipment in order to sustain the quality of the academic programs. With computers, as in most technological fields, new advancements keep presenting a rapidly moving target. If we failed to remain current, our students would start behind their competition in the workplace. That can't happen.

"Digital computers have been integrated into the educational and administrative fabric of the University at a pace that is truly remarkable," Marburger says.

"We have accomplished great things with the help of our alumni and industry — but as this technology continues to advance at a rapid pace, our understanding of the importance of these partnerships is growing too. To sustain and maintain our state-of-the-art computer facilities and computer interaction capabilities at Lawrence Tech, we must continue to build and strengthen these relationships." □ HCB

terabyte A terabyte is a trillion bytes of information. A terabyte equals 2 to the 40th power or 1,099,511,627,776 bytes.

FLOPS Floating-point operations, or FLOPS, provide a standard measure for computing power in number-intensive scientific applications.

megaFLOPS A mainframe computer designed to carry out a few hundred million floating-point operations per second operates at megaFLOPS speed.

gigaFLOPS A machine that performs more than ten billion operations per second, operating at gigaFLOPS speed, is 1,000 times faster than a typical mainframe computer.

teraFLOPS The computers of the future designed to perform a trillion operations per second will operate at teraFLOPS speed.

semiconductor Semiconductors are the basis of modern electronic circuitry. They are made of a substance or element such as germanium or silicon that does not conduct heat or electricity well at room temperature. By applying heat, light or voltage, the flow of electrons can be increased, but by adding traces of certain substances or impurities, the conductivity is markedly improved.

superconductor A superconductor is a electronic device that carries electric current with little or no resistance. Most superconductors operate at sub freezing temperatures, but researchers are working on new materials for superconductors that will operate effectively at temperatures near, or above, freezing.

central processor The central processor, or CPU, is the "cerebral cortex" or brain of the computer. It is fabricated from etched silicon wafers and consists of an arithmetic unit, a control unit and an internal memory.

serial processor The typical personal computer uses conventional sequential or serial processing. It has the minimum number of processors, one, but it is designed to compute at lightning speed. Because it examines relationships one at a time, the pace slows dramatically as the quantity of background data increases.

parallel processor The new supercomputers use thousands of parallel processors that operate in tandem using a communications network to "talk" to each other. The assembled power of the parallel processors makes these machines very fast. They can execute several billion instructions per second and retrieve documents from a large collection of texts or compare and rank documents in a large data base in as little as 50 milliseconds.

ASCII An acronym for American Standard Code for Information Interchange. Pronounced "as-key." The ASCII code set consists of numbers ranging from 0 to 255, each of which has been assigned a particular character: for example, a capital letter "A," a lower case "a," punctuation symbols and so forth.

LISP An acronym for *LIST Processing*, LISP is a high-level programming language used for solving artificial intelligence problems. It is primarily designed to process data consisting of lists.

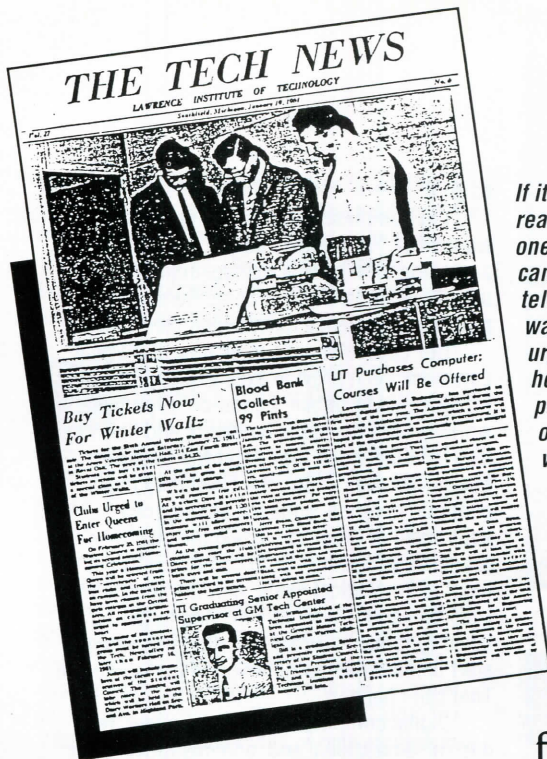
FORTRAN An acronym for *FORMula TRANslation*, FORTRAN is a high-level programming language dealing primarily with mathematical formulas and expressions similar to algebra. It is used mainly in scientific applications.

MIPS An acronym for a *Million Instructions Per Second*. MIPS refers to the average number of machine language instruction a computer can perform or execute in one second.

Nanosecond One billionth of a second is called a nanosecond. That's one thousand millionth of a second. Sometimes a nanosecond is called a billisecond. The speed of memory chips is measured in nanoseconds. Light travels at approximately one foot per nanosecond.

Modem Modem is an acronym for "*modulator/demodulator*." This is the device that translates the signals coming from your computer into a form that can be translated over standard telephone lines.

Workstation A workstation is a terminal or microcomputer from which an operator can gain access to a computer network. The nodes of a local area network are called workstations that can be the diskless type, or high performance, stand-alone microcomputers.



If it weren't for the large photo, the casual reader might have missed the story on page one of the January 19, 1961 edition of the campus paper. There, among headlines telling readers to buy tickets for the winter waltz, reporting blood drive results, and urging clubs to choose candidates for homecoming queen was this: "LIT purchases computer; courses to be offered." Education at Lawrence Tech would never be the same.

Computers: timeline for the technological

REVOLUTION

Gigabytes, teraFLOPS, nanoseconds and LISP — the “technospeak” of the omnipresent computer requires translation. Bar codes on cans of tuna, strange numerical symbols on checks, electronic transmissions, and letters from the Internal Revenue Service citing errors in tax returns discovered by tireless machines that check every figure: each testifies to the computer’s pervasive influence.

Hardly an area of our society isn’t touched in some way by advances in computer technology.

“The fast pace of the computer revolution presents great challenges and opportunities,” says Dr. Richard E. Marburger, president of Lawrence Technological University.

“This computer revolution began nearly fifty years ago,” Marburger notes, “when the first electronic calculators with vacuum tubes were developed. Those massive and comparatively crude calculating machines were the forerunners of the laptop computer that travels with me today. It fits in a briefcase, but has the power and speed of a full-size personal computer.”

In 1940, the fastest computer available was still a person with a slide rule or a desktop mechanical calculator, averaging a multiplication about every 10 seconds. Then in 1943, the world’s first electronic calculator was created when World War II provided the intellectual crucible that fired the development of the massive calculating machine used by the British to crack secret German codes.

That first model occupied an entire room. Dependent on hundreds of vacuum tubes, it was capable of performing only a limited

number of operations in response to an external punched tape program.

Mark I, the first successful digital computer, was created by Howard Aiken, a Harvard University professor in 1944. It was more than 50 feet long, weighed about 5 tons, and had 1500 electronic tubes. Using a continuous punched paper tape program, the Mark I could add and subtract figures in three-tenths of a second. Multiplication of two numbers took more time — as much as six seconds — and division required 16 seconds.

The Electronic Numerical Integrator and Calculator (ENIAC), was the next major development. More than 18,000 vacuum tubes helped ENIAC perform mathematical calculations at the rate of 300 multiplications per second. Twelve vacuum tubes were required to store one decimal digit, but the limited storage capacity presented frustrating problems for the scientists working on the top-secret Manhattan Project. They needed a machine that could handle the mind-breaking equations of nuclear physics.

Then, Dr. John von Neumann, one of the world’s great mathematicians and scientists, redesigned ENIAC to store numerical data in memory and speed up the flow of information from the memory to the working registers of the computer. This was the giant number cruncher used to help develop the atomic bomb, and produce accurate bombing tables.

The first commercially available stored-program computer was the UNIVAC I (Universal Automatic Computer) used to compile the results of the 1950 census. It was adopted for use in science, commerce, government and for military applications, but it

was very expensive. Only the government and very large corporations or universities with huge research grants could afford one.

Eventually the tubes in the early UNIVAC gave way to transistors made of microscopic silicon crystals housed in a small metal or plastic case. Considerably smaller than tubes, they produced less heat, and offered more memory. The processing power could also be packed into a smaller space.

In the 1960s the semi-conductor revolution began when scientists devised ways to photographically engrave many microscopic transistors onto a single piece of silicon. It was a tiny device, about the size of a single old-fashioned transistor, but it could hold an entire computer circuit — a design improvement that brought computers within the price range of most businesses.

Cheap, portable microprocessors and personal computers did not become widely available until the 1970s when microchips capable of performing arithmetical operations at switching speeds measured in nanoseconds (a billionth of a second) were developed. Computer memory capacity grew dramatically.

16K chips that held more than 16,000 pieces of information were introduced in the early 1980s. (K stands for kilo, meaning one thousand.) Then 64K chips took their place. By the mid-1980s, 256K chips had been developed, but researchers are now working on chips that can hold more than a million pieces of information and a new generation of supercomputers designed to process trillions of instructions per second. These lightning fast machines with speed and storage capacities that scientists thought were unattainable in the '80s are the new frontier for science.

“The raw speed of computing power has increased markedly each year,” Marburger says. To keep pace with these dynamic changes, Lawrence Tech has continued to increase the power of the University’s computer resources — the direct result of a strategy directed at staying in the forefront of computer technology. Improved teaching facilities and computer resources are the result.

“In the '90s,” Marburger adds, “technology will continue to advance as new areas of research and collaboration emerge. New applied research projects benefit industry and offer Lawrence Tech students opportunities to engage in research activities that necessarily involve working with the most advanced technology as part of their educational experience.

“Maintaining a state-of-the-art computer system that offers opportunities for students to develop the broad range of computer skills they will need for the 21st century,” Marburger concludes, “continues to be a high priority for Lawrence Tech.” □ HCB

Computers: ethical standards for machines that

THINK

Artificial intelligence (AI), the study of how computers can be programmed to act intelligently, is a new frontier for science. Applications of this sophisticated new technology — including automated manufacturing systems, factories run by robots, computer programs that automatically perform basic clerical tasks previously performed only by people, and “intelligent” systems that optimize construction and production schedules — began to appear only five years ago.

Today, applications of AI are starting to change the industrial world. Tremendous improvements in industrial productivity are the result. However, as research in artificial intelligence continues to progress to the point where AI systems can begin to program themselves with little need for human programmers, engineers, scientists and other professionals are beginning to debate future consequences of using these “smart” machines.

The advanced computers of today cannot begin to equal the thinking power and decision-making abilities of the human mind. Unlike the human brain, current computers have a basic serial processing design. They funnel information into a single queue and feed that information — one item at a time — through the part of the computer that does the actual calculations, called the central processor, or CPU. The CPU is the “cerebral cortex” of the computer.

All of the complex and sophisticated things that the computer does can be reduced to the movement of binary electrical impulses with this unit. Literal minded, and totally lacking in what humans call “common sense,” computers do only what they are programmed to do. These machines can sort data into predetermined and specified categories, but they cannot make discoveries or learn from their experience.

Now — in an effort to mimic the complex decision-making power of the human mind — scientists are creating a new generation of

superfast computers that are a radical departure from that concept. They use full-size mainframe computers that can shuttle programs in and out of thousands of parallel processors that work simultaneously and “talk” to each other in high-level interactive programming languages. Increasingly sophisticated computer software programs use lists of instructions, often thousands of lines long, to guide and control these machines.

According to H. Robert Farrah, chairman of the the College of Engineering’s department of electrical engineering, a course in artificial intelligence offered by Ron Foster, associate professor, provides opportunities for Lawrence Tech students to learn about artificial intelligence and use the University’s advanced computer facilities to study engineering applications.

Electrical engineering students are studying LISP (List Processing, a programming language widely-used for AI research.) intelligent vision, imaging systems, data base search methods, and logic and deduction. Software programs such as IGSPIICE (Electronic Circuit Simulation) are helping students to design electronic circuits. Mechanical engineering students are also studying ways to use AI to design intelligent systems that can move and control robots and manufacturing systems.

“Artificial intelligence is still in its infancy,” says Farrah, “but AI research is beginning to spread beyond university laboratories and into

the business world. This research has promising industrial applications and great commercial potential, but the pace of technological development is rapidly increasing — exceeding our most optimistic expectations.

“Expert systems — sophisticated computer software programs designed to automatically make decisions in such fields as financial planning, medical diagnosis, geological exploration, and microelectronic circuit design — are now used to extend the range and availability of human expertise,” he notes.

“Engineers, scientists, and others use these systems to design electronic circuits and complex computer software that controls robots and other intelligent machines. Clearly we must apply the highest ethical standards to the design and use of these systems that have so much impact on our society.

“We already have expert systems that can direct geological exploration and predict weather patterns,” says Farrah. “As we begin to rely on these predictions, and take actions based on decisions these expert systems make, computers gain increasing control of our lives.

“But computers can make wrong predictions,” Farrah cautions, “even when their programs run flawlessly. That is one of the great challenges of AI research.

“For example,” he reflects, “there was a famous incident with a U.S. Department of Defense air monitoring system. They had a computer that mistakenly read reflections from the moon as a series of incoming missiles. When a mistake like that occurs, it may be natural to shift the responsibility for our mistakes to these inanimate objects. We ascribe some very human attributes to these fast smart machines, and it is easy to blame them when things go wrong.

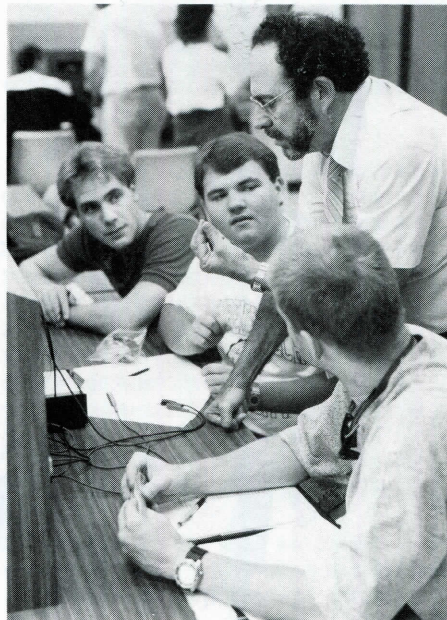
“In the future,” says Farrah, “expert systems will be used to help us make decisions and predict social behavior, and people may use expert systems to dictate what will happen. We must begin to ask some tough moral and ethical questions about this process.”

Dr. Richard E. Marburger, president of Lawrence Tech, says the academic community is concerned about this important issue.

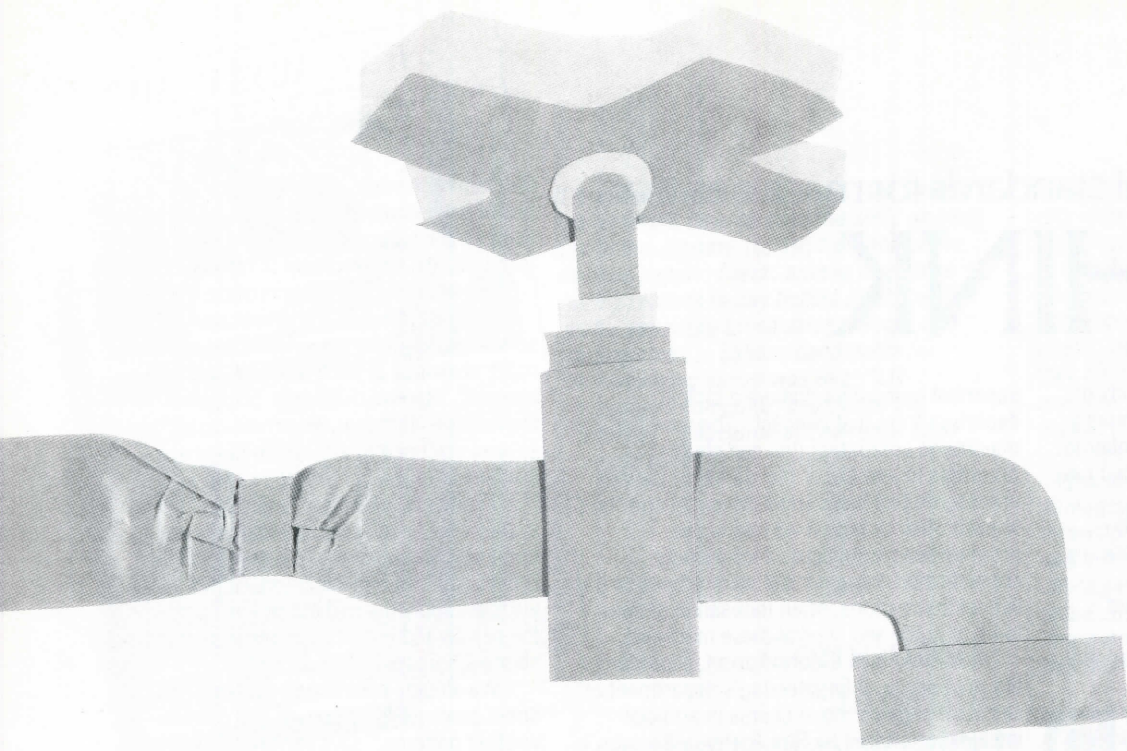
“The supercomputers of the future are leading us to new levels of knowledge,” says Marburger, “and a new awareness of the importance of high ethical standards for research and development. Engineers and scientists are taking a hard look at their professional responsibilities. They are confronting issues as difficult as those debated during the decade that produced both the electronic computer and the atomic bomb.

“In the age of artificial intelligence,” Marburger concludes, “we must be constantly aware of the ethical responsibilities of scientists and engineers. These issues are as important as the scientific questions.” □ HCB

Prof. Robert Farrah, chairman of the electrical engineering department, sees decision-making by computers to be both a remarkable technological advancement and a difficult ethical and moral challenge.



BRUCE ANNETT PHOTO



'PIPELINE' DILEMMA

Unless more students are attracted to engineering and enter the 'pipeline' of educational preparation, the region and nation face grave consequences

Imagine an America increasingly dependent on other countries to supply the technological expertise required to run our factories, provide our computers, or build our bridges and highways.

Sound farfetched?

The unthinkable could become reality if a predicted shortage of engineers is allowed to run its course.

And, this shortage of engineers could have a substantial impact on other job opportunities in the metro area, says Dr. Robert Ellis, provost of Lawrence Technological University.

Ellis, who is also president of the Michigan Society of Professional Engineers, one of the nation's largest state engineering organizations, is part of a growing group of U.S. educators and industry leaders who point to serious problems if trends are not reversed.

Only 8.6 percent of college freshmen in 1988 were interested in engineering as a profession, down from 12 percent in 1982, says a survey of college freshmen by the Cooperative Institutional Research Program at the University of California, Los Angeles. According to a recent article in the *Detroit News*, the concern is that those students interested in engineering represent a smaller percentage of a shrinking college-age population.

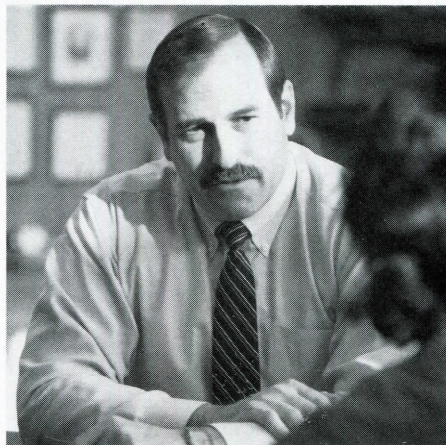
"Virtually all recent studies have concluded that the United States will have between 200,000 to 700,000 unfilled engineering positions available during the 1990s," Ellis says. "Because engineering must precede subsequent job opportunities in manufacturing, service, and sales, the shortage will affect the entire regional job market.

"Our area would be harder hit than most because we have a preponderance of technological and manufacturing industries here in Michigan," says Ellis.

Ellis adds that if the engineering for new

products is not done here because of personnel shortages, other area jobs could disappear or the jobs could continue to move overseas. There will be a ripple effect throughout the entire economy as the shortage occurs during a period when there is a growing need for more — not fewer — engineers.

"Even as defense spending declines as a result of better relations between the superpowers, there are enormous challenges facing us that will fuel demand for engineers," Ellis says. "Our aging infrastructure, a need for building new transport systems, finding waste management solutions, and solving environmental concerns will fuel the national demand for more engineers," he notes.



Dr. Robert Ellis

"Two major factors are affecting the supply of engineers," Ellis says. "One is the overall decline in the number of high school students, and the second is the declining percentage of these students choosing engineering, scientific, or technological careers. Even if the traditional pool of engineering talent, white males, were to return to the historic high of a decade ago when about 14 percent of these students entered the field, shortages are still projected.

"The best solution is to encourage more women and minorities into the field," Ellis claims.

"Employers, universities, and public schools must expand their efforts to encourage students to explore engineering," Ellis says.

"As early as the sixth grade, students should begin taking the math, science, and English courses that will help assure their entrance into engineering curriculums. But even as we start today, with middle school students, it will be another decade before they can begin to make contributions to industry."

Lawrence Tech, which provides nearly 40 percent of the undergraduate engineers in the tri-county metro area, has established one such "nurturing" program at Taft Middle School in Detroit as part of the "Detroit Compact," and last year added a director of minority educational development.

"Waiting until students are in high school is often too late to help them build the required academic background they'll need for college," Ellis argues. "The math and science training needs to begin early."

The problem of too few engineers is further complicated by a shortage of engineering professors, who can often earn more by choosing jobs in industry rather than in teaching. In addition, many current engineers are or will soon reach the age of retirement or opt for early retirement.

Yet another factor is that citizens of other nations, who in the past sought engineering educations in the U.S. and then stayed here to help meet the demand for engineers, now leave because they frequently find favorable positions in their native countries.

"The future is very predictable because it takes four years or more for today's high school students to complete college and enter the profession," says Ellis. "We know there will be many more openings in engineering than people to fill them in 1995.

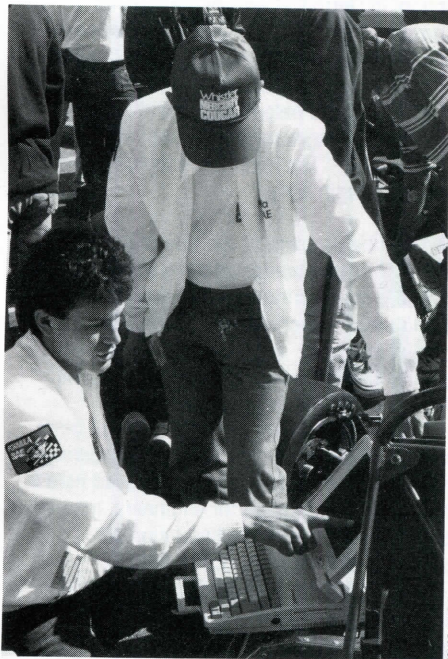
"Industry, universities, parents, schools — all of us must act now to avoid even more serious problems by the end of the century."

□ BJA



WINNING FORMULA

Engineering students from across North America seek 'formula for success' at Lawrence Tech



Two members of the Lawrence Tech student team use a laptop computer to check and, if necessary, modify the control program in the University car's electronic fuel injector.

Whining engines, screeching tires, and the faint scent of fresh hay wafting from protective bales scattered around parking lot "C" were sure signs that it was back. The largest collegiate automotive design and performance competition in North America returned to campus May 17-19.

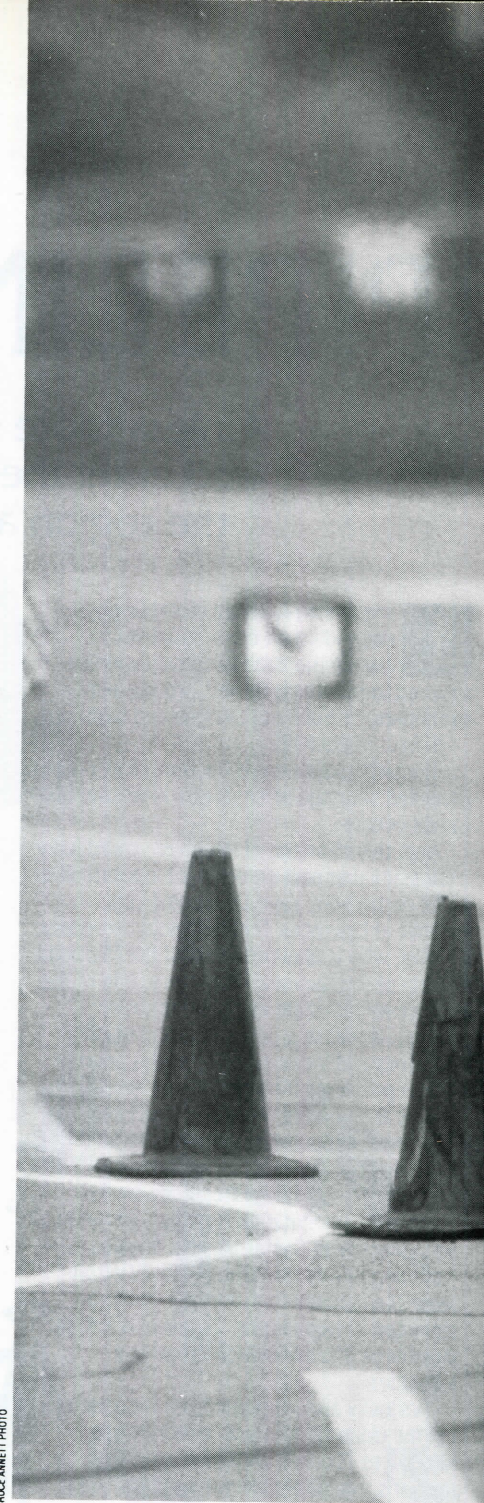
The event culminated nearly a year of effort by teams of student engineers that made up 52 teams representing colleges and universities coast to coast. The students had to conceptualize, design, and build a Formula-style racing car. Many of the handbuilt custom racers feature design and performance innovations.

Fuel economy, design, acceleration, braking, cornering, maneuverability, and a grueling endurance event were among the competition categories facing each car and team.

This is the tenth year for the event and the third time Lawrence Tech has hosted the competition, which originated in Texas.

"Formula SAE" is named for the originating group, the former Society of Automotive Engineers, which now goes by the SAE acronym. The competition also involves the Sports Car Club of America (SCCA) as judges and track officials.

"This competition introduces students to the importance of team effort in modern automotive design," says Dr. Kingman Yee, mechanical engineering professor at Lawrence Tech and the event coordinator. "Over the course of the academic year, students are exposed, in microcosm, to virtually all the challenges of bringing an automobile from the idea stage to having an actual drivable, testable machine. It's a fast paced, exciting process, but it is enormously satisfying to watch the



BRUCE ANNETT PHOTO

enthusiasm and competitive spirit of these talented students."

Thirty-eight of the 52 cars registered competed in this year's events, including a promising challenger from Lawrence Tech. Lawrence Tech placed 13th overall, ahead of two other Michigan school teams, GMI (33rd place) and one of two cars entered by the University of Michigan (22nd place).

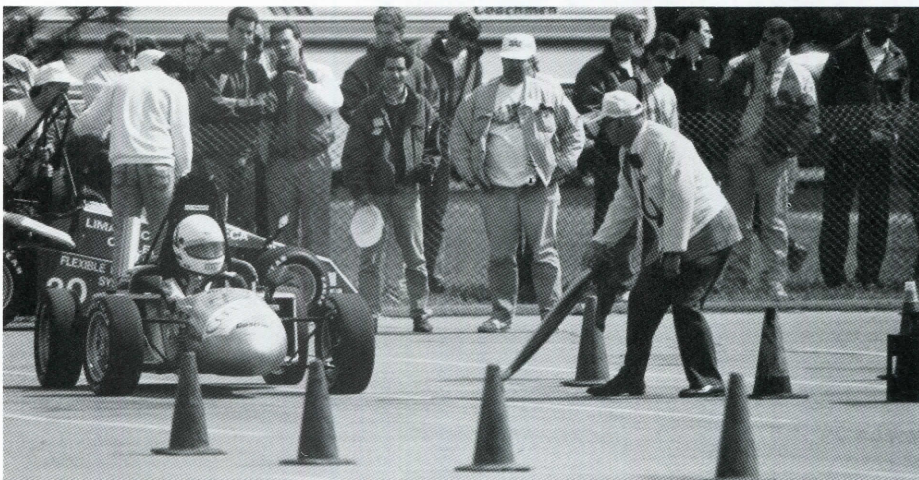
The University of Texas-Arlington captured first place overall.

The U.S. Department of Energy presented special awards, as did several automotive manufacturers and suppliers. Members of the engineering staffs and others representing various manufacturers and suppliers were also generous in serving as judges and track officials. □ BJA

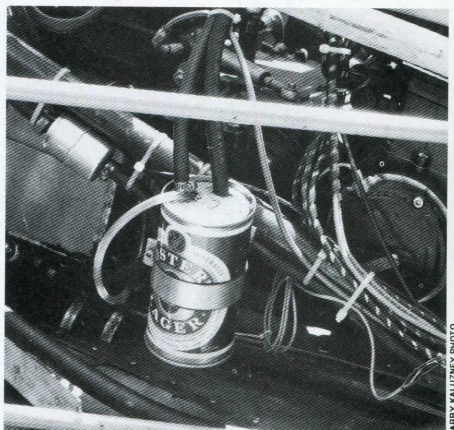
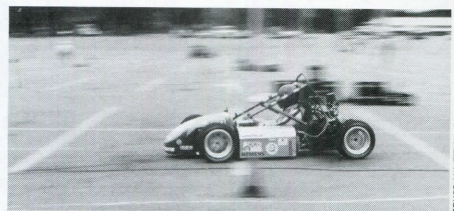


Above: Lawrence Tech student driver Laurie Szczesny rounds a curve during the endurance competition.

Left: A track official points out the starting line for the acceleration event to the driver of another team's entry.



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Clockwise from above: A Lawrence Tech driver is checked out prior to entering the track.

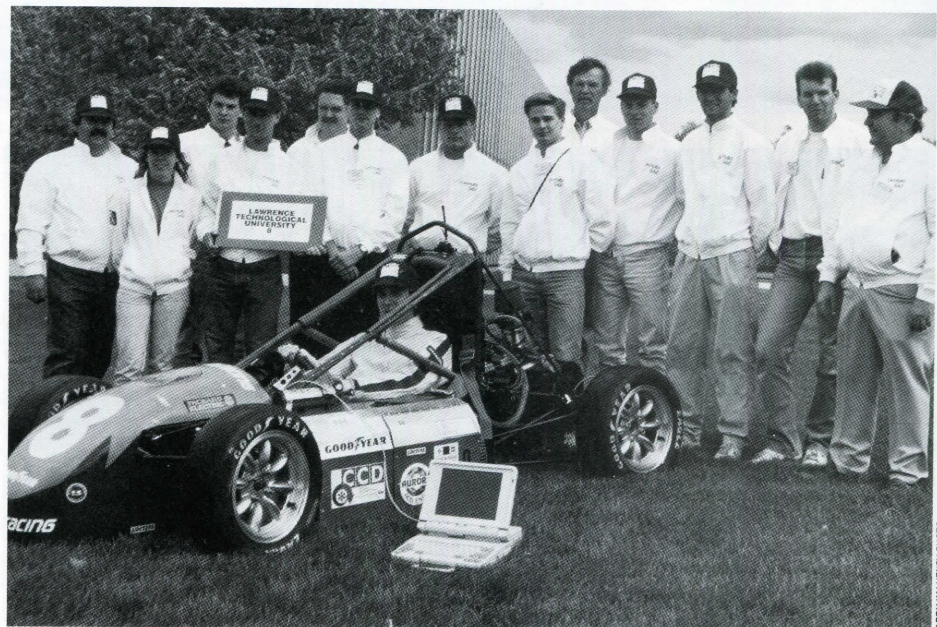
A line-up of entries awaits action.

A message from West Virginia.

The Lawrence Tech car zips down the track.

An innovative "catch tank" for catching fluid overflows.

The Lawrence Tech team included faculty advisors Craig Hoff (power train), Wayne Brehob (suspension and controls), Clayton LaPointe (fuel injection), and (not pictured) Clarence Chambers (structure and frame).



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GARRY KALUZNEY PHOTO

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CRYING GIANT?

Japanese politician sees U.S. business weakness; Lawrence Tech audience angered but also agrees



Shintaro Ishihara, left, and interpreter.

A high-ranking Japanese politician appearing at Lawrence Tech said the United States should solve its own economic problems and not blame them on Japan.

Shintaro Ishihara, a member of Japan's Diet or parliament and one of three candidates for prime minister in 1989, spoke at Lawrence Tech May 20th at a "Town Meeting" organized by U.S. Representative Sander Levin. Ishihara is the co-author of the controversial book, "The Japan That Can Say 'No,'" — called "a combustible tome" by the *Detroit Free Press* because of its premise that Japan can and should say "no" to opening Japanese markets to American products.

Ishihara's book, a million-seller in Japan, has been excerpted widely in this country and an underground English translation reportedly caught the attention of Washington officials earlier this year.

Levin says the book "leveled some troubling criticism of the U.S. that touched raw nerves."

Levin added that he invited Ishihara to speak because "I thought some of his arguments show he does not understand the American people, and I want Mr. Ishihara to hear for himself how Americans feel about the trade imbalance and how they are affected by it in their daily lives. I also wanted us in America to hear the approaches the Japanese have used to foster rapid growth and to see if there are any lessons in it for our nation."

During his remarks, Ishihara called the United States a "crying giant" that can't seem to figure out how to compete. He said the U.S. could rebound as an industrial power — but not by government or industry Japan-bashing or by retaliatory trade restrictions. Ishihara said that the U.S. has the land, research

capacity, and resources needed for self-sufficiency.

Ishihara's appearance at Lawrence Tech generated a flood of national media attention. The Associated Press and UPI wire services, *USA Today*, CNN, NBC, PBS MacNeil-Lehrer News Hour, the *Washington Post*, *Wall Street Journal*, and many local papers sent journalists.

Some 300 people, including faculty, students, local residents and others filling the Science Building Auditorium, alternately bristled at and applauded Ishihara's remarks.

During a hour long give and take following opening statements by Ishihara, one audience member was applauded when he called Japan ungrateful because the U.S. rebuilt that nation after World War II, and predicted backlash soon if trade policies are not made more equal. But the crowd also applauded audience members who said many Japanese goods are of superior quality and nodded agreement to

those who expressed concern that many markets in Japan are closed to U.S. products. Another member of the audience said the trade balance problem could be solved if "we cure our addiction to Japanese products."

Ishihara said Japan needs to open its doors more to foreign trade but expressed doubt about some U.S. products competing in Japan's consumer market.

"The trade deficit is not so much that Japan's pockets are closed," he said. "There is a lack of competitiveness in the American market."

Ishihara said that Xerox, Cummins Engine, Caterpillar Tractor, and Florida Power and Light were examples of companies that have achieved revolutions in quality.

"You can revive American industry," Ishihara said. "There is no reason why you cannot resuscitate yourself in a very short period of time." □ BJA



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JILL CLIFFORD PHOTO



WALTER BIZON PHOTO



JILL CLIFFORD PHOTO

'TAKE THE LONG VIEW'

Chrysler Motors chairman tells grads
not to settle for mediocrity
as nearly 870 join alumni ranks

We've got to have the guts to take the long view, and to reinvest, over and over, in the future. We've got to bring the level of resourcefulness to the task at hand that surpasses anything we've brought before. And we need a level of commitment that approaches fanaticism."

This was the charge of Bennett E. Bidwell, chairman of Chrysler Motors, in his spirited address to some 6,000 graduates, family members, and friends who attended Lawrence Tech's 58th annual commencement on June 3.

Bidwell challenged Lawrence Tech's newest grads not to compromise for mediocrity and said that Americans have idled away too much while citizens of other nations have been hard at work achieving goals and making progress.

"We...face a future in which our industrial infrastructure is literally in peril," Bidwell warned. "We compromised politically.... We have no clear agenda. We can't agree on a damned thing.... We are in gridlock...."

"We have produced a veritable horde of talented, energetic people who at best are 'on the make' and, at worst, are 'on the take....'"

"The best news of all is that it is not too late," Bidwell said. "The issue is, 'do we have the will to change?' It's your generation that will largely shape the answer to that question. Mine is too old, and the Yuppies are too spoiled. Whether you like it or not, whether it's fair or not — I guess we're handing you the ball today...."

"It's time for you to roll up your sleeves and say, 'Let me in, coach,'" Bidwell said. "You're not going to do that unless you believe in America, and the American way — believe in yourselves — and are ready and willing to play anybody, from anywhere, head to head. I suspect that that kind of commitment implies denial of 'compromise' as the art form I once thought it to be...."

"There is work to be done," Bidwell told the new grads. "Honest work. Productive work. Real work. Teamwork. So go do it. Please."

Lawrence Tech added 864 new grads to its alumni ranks during the exercises that began at

2 p.m. at the Michigan State Fairgrounds Coliseum in Detroit. A special breakfast for graduates and their guests was held earlier in the day on campus in the Buell Management Building dining room and atrium.

Bidwell and two other distinguished business leaders received the honorary degree, Doctor of Business Administration: Richard H. Cummings, retired senior vice chairman of NBD Bancorp, Inc.; and Kurt O. Tech, ME'48, a management consultant and retired president of The Cross Company.

Herbert C. von Rusten, ME'63, executive engineer, program management, Jeep and Truck Engineering, Chrysler Corp., received Lawrence Tech's 1990 alumni achievement award.

Dr. Richard E. Marburger, president, presided over the exercises that were again distinguished by the fact that each graduate received an actual diploma, not a facsimile as is the case at many schools.

"It's a tradition we've worked hard to maintain even as the University has grown larger," Marburger observed. "It's an important day for the grads and we try to make certain they have what they've labored for actually 'in hand' when they walk across stage."

Though the day started and ended sunny and warm, in the final minutes of Commencement a passing thunderstorm caused a brief loss of electrical power in the fairgrounds neighborhood and momentarily cut lights and sound in the Coliseum as the ceremonies concluded.

Not to worry! Even briefly diminished lighting couldn't dim the pride of family members and friends gathered to honor Lawrence Tech's newest graduates. □ BJA

Four business leaders honored at 1990 commencement

Bennett L. Bidwell, Doctor of Business Administration

Ben Bidwell has served as chairman of Chrysler Motors since November of 1988. He was previously president - product and marketing for Chrysler Motors prior to being appointed to his current position and had earlier been vice chairman. Bidwell was elected a Chrysler Corporation director in 1983, the same year he joined the firm as executive vice president.

Before joining Chrysler, Bidwell was president and chief operating officer of the Hertz Corporation and had held many executive positions over 27 years with Ford Motor Company, including vice president, Car and Truck Group, Ford North American Operations; vice president - sales group; general manager of Ford Division; and general manager of Lincoln-Mercury Division.

Bidwell's community activities include serving as a director of the United Way of Southeastern Michigan, a trustee of the Henry Ford Hospital Fund, and vice president of the Detroit Area Boy Scouts of America.

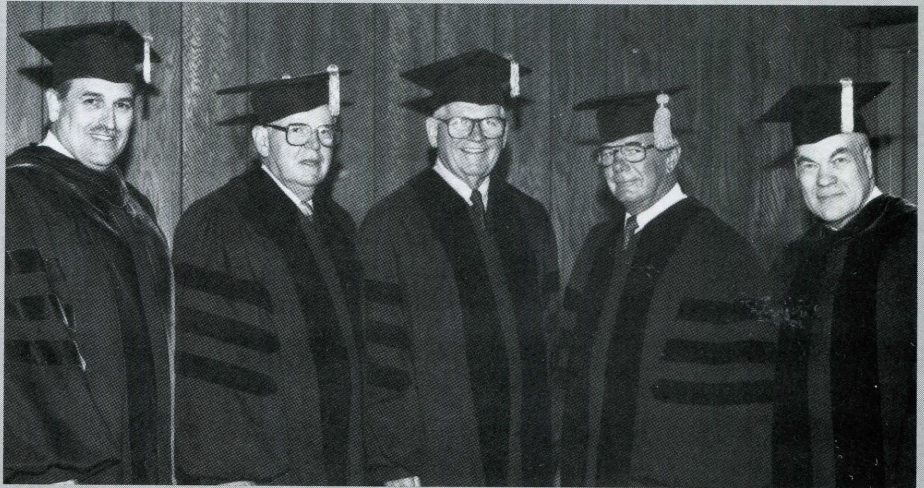
Bidwell received the Automotive Hall of Fame's 1989 Distinguished Service Citation for his contributions to the auto industry and also was selected "Outstanding Corporate Executive of 1984" by *The Gallagher Report*.

Richard H. Cummings, Doctor of Business Administration

Richard H. Cummings has had a long and distinguished career with one of America's largest banking organizations and has also provided counsel to Lawrence Technological University, serving as a trustee since 1974 and member of the corporation since 1980.

Cummings retired in 1986 as senior vice chairman and director of the National Bank of Detroit and its parent company, NBD Bancorp Inc. During his 38-year tenure with the bank, Cummings played a key role in the establishment, growth and development of NBD's international division, and placed great importance on the development of procedures and controls to ensure high credit standards. He developed plans that increased operational efficiency and foresaw the importance of technology as a competitive resource, resulting in NBD's leadership in providing electronic banking services.

Cummings is a director of Highland Superstores, Inc., the Handleman Company, Howell Industries, Inc. and Delaware North Companies, Inc.



WALTER BIZON PHOTO



WALTER BIZON PHOTO

Top L to R: Provost Robert Ellis, honorees Richard Cummings, Kurt Tech, Ben Bidwell, President Richard Marburger.

Above, L to R: Member of the Corporation Ben Bregi, Herbert von Rusten, President Marburger.

Kurt O. Tech, ME'48, Doctor of Business Administration

Kurt O. Tech is a management consultant and was earlier associated with The Cross Company, a pioneer in automated assembly lines and a multinational builder of machine tools, for more than 40 years. He was president of the company prior to his retirement in 1980.

Tech is also a charter member of the Postsecondary Education Advisory Council, appointed by the State Board of Education, and represents the interests of Michigan's independent universities. The Council assists the Board by providing advice on post-secondary financing and other issues, and by reviewing and making recommendations on proposed legislation.

Among many professional honors, Tech was named an eminent engineer by Tau Beta Pi national engineering honor society in 1981, and was chairman of the government relations committee of the National Machine Tool Builders Association. He is secretary of the Advisory Board of the Salvation Army and is on the Corporate Leadership Board of the Boys and Girls Clubs of Detroit. He is also a member and

past chairman of Judson Center, a trustee and founding president of the Grosse Pointe Shores Improvement Foundation, and chairman of the Grosse Pointe Shores Employee Retirement Commission.

Tech has served his alma mater as a member of the corporation since 1975 and as a trustee since 1980. In 1958, the University presented Tech with its alumni achievement award for "pioneering developments in the field of automation." He is also a past president of the University's Alumni Association and the Russell Lawrence Foundation.

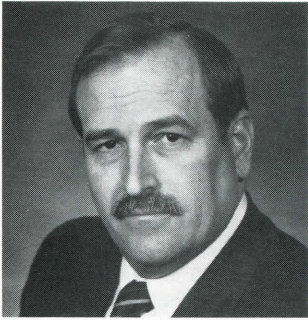
Herbert C. von Rusten, ME'63, Alumni Achievement Award

Herbert C. von Rusten has held a number of important leadership positions within the Corporation since he joined Chrysler as a designer in 1951.

Among these, prior to his current post of executive engineer, program management, Jeep and truck engineering, von Rusten was director of engineering operations for Jeep and truck engineering, chief engineer of truck testing and development, "B" and "D"-body truck program chief, manager of heavy truck engineering, and manager of truck parts and service operations.

von Rusten has served Lawrence Tech as general chairman of several important support campaigns, and he is a member of the University's Presidents Club.

von Rusten is a Michigan-registered professional engineer, a member of the Society of Automotive Engineers, and is active in the Troy Lions Club. □ BJA



Ellis

Provost elected president of state professional engineers

Dr. Robert W. Ellis, provost of Lawrence Technological University, has been elected 1990-91 president of the 3000-member Michigan Society of Professional Engineers (MSPE).

MSPE is one of the largest state engineering societies in the nation and has 20 local chapters across Michigan. The group is dedicated to fostering professionalism and ethical standards in the engineering community, improving performance, and encouraging public responsibility and service.

One of Ellis' most urgent goals is to seek to reverse a U.S. shortage of engineers. (See feature story elsewhere in this issue.) Ellis calls it crucial for more young people, particularly minorities and females, to be encouraged to enter the profession.

Ellis was MSPE's 1987 "Engineer of the Year," and he has been honored as a Fellow of the Engineering Society of Detroit. Registered as a professional engineer (PE) in Michigan, Florida, and Minnesota, he has published numerous scientific papers in his specialty of manufacturing engineering as well as on engineering education. In 1977 he received the national faculty award from the National University Extension Association.

Dean of Lawrence Tech's College of Engineering from 1984 to 1989, Ellis is a former contract consultant with General Dynamics Land Systems Division, and was earlier a senior engineer with the U.S. Army Tank Command, a research fellow with NASA, and a metallurgical engineer with Litton Industries. He has also held several high ranking administrative positions within the Florida state university system and was president of Detroit Institute of Technology.

As provost and chief academic officer at Lawrence Tech, Ellis is responsible for the University's more than 30 undergraduate and graduate degree programs and various student service departments.

He holds three degrees, including the Ph.D., from Virginia Polytechnic Institute, and also attended Harvard's Institute for Educational Management. □ BJA

Lawrence Tech MBA program grows rapidly

Lawrence Technological University's Master of Business Administration degree program has enrolled more than 300 students during its first 18 months of operation, says Dr. Jon Huegli, associate dean of management and director of the MBA program.

"We have been pleased with both the amount of interest the program has generated and the quality and diversity of the students who have enrolled," says Huegli. "The Lawrence Tech MBA was purposely designed to provide working students with the general skills required for successful management. It also provides specialized skills in one of four areas of the

corporation.

"The fact that I could attend in the evening on a part-time basis was also important to me," Borchak says. "For my business, I needed a general background. Majoring in a specialty like finance wouldn't be useful." Borchak also says the career diversity of his classmates has been a plus, exposing him to many new ideas and ways of doing things.

Suzanne Vizi of Livonia took another approach, quitting her job so she could attend Lawrence Tech full time and concentrate in human resources.

"From my classes I've come to realize this is



Dr. Jon Huegli is director of Lawrence Tech's MBA program

student's choosing: information systems (or computers), operations, human resources, or program management," Huegli says.

Courses are offered Monday-Thursday evenings.

David Paul, an MBA student from Livonia, is a supplier-quality assistance engineer for Ford Motor Company. He transferred to the Lawrence Tech program from a large state university.

"Lawrence Tech's emphasis on how to apply solutions to actual problems, taught in addition to the theory, is most useful to me," Paul says. "I've used the knowledge gained in my organizational behavior class to help me structure meetings to get more done. Also, a proposal I originally did as a research paper in class had an immediate application to my job, and I think my proposal will be accepted by management," he says. "The background offered by the MBA is useful as I progress in my career and move more into the management area from engineering."

Mike Borchak of Beverly Hills, who with his wife, Jan, owns an Action Insta-Print store in Southfield, entered Lawrence Tech's MBA program to help himself manage his own small business more effectively. Borchak has an undergrad degree in biology from Michigan State University. He says his MBA class in business law was particularly timely because he happened to be changing his firm from a sole proprietorship to a

the field I enjoy most," Vizi says, adding that she believes her MBA will help her move ahead faster and open more career options once she returns to the job market.

Lawrence Tech MBA students are generally between 31 and 35 years of age. About 20 percent are alumni of the University's undergraduate programs.

"Our students have a diversity of backgrounds," says Huegli. "Among the undergrad disciplines they've come from are nursing, communications, economics, psychology, classical languages, computer science, chemistry, engineering, and marketing." Huegli characterizes many of the students he's had in his classes as being highly motivated and very certain of their career goals.

Some of the largest employers of Lawrence Tech MBA students are Chrysler, Ford, Detroit Edison, Federal-Mogul, and Michigan Bell. But administrators of the program say there is also a significant number of students employed by small- to medium-sized companies.

"Many firms also will reimburse their employees for much of the educational costs," says Huegli. "Both the students and their employers realize that coming back to college is really an investment in the future — their future."

□ BJA

State's largest collegiate architecture program has new dean

An internationally recognized architectural practitioner and scholar, Dr. Neville Clouten, FRAIA, was named the dean of the College of Architecture and Design at Lawrence Technological University on August 1.

Clouten's appointment, confirmed by Lawrence Tech's Board of Trustees, capped a nine-month international search initiated last fall when Karl H. Greimel, FAIA, dean of architecture and design since 1973, announced his intention to return to full-time teaching at the end of the academic year.

Clouten, a registered architect in his native Australia, has been foundation professor at Andrews University in Berrien Springs, Mich., where he led developments in the professional architecture program.

Lawrence Tech's program enrolls nearly 800 students and is one of the largest programs in the U.S. The University offers Bachelor of Science degrees in architecture and interior architecture, in addition to the professional degree, Bachelor of Architecture.

"Dr. Clouten has an extensive background in architectural education, practice, and research," says Dr. Richard E. Marburger, Lawrence Tech president, in announcing the appointment. "He brings a broad perspective to our program that has been gained through extensive study, teaching, research, and professional practice in Australia, Europe, and Scandinavia, and the United States."

Clouten's career dates to the early 1960s when as a student he served as researcher and public affairs coordinator for one of Australia's most famous landmarks, the Sydney Opera House, which was then under construction. He has done additional research in photogrammetry and eye movement recordings, studying such diverse topics as Aboriginal cave drawings and human use of public spaces. He is the author of an upcoming book on architecture to be published by the American Institute of Architects.

Clouten has served as a visiting lecturer at Harvard, Yale, Notre Dame, Helsinki University of Technology, and other universities throughout the U.S., Australia, and Europe. He has published a variety of papers in scientific journals and spoken before many professional groups.

"We are particularly pleased with Dr. Clouten's experience in design and leadership in professional activities that will contribute to the architectural community as well as our students," says Dr. Robert W. Ellis, Lawrence Tech provost.

Clouten earned his professional degree at the University of Sydney (Australia), his



*Dean of
Architecture and
Design
Dr. Neville H.
Clouten, FRAIA*

Master of Architecture at Ohio State University, and his Ph.D. from Edinburgh University (Scotland.) He has also served on the faculty of Ohio State, and the University of Newcastle in Australia, where he was associate dean of the faculty of architecture.

Clouten was named a Fellow of the Royal Australian Institute of Architects in 1974. He is a member of the Royal Institute of British Architects and of the Architects Accreditation Council of Australia. □ BJA

New dean comments on future

The new dean of architecture and design, Neville Clouten, expands the international perspective of architectural education and practice at Lawrence Tech. He says he looks forward to the continuing evolution of the architecture and design programs and working with faculty, students, alumni, and others in the profession.

"I am very pleased to join the large group of faculty and practicing professionals who, over the years, have reinforced the original mission of the institution's founders," Clouten says.

"The widespread respect for the reputation of Lawrence Tech in meeting the needs of the

workplace is clear, and I happily identify with the importance of practical skills."

Clouten says that in the design professions there is also the need for a liberal arts education which can help to develop independent thought processes.

"We must strive to bring together the creative, environmental, human and technological factors," he adds.

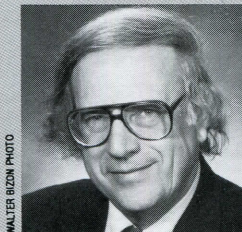
"I see Lawrence Technological University standing on the threshold of a deeper, more meaningful extension of its well-established place in history. I am especially conscious of the leadership of the two previous deans of architecture, who have achieved so much in establishing and developing the professions' accredited programs in architecture and interior design," Clouten notes.

"Our challenge," he adds, "is for the College of Architecture and Design to continue to increase the high quality of its professional education — wherein creativity, knowledge and work skills enable graduating students to proceed through work internship and the testing sequence to licensure and practice in the 21st century."

Clouten says that in addition to the professional accredited programs, he sees opportunities for extending to the corporate and professional communities a form of reflective practice studio — where needs from the community-at-large, and from segments of it, can be approached inductively in post-graduate studies.

"It is another way of illustrating the University motto," Clouten adds, "by combining the rigors of critical thinking, broad interdisciplinary reading, and highly creative endeavors in the visual arts to meet the practical orientations of society's needs."

"I look forward to a close association with the alumni of Lawrence Tech, practicing professionals, faculty and students," Clouten says. "It is an exciting time to be here." □ BJA



Karl H. Greimel, FAIA

'Remarkable accomplishments' of Greimel era, say president and p

While the appointment of Neville Clouten in August as dean of the College of Architecture and

Design sets the stage for the program's future, Dr. Richard E. Marburger, Lawrence Tech president, and Dr. Robert W. Ellis, provost, praised the 17 year service of Karl Greimel as dean and called it a period of remarkable accomplishment for that College.

"For several of those years, Lawrence Tech had the largest undergraduate architectural program in the nation and it remains one of the

largest," Marburger says. "Faculty and students distinguished themselves with a number of national awards. The University, through Karl's leadership, also acquired two significant academic resources — Affleck House, designed by Frank Lloyd Wright, and the personal and professional library of Albert Kahn. Additional activities Karl championed such as the popular ArchiLecture program help introduce students and faculty to some of the most renowned leaders of the profession."

Greimel is a Fellow of the American Institute of Architects and is one of 18 master jurors for the National Architectural

Buells leave largest bequest in Lawrence Tech history

The late Wayne H. Buell, ChE'36, and Vita S. Buell-Craig have provided the largest gift ever received in the history of Lawrence Technological University. Their \$2 million bequest to the University is funding five full-tuition scholarships each year for outstanding students and also includes a per term stipend for books and supplies.

Vita Buell-Craig was the widow of Wayne H.

Buell, who died in 1981. In 1985 she married Horace Craig. Vita Buell-Craig died in 1988.

One of Lawrence Tech's first graduates and an industry executive, Wayne Buell returned to the University to serve as president from 1964 to 1977 and chairman of the board until 1981. The Buells were married 42 years, most of which they were also associated with Lawrence Tech as Wayne Buell was first a student, and later joined

the faculty, was elected a trustee, and eventually became Lawrence Tech's third president.

"Vita and Wayne Buell's legacy to the students of Lawrence Tech was already extraordinary," says Dr. Richard E. Marburger, president of the University. "This remarkable couple devoted a majority of their lives to this University, and Dr. Buell presided over one of the University's greatest periods of growth.

"Their generous bequest highlights their long support of Lawrence Tech's educational mission and their enormous faith in young people. We are deeply appreciative of both their leadership and support," Marburger says, adding, "Through these scholarships the Buells continue to have a positive influence on many future generations of Lawrence Tech students." □ BJA



Vita Buell-Craig and Wayne Buell have left a substantial legacy that is providing scholarships to highly qualified new students.

Do you know potential students?

Many students can benefit from a Lawrence Tech education. Unfortunately, without help, students don't always learn about opportunities available at the University. Alumni and friends can provide a true service by providing names, addresses and other pertinent information about potential Lawrence Tech students to the Admissions Office, 21000 W. Ten Mile Rd., Southfield, MI 48075-1058. Try to include the student's previous educational institution, grade point, and area of interest. The Office will respond with information about programs and services and an invitation to visit campus.

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Accrediting Board, responsible for grading up to 12,000 architectural licensing candidates each year and training other jurors. He is the only individual ever elected to serve two terms as chair of this group. He is active as a municipal consultant on planning, public safety, codes, and other aspects of architecture and design. He is also a consultant to the U.S. House of Representative's standing committee on science and technology.

"As dean, Karl developed one of the most honored architectural programs in Michigan," says Ellis. "We are grateful for his leadership, proud of his accomplishments, and delighted that he is continuing to provide valuable services as a member of the faculty." □ BJA

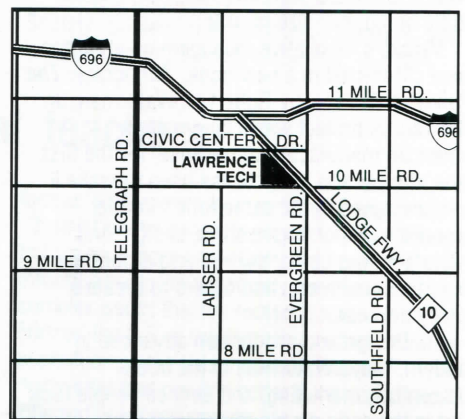
Opening of I-696 'good news'

The opening of the final segment of Interstate 696 last December, linking the eastern and western Detroit suburbs, has meant reduced drive times for a substantial portion of students who commute to Lawrence Technological University.

The new freeway, more than 20 years in planning and building, intersects with the Lodge Freeway less than a half mile north of Lawrence Tech's 100-acre campus.

More than 17 percent of Lawrence Tech's 5,500 students live in Macomb County. Many more live in eastern Oakland and Wayne counties. Additional students drive in from as far away as St. Clair County and the Port Huron area. As much as 40 percent of the student body were affected by the freeway opening.

"Anything that makes attending the day and evening classes here at Lawrence Tech more convenient is good news," says Dr. Richard E. Marburger, Lawrence Tech president. "Our



students and faculty drive in from all directions, and we really think that the new access via I-696 contributes to making us one of the best situated universities in the state." □ BJA



Death of Lew Veraldi saddens campus

Lewis C. Veraldi, ME'68, one of the most distinguished and devoted graduates of Lawrence Technological University and a key contributor to the success of recent Ford Motor Company automobiles, died October 13.

Veraldi, called the "father of the Taurus" by industry analysts because of his leadership role in the development of that popular car and the similar Mercury Sable, retired from Ford in November, 1989, following 40 years with the company. He joined Ford as an engineering file clerk and had advanced to vice president, product and manufacturing engineering, at the time of his retirement.

With the success of the Taurus and Sable, both introduced in 1986, Veraldi "helped to change the world's perception of American-made cars," former Ford chairman Don Petersen told the *Detroit Free Press* last year. The \$3.25 billion project had been Ford's most ambitious, and came at a pivotal time in the firm's history. The cars have earned dozens of awards and have more than doubled Ford's share of the mid-size market.

Veraldi's innovative management style has been chronicled in a new book, *Adhocracy: The Power to Change*, by Robert H. Waterman, Jr. The Taurus project was a landmark in American manufacturing because, for the first time, the car and the process used to make it were designed at the same time. Veraldi brought together engineering, design, and manufacturing staffs, service and ergonomics experts, consumers, and others to create a totally new car.

"....Design and production advanced in tandem," says Waterman in his book. "Assembly, marketing, and service people took part in the car's development from conception. Veraldi believed — and the Taurus's stunning

success bore him out — that if everyone with a stake in the outcome was brought in early, quality would improve. He cast a wide net seeking suggestions."

Veraldi earned his degree at Lawrence Tech as an evening student while working full-time at Ford.

"Had it not been for Lawrence Tech's degree program at night, I probably would not have been able to attend and graduate from college," Veraldi wrote the Alumni Services Office last year.

"I was able to really prove Lawrence Tech's motto of 'theory and practice.'" Veraldi added. "I recall vividly during my junior year designing one of the first disc brake systems for Ford's passenger cars. At the time I was taking a heat management and thermodynamics course that helped me design a good system for our products."

In addition to his professional accomplishments, Veraldi served Lawrence Tech as a trustee from 1979 to 1990 and as a member of the University corporation since June of this year. He was national chairman of Lawrence Tech's two major capital campaigns in the 1980s that together raised nearly \$20

million for new facilities and improvements and also served several years as chairman of the University's annual giving program. In addition, he chaired the planning committee for the Don Ridler Field House, opened in 1987, and regularly made himself available to meet with student groups.

"Lew Veraldi generously offered both his time and his abilities to Lawrence Tech," says Dr. Richard E. Marburger, president of the University. "Though he advanced to one of the pinnacles of American industry, he returned to his alma mater time and again to provide counsel and leadership, and to help marshal other volunteers to accomplish great things. I feel an enormous sense of personal loss and this, of course, is shared by others on the board and staff and among the alumni. All of us have lost a wonderful friend."

In 1987, Veraldi was honored as *Automotive Industries Magazine's* "Man of the Year."

Survivors include his wife, Irene, and six children, including a daughter, Carla, BA'87, a sister and three brothers. His brother, Frank, is a 1949 mechanical engineering graduate of Lawrence Tech. □ *BJA*



Presidents Club holds autumn meeting at Domino's Farms

The Frank Lloyd Wright-inspired campus of Domino's Pizza Corporation near Ann Arbor was the setting October 6 for the autumn meeting of the Lawrence Tech Presidents Club. Some 100 members gathered to tour Domino's classic car and Tiger baseball museum, and then enjoy refreshments in the elegant office surroundings of Domino's chairman Tom Monaghan. Presidents Club Chairman Michael Zulinski, Provost Robert Ellis, and President Richard Marburger updated attendees on club and campus events.



PATY BENKLE PHOTO

Students Amy Mioduszewski, Bob Garrison, Brian Mason, Doug Ozdarski, and John Kwiatkowski worked with GM this past spring.

Lawrence Tech physics students do research at GM Tech Center

Five Lawrence Technological University physics students researched rare earth-iron-boron permanent magnetic materials at the General Motors Tech Center in Warren this past spring. The students worked under the guidance of Robert Lee, a consultant in the physics department at the General Motors Research Laboratory, who said this is the first time undergraduate students worked in this capacity at GM.

The Lawrence Tech students were: Bob Garrison of Walled Lake, Amy Mioduszewski of Detroit, Brian Mason of Birmingham, Doug Ozdarski of Milford, and John Kwiatkowski of Dearborn.

The students worked at GM as part of an advanced physics lab class and concluded five months of research on the development of rare earth-iron-boron permanent magnet materials.

"Unless you fully understand a substance, you cannot get 100 percent use out of it," said Lee.

Rare earth magnets are much stronger and more permanent than the more familiar ceramic magnets. Most motor-controlled devices on GM automobiles, such as windshield wipers, power locks, power windows, and seat adjusters now use ceramic magnets but conversion to the

superior rare earth magnets has begun. Cranking motors are the first application.

General Motors has been researching rare earth magnetic materials for more than two decades.

"There is still much that we do not understand about the materials," said Lee.

According to Dr. Daniel Mioduszewski, associate professor of physics at Lawrence Tech, "the project gave our students the unique opportunity to work in a real research environment and use state-of-the-art equipment." "I've learned that research doesn't work well if you keep your ideas to yourself, said student Bob Garrison." You have to make yourself vulnerable and even if you think it's a dumb idea, throw out the idea and someone else might benefit from it."

According to student Doug Ozdarski, "The experience of working in the lab gave me the opportunity to find out if I like research. In research, you don't necessarily make steady progress. Sometimes it's fail, fail, and fail. If you're the type of person that needs to see steady progress, then research is not for you. Sometimes it's a pure accident when you discover something." □ PAB

Ford administrator is new trustee

Dr. Neil W. Ressler has been elected a trustee of Lawrence Technological University. Dr. Richard E. Marburger, president, has announced.

Ressler is executive director of vehicle engineering at Ford Motor Company. He has many engineering and management positions with Ford since he joined the firm in 1967 as a research scientist. Prior to his current position, he was director of quality and product systems and advanced engineering.

"Dr. Ressler's extensive involvement with computers in engineering, manufacturing, and research make

him a particularly knowledgeable source of counsel as we continue to add to our already extensive educational resources in this area," says Marburger.



Dr. Neil W. Ressler

Among his activities at Ford, Ressler oversees product and manufacturing systems, electrical and electronic systems, advanced vehicle design, design analysis engineering, quality and cross carline engineering, the chassis engineering section, and the engineering technology section.

Ressler received his bachelor's degree in mechanical engineering from GMI Engineering and Management Institute, his M.S. and Ph.D. in physics from the University of Michigan, and his M.B.A. from Michigan State University.

He is a member of the American Physical Society, Society of Automotive Engineers, and the Engineering Society of Detroit. □ BJA

Lawrence Tech uses Eisenhower Grant to help local teachers

A \$35,000 grant, administered by the Michigan Department of Education and provided by the federal government, is being used by Lawrence Technological University to help provide local teachers with new insights into science education.

This past summer, Lawrence Tech completed the first phase of a five year program for 40 third through eighth grade teachers in the Livonia, Taylor, Romulus, Wayne-Westland, and Detroit school districts. The teachers learned new techniques and methods for scientific instruction in elementary and middle schools, updated their knowledge in the field, and worked toward making science instruction more exciting and interesting.

One goal of the program is to reverse current

national trends and help teachers encourage more of their students to explore science careers.

The grant to Lawrence Tech was approved by the State Board of Education and funded by the federal government's Dwight D. Eisenhower Mathematics and Science Act.

Three faculty from Lawrence Tech's College of Arts and Science and department of natural sciences participate in the program: Dr. Maria Vaz and Dr. Dan Mioduszewski, both associate professors, and Marilyn Rands, assistant professor. Student volunteers from seven of Lawrence Tech student chapters of professional societies are also involved.

"It is important that more youngsters become

familiar with science at an early age," says Vaz. "Basic scientific concepts are useful for everyone to know but more importantly, we need an informed public as our society wrestles with complex issues that are rooted in science. Further, the U.S. is lagging behind other countries in producing scientists that make the new discoveries that result in better living conditions, jobs and economic growth."

The Lawrence Tech faculty and students will provide equipment and assistance over the next five years to teachers who participate in the program, and help set up scientific demonstrations and labs in local elementary and middle schools. □ BJA

Lawrence Tech 'Bee Smart' syndicated across nation

Nearly 70 newspapers and newspaper chains carried Lawrence Technological University's syndicated daily column on word spellings, meanings, and origins this year.

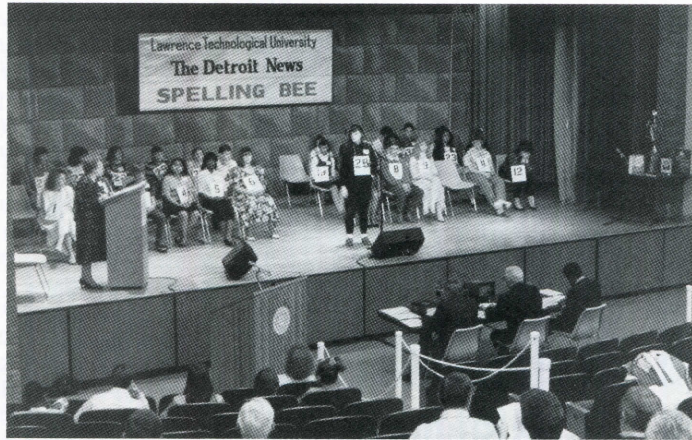
The column is provided at the request of newspapers who participate as regional sponsors of the Scripps Howard National Spelling Bee. Locally, the column appears daily January-March in the *Detroit News*, which, along with Lawrence Tech, is a co-sponsor of the largest spelling bee in Michigan.

"Bee Smart" is written and distributed by the staff of Lawrence Tech's university relations office. Dr. James Rodgers, chairman of the department of humanities, reviews each column and provides counsel.

"Our goal with the column is to help newspaper readers appreciate the history, origin, and use of the words that make up our language," says Bruce Annett, editor of the series. "While the primary participants in the spelling bees are in grades five through eight, the audience of the columns is broader. We hear about teachers who discuss each word at the start of their class day and we understand that the column is popular with other adults too."

Most of this year's columns were researched and written by Patty Blenkle and Helen Bacher. Debbie Stamps, university relations secretary, coordinated typesetting, printing and distribution.

Annett estimates that more than 6 million



The 1990 Bee at Lawrence Tech attracted 36 contestants from across Michigan. Nathan Erb of Lapeer won and went on to the national finals in Washington D.C.

readers see the column each of the 90 days it runs. Each column is identified in all newspapers as being provided by Lawrence Technological University.

Some of the larger newspapers carrying the column this year were the *Indianapolis News*, *El Paso Herald-Post*, *Toledo Blade*, *Nashville (TN) Banner*, *New Haven (CT) Register*, *Schenectady (NY) Gazette*, *Seattle Times*, *Stars and Stripes*, *Honolulu Advertiser*, and *Las Vegas Review-Journal*.

Blenkle, a veteran of several years of column writing, said she chooses words for the column by looking for unusual pronunciations and spellings.

"Spelling or pronunciation is usually a clue to a word's origin or history," she says. "I'm often

surprised how a word's meaning changes over centuries of use, or how a word 'migrates' from continent to continent. The column has helped me to expand my own vocabulary," Blenkle said.

Dr. Richard Marburger, president of Lawrence Tech, revived the Michigan Bee nine years ago after the *Detroit News* found it too expensive and labor intensive to run alone. Marburger, a 1942 state-wide winner, says the bees

help promote student interest in reading, spelling, writing, and general literacy.

"The best way to study for spelling bees is to read, anything and everything," says Marburger. "With reading and a knowledge of language comes the ability to communicate, which is vital to a person's success in any field. The spelling bee sponsorship is one of many ways this University seeks to help students, at a young age, develop skills they'll need in college and beyond."

Regional winners from throughout the state participate in The Lawrence Tech/*Detroit News* Spelling Bee on campus that was held this year on April 10. The winner was then sent by the University to Washington D.C. for the national competition. □

Math and computer chairman named; computer user services director role expanded

Dr. William C. Arlinghaus has been named chairman of the department of mathematics and computer science at Lawrence Technological University. Arlinghaus is an associate professor at Lawrence Tech and has served on the faculty since 1985.

Arlinghaus' appointment was announced by Dr. Richard E. Michel, dean of Lawrence Tech's College of Arts and Science. Michel noted the department offers a baccalaureate major in mathematics and computer science and also provides courses for students in Lawrence Tech's engineering, architecture, management, science, and other programs.

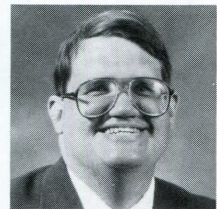
Arlinghaus succeeds Thomas A. Lackey who had held the combined title of department chair and director of user services for Lawrence Tech's Edward Donley Computer Center.

Dr. Richard E. Marburger, Lawrence Tech president, says Lackey has expanded his role as liaison between the computer center and students,

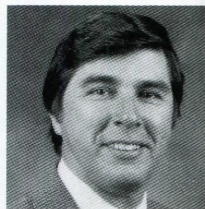
faculty, and staff of the University to help assure that users take full advantage of Lawrence Tech's computer resources. Lackey has also been assigned to coordinate the University's audiovisual and television activities and he continues in his position as professor of mathematics and computer science.

Arlinghaus holds a Ph.D. in mathematics from Wayne State University, and has done other graduate work at the Universities of Toronto and Chicago. His undergraduate degree is from the University of Detroit, where he graduated first in his class.

Arlinghaus has received two fellowships from the National Science Foundation, and honorable mention awards for a Woodrow Wilson Fellowship and a Danforth Fellowship. He has had five articles on basic research published in scientific or mathematics journals, including a book length manuscript, and has made frequent appearances before learned societies, including the American



Dr. William C. Arlinghaus

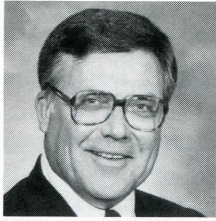


Thomas A. Lackey

Mathematical Society and the Association of American Geographers.

Previously, he has been a mathematician with the General Motors Technical Center, and has served on the faculties of the University of Detroit, Loyola University of Chicago, Ohio State University, University of Toronto, and Wayne State University. He has been a visiting assistant professor at the University of Michigan-Dearborn.

Active in encouraging interest in mathematics and computer science, Arlinghaus' service as coordinator of Math Awareness Week at Lawrence Tech in 1988 and 1989 resulted in commendations from the national Joint Policy Board for Mathematics. □ BJA



WALTER BIZON PHOTO

Robert D. Chute

Engineering technology chairman named

Robert D. Chute has been named professor and chairman of the department of engineering technology at Lawrence Tech, according to an

announcement by Dr. Khalil S. Taraman, dean of the College of Engineering.

The department of engineering technology offers a Bachelor of Science degree in the field as

well as four specialized associate degree programs in construction, manufacturing, electrical, and mechanical engineering technology. The department enrolls more than 600 students.

Chute has been a member of the faculty for 17 years. He has also had extensive industry experience as an engineer with General Electric, Chrysler, and Burroughs (now Unisys,) where he worked on such projects as large motor design and testing (including locomotives,) guidance systems for Redstone and Jupiter rockets, and computer input/output devices.

As chief engineer at Burroughs' international

division, he oversaw engineering programs in Japan, Brazil, Belgium, France, and Scotland. Chute is also a consultant on industrial control systems and circuits, utility system planning, product liability, electrical machinery and electrical fires.

Chute holds degrees from the University of Michigan and Wayne State University. He is a contributing author to Collier Encyclopedia and with his father is co-author of the McGraw-Hill text, "Electronics in Industry," now in its fifth edition. □ BJA

World conference on manufacturing set

Lawrence Technological University is organizing a major international conference on manufacturing December 17-21, 1990. The forum, expected to draw up to 500 engineers and scientists, will be held in Sydney and Melbourne, Australia, and will be co-hosted in Australia by the Swinburne Institute of Technology.

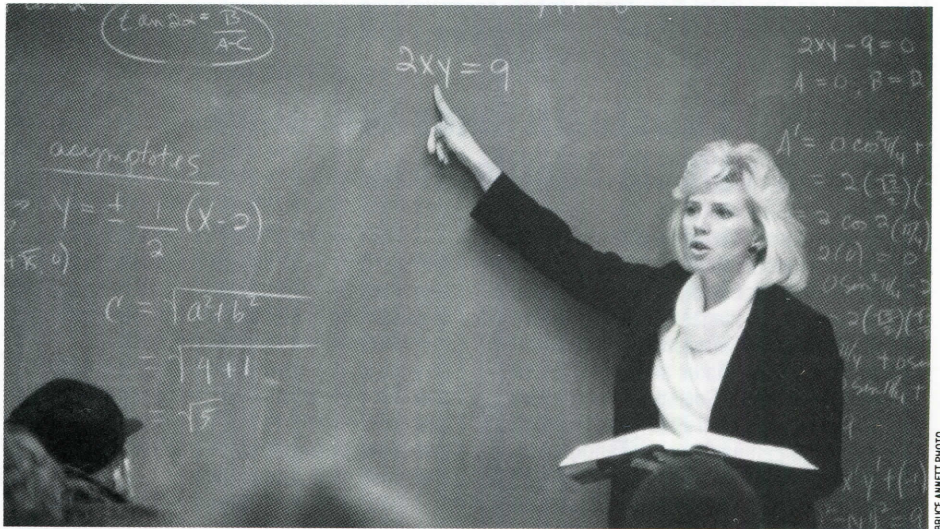
Dr. Khalil Taraman, dean of the College of Engineering at Lawrence Tech, is conference chair. Dr. Robert Ellis, Lawrence Tech provost and the president of the Michigan Society of Professional Engineers, serves on the conference advisory committee that includes representatives from Europe, Japan, other countries of the Far East, Canada, and the U.S.

"Participants in this conference will be introduced to the world's most advanced manufacturing methods and techniques," says Taraman. "This is a unique opportunity for manufacturing leaders from many nations to share and learn the latest information on automation, quality control, robotics, artificial intelligence, computer integration, production, sensors, education, management, and more."

Taraman said that as the U.S. strives to become more competitive in the world market, its industrial leaders must continue to adapt the best of what other industrial countries are developing. He sees this conference as a means of providing exposure to what has been most successful elsewhere, and predicts the forum's site will attract leading engineers and scientists from many "Pacific rim" nations as well as the U.S. and other countries.

The conference will include the presentation of technical papers, discussions, seminars, and visits to aircraft, automotive, ship building, and instrumentation manufacturing sites in Australia. Participants will find many topics to choose from over the six-day period, says Taraman.

For more information, contact Dr. Khalil Taraman at Lawrence Tech, (313)356-0200, ext. 2500. □ BJA



BRUCE ANNETT PHOTO

Pam Lowry, instructor of mathematics and computer science, was the 1990 recipient of the Sears-Roebuck Foundation's teaching excellence award.

1990 teaching excellence awardee named

Pam Lowry, an instructor of mathematics and computer science at Lawrence Tech, has been selected as the University's recipient of the Sears-Roebuck Foundation's "Teaching Excellence and Campus Leadership Award."

Lowry is one of nearly 700 faculty members, representing the nation's independent colleges and universities, recognized by the Sears-Roebuck Foundation for resourcefulness and leadership. She received a \$1000 award from the Foundation and Lawrence Tech also has received a grant. Lowry joined the Lawrence Tech faculty in 1985, and taught previously at Oakland University, Oakland Community College and Schoolcraft Community College. She holds undergraduate and graduate degrees from Eastern Michigan University.

Lowry is called a "demanding but fair and caring" teacher by her students and described as a professor willing to spend extra time to assure that they understand course material. Lowry is also active developing continuing education

courses with industry, serving as faculty advisor to Delta Tau Sigma sorority, and helping lead such events as the Lawrence Tech Alumni Association golf tournament. She is a member of the Mathematics Association of America and the Michigan Council of Teachers of Mathematics.

Lowry was chosen from among 14 candidates whose names were submitted to an independent faculty and student committee chaired by Gilder Jackson, professor of humanities. Others on the committee were Dr. Lou Petro, Prof. Robert Hatch, Prof. Robert Greager, and students Dawn Raymond, Eric Edwards, and David Foucher.

"We are proud to recognize Ms. Lowry's accomplishments and dedication, and the tremendously positive impact she has on Lawrence Tech students," says Dr. Robert W. Ellis, the University's provost. "We also extend our thanks to the Sears-Roebuck Foundation for initiating this innovative program that recognizes educational excellence." □ BJA



TANA MOORE PHOTO

The Lawrence Tech mini-Baja team proudly poses with their winning vehicle: Dr. Wayne Brehob, faculty advisor; Pat Donnelly; Steve Niezur; Pat Murphy; and Lee Keshishian, lab technician. Not pictured is Matthew Hargett.

Lawrence Tech team takes first place in major vehicle competition

A team of Lawrence Technological University engineering students took first place in an all-terrain vehicle design and performance competition involving 50 colleges and universities from the midwestern, eastern, central, and southeastern United States and from Canada.

Dubbed the "SAE (Society of Automotive Engineers) Midwest Mini-Baja" and recalling the famed Baja Peninsula vehicle endurance events, the competition in May challenged student teams to conceive, design, build, test and compete with an all-terrain vehicle.

The hand-built one-of-a-kind vehicles must meet strict guidelines as to engine type, fuel tank, roll cage and other safety features.

Student teams, already burdened with difficult engineering classes, labor the entire academic year to build and test vehicles for the annual competition, hosted this year by the Milwaukee School of Engineering.

Cars can be used for two years if they undergo substantial modifications and improvements after being entered once. The Lawrence Tech car was modified by a new student team for the 1990 competition and first competed in 1989.

Lawrence Tech's winning entry endured a tough series of judged events that evaluated various design and performance characteristics, and concluded with rough-and-tumble high speed driving events that included a two hour foray through mudholes, down rutted trails, and up hills and "whoopedoods," — a series of closely spaced jumps.

According to Dr. Wayne Brehob, professor of mechanical engineering and the group's faculty advisor, this year's Lawrence Tech team was particularly committed to winning because of some bad luck experienced by other recent Lawrence Tech teams.

"The Lawrence Tech car finished among the top three in all categories except braking," says Brehob. "Our drivers did an excellent job of sustaining speed and control, yet pushing the vehicle to the limits of its design. Obviously, the other entrants had the same goal but our car is small, lightweight, and geared low so it did well in events that required low speed pulling force — the hill climbs, chain pull, and acceleration.

"Two years ago," Brehob adds, "our car was good enough to win but was relegated to second by a blown tire. This year, we had another outstanding car and team — and the good fortune to avoid another tire blowout!"

Brehob says the mini-baja competition is an excellent way of stressing to students the teamwork and results-oriented dedication needed in most of today's engineering challenges.

"You can discuss this in the classroom, but hands-on experience really drives the point home," Brehob stresses.

Design features of the Lawrence Tech car include a mild steel tube frame, four wheel independent suspension, four wheel brakes controlled with three pedals, a continuously variable transmission, enclosed double reduction chain drive, and rack and pinion steering. All entered cars are propelled by a stock eight-horsepower Briggs and Stratton engine.

Student members of Lawrence Tech's 1990 team are: Patrick Donnelly of Rochester, Patrick Murphy of Rochester, Matthew Hargett of Clarkston, and Steve Niezur of Utica. Lee Keshishian of Birmingham, a technician in the University's engineering fabrication lab, also assisted.

"We are very proud of the determination

of our students and the support provided by Dr. Brehob and Mr. Keshishian," says Dr. Khalil Taraman, dean of engineering. "This was a difficult, academically-based competition involving top universities from across much of North America. To win it speaks extremely well of our students at Lawrence Tech and their preparation as engineers." □ BJA

Faculty and staff notes

Perry E. Gresham, D.B.A.'75 (hon.), member of the Lawrence Tech corporation, was presented the communication and leadership award of chapter 6, Toastmasters International. William Moylan, ME'74, presented the award. Gresham is president emeritus of Bethany College and a distinguished author, orator, academic and business leader, and minister.

Lloyd E. Reuss, a Lawrence Tech trustee since 1978, was elected by the General Motors Corporation board of directors to serve as GM president, effective August 1.

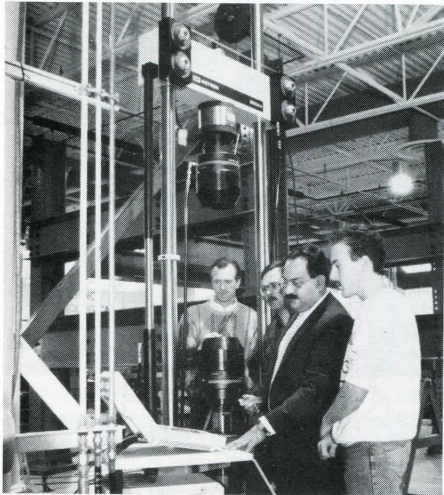
Reuss joined GM in 1959 and has held many leadership positions, including executive vice president of GM's North American automotive operations, executive vice president in charge of GM's North American passenger car groups, group executive in charge of the Chevrolet, Pontiac, GM of Canada group (CPC), general manager of Buick division, and director of engineering for Chevrolet.

In addition to service as a trustee of Lawrence Tech, he is a trustee of Vanderbilt University and the Louisville Presbyterian Theological Seminary.

Kurt O. Tech, ME'48, a trustee and member of the corporation of Lawrence Technological University, has been named by the State Board of Education as a charter member of the Postsecondary Education Advisory Council. The Council assists the State Board of Education by providing advice on postsecondary financing and other issues, and reviewing and making recommendations on proposed legislation. Council members include the governor, directors of the Michigan departments of Commerce, Labor, and Management and Budget, several state lawmakers, and several representatives of public and independent universities, community colleges, and higher education agencies. Tech and Andrew Diekema, president of Calvin College, are representing the state's independent institutions of higher education.

R. James Diegel, PE, associate professor of construction engineering, has been transferred to "Fellow" grade in the American Society of Civil Engineers. The Fellow grade is the highest active membership in the organization.

Safer structures are goal of new Lawrence Tech lab



Dr. Nabil Grace, second from right, discusses the structures lab with students Tom Peeler, Tom Blair, and Bruce Campbell.

Could your bridge beams wobble, your billboard topple, or the floor of your planned new building collapse under stress? Questions like these are answered more easily as a result of a massive new \$200,000 laboratory at Lawrence Technological University.

Lawrence Tech's new "structures lab" is the brainchild of Dr. Nabil Grace, professor of construction and civil engineering. The testing device he designed, a crib of steel 37 feet long, 18 feet wide, and 14 feet high coupled to sensitive electronic measuring equipment, can accommodate concrete, steel, iron, aluminum, plastic and composite materials, including beams, girders, slabs, joists, trusses, and braces used in construction.

The National Science Foundation, the Great Lakes Fabricators and Erectors Association, and Lawrence Tech provided funding and support for the lab.

According to Grace, the new lab will provide students with important hands-on experience while also providing vital research information to industry.

"Fabricators or designers of building components, and contractors, will be able to come to us with either a model or an actual component from a proposed structure such as a building or bridge," Grace says. "We'll be able to tell them how their unit can be expected to hold up under many diverse conditions — for example, wind, the pounding of highway traffic, vibrations caused by rooftop air handling equipment, the weight of stamping presses and other manufacturing equipment, crowds of people, and more.

"While some of this might be predicted with mathematical or computer models,

nothing can beat an actual test under 'real world' conditions," Grace says. "Lawrence Tech's new lab enables us to duplicate these stresses in a controlled laboratory environment.

"Obviously, our goal is a safer world where we can avoid some of the tragic failures of structural components that result in injury or loss of life," Grace stressed. "We believe the new lab can help designers, fabricators, architects and engineers to build structures better and perhaps less expensively by, in effect, concentrating effort on those components most likely to receive stress, flexing, compression, and fatigue."

Grace sees the new lab beginning an exciting new era of interaction between the University and industry. He is reviewing research proposals from several area companies that will provide challenging experiences for students and faculty advisors.

"Involvement in this level of research is normally open only to graduate students," says Grace. "The fact that our lab is open to undergraduates means they will be uniquely qualified as they seek jobs in industry or elect to pursue graduate studies."

For more information on Lawrence Tech's new structures lab contact Dr. Grace at (313)356-0200, ext. 2500.



Dr. John F. Watton

New mechanical engineering chairman

Dr. John F. Watton has been named chairman of the department of mechanical engineering at Lawrence Tech, according to Dr. Khalil S. Taraman, dean of engineering.

Watton succeeds Dr. Wayne M. Brehob who, after serving eight years as chairman of Lawrence Tech's largest academic program, returned to full-time teaching. More than 1,100 students are enrolled in day and evening mechanical engineering programs at Lawrence Tech.

"Dr. Brehob has led Lawrence Tech's mechanical engineering program during a period in which it developed into one of the most popular and successful in the nation,"

said Taraman. "We appreciate his many efforts that assured the program's quality and distinction, and we are pleased that he remains on the faculty and continues to help contribute to the development of young engineers."

Watton has served on the Lawrence Tech faculty since 1988 and helped develop the University's new Master of Engineering in manufacturing systems (MEMS) degree program, launched March 1.

He holds doctorate and masters degrees from the Massachusetts Institute of Technology, and was graduated Magna Cum Laude with a Bachelor of Science degree in mechanical engineering from Lawrence Tech.

"Dr. Watton, who pursued a Lawrence Tech degree in the evening while working full-time for the General Motors Research labs and raising a family, brings a unique perspective to meeting the needs of students who have many interests and responsibilities," Taraman says.

Watton is chairman of the certification committee and secretary of the local chapter of the Society of Manufacturing Engineers, and a member of Tau Beta Pi national engineering honorary, ASM International, and other groups. He holds nine U.S. patents in metallurgy and has authored and presented a large number of scientific papers. He is a veteran of the United States Marine Corps. □BJA

Coming ArchiLECTURES listed

Several top professionals are appearing on campus in coming months as part of the University's acclaimed ArchiLECTURE series.

Coming speakers include: management consultant Weld Cox, Jan. 17; architect/futurist Lebbeus Woods, Mar. 7; structural engineer William LeMessurier, "The Future of the Skyscraper: Does It Have One?", April 11; and architect Tod Williams, April 25. These lectures are free and open to the public.

Two of the lectures are being co-sponsored with the Founders Society - Friends of Modern Art/Decorative Arts Group of the Detroit Institute of Art. These include the appearance of architect/artist Frank Gehry, Dec. 5; and sculptor/artist Charles Biederman, March 21, "Art, Theology, Science and Technology." Tickets are being sold for these lectures and may be purchased from the DIA.

For further information contact Gary Kecskes at (313)356-0200, ext. 4020.

Lawrence Tech's ArchiLECTURE series is coordinated by the University's Division of Continuing Education and Professional Development, in association with the College of Architecture and Design. □WPK

University forms four colleges

Four new colleges have been formed as a result of a reorganization of academic programs during the past academic year at Lawrence Technological University.

Colleges of Architecture and Design, Arts and Science, Engineering, and Management replaced Lawrence Tech's former academic structure which comprised five schools.

"Combination of our former School of Engineering and School of Technology into a College of Engineering allows us to respond to the needs of industry and the professions in a more integrated and effective manner," says Dr. Richard E. Marburger, president.

"The combined programs and faculties are stronger. We are able to better utilize our resources and serve our students and their eventual employers by reacting even faster to technological advancements and other workplace changes."

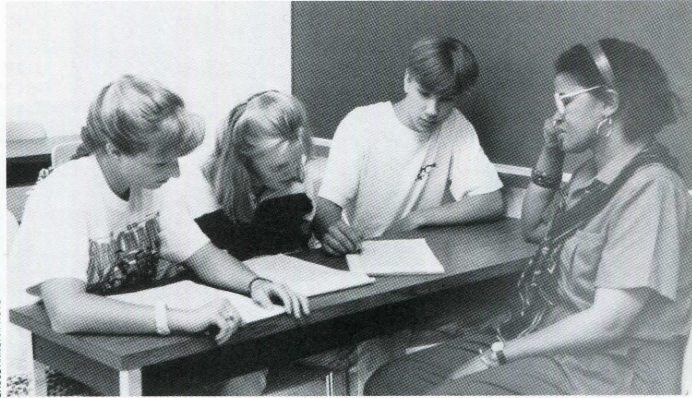
Lawrence Tech is the largest supplier of undergraduate engineers in the three county (Oakland, Wayne, Macomb) area, among the five universities with engineering programs, providing more than one-third of the area's total. Historically, about 80 percent of Lawrence Tech's engineering grads choose to remain in Michigan.

"Our commitment to Michigan's future as one of the world's leading manufacturing and technological centers is enhanced by the interaction our new organization provides," Marburger says.

"Lawrence Tech's former School of Architecture, broadened in scope as the College of Architecture and Design, represents a growing commitment to these fields," Marburger adds. "Our undergraduate program here is already one of the largest in the nation."

The Associate of Science degree program in information systems (formerly computer systems) was transferred from the former School of Technology to the College of Management and the associate program in chemical technology became part of the department of natural sciences in the College of Arts and Science. Both associate programs were expanded from evenings only to day or evening programs. Four other associate programs and the Bachelor of Science program in engineering technology became the focus of a new department of technology in the College of Engineering.

"All in all, the realignment has created new synergies that have helped improve all the academic programs and allowed us to direct more attention directly to the labs and classrooms," says Dr. Robert W. Ellis, provost. "The realignment builds on existing strengths and clusters similar subject matter under common administrative areas." □ *BJA*



BRUCE ANNETT PHOTO

Student writers Bethany Charboneau, Maureen Murphy, and Matt Fisher discuss papers with workshop leader Brenda Flanagan.

Authors help high school students learn the 'write' stuff

An innovative summer institute sponsored by the Michigan Council for the Arts, Oakland County Cultural Council, Maccabees Life Insurance Company, and Lawrence Technological University paired professional authors and budding young writers and helped the students write better and more creatively.

Lawrence Tech's Summer Writing Institute was designed to help high school-age student writers, who had already demonstrated significant writing ability and who have been recommended by their English faculty, to participate in workshops conducted by three distinguished Michigan authors. The program was offered free to participants except for a registration fee.

The four-week program ran four mornings a week from June 18 to July 13 on the Lawrence Tech campus. Students participated in poetry and fiction workshops allowing them to write, be evaluated, and take part in discussions with the professional writers and other outstanding students from throughout the metropolitan area.

Three distinguished Michigan authors served as workshop leaders.

Brenda Flanagan led a fiction workshop and is a three-time winner of the Hopwood Award and recipient of several grants from the National Endowment for the Humanities, the Mellon Foundation and others. She has also published a number of stories and video productions and has written a novel to be published next spring. She is also a professor at Eastern Michigan University teaching fiction and creative writing.

Gloria D. Nixon-John, another fiction workshop leader, also published under the name of Gloria Demasi, has taught communication for fifteen years. Her students have won numerous awards for their writing and her poetry and prose will be included in a text soon to be released.

Henrietta Epstein lead the workshops in poetry. She is published in the 1988 edition of

Contemporary Michigan Poetry, The Third Coast, and is a former writer in residence at Interlochen Arts Academy, and a past president of the Poetry Resource Center.

"The opportunity for high school students to learn directly from professional writers and other top students is an unusual chance for sharpening skills and doing some introspective thinking about a writing career," says Marilyn Shapiro, director of the Institute and instructor of humanities at Lawrence Tech. "We believe the students will have left not just as better writers, but as more creative, involved, and active participants in the entire communicative process."

The Summer Writing Institute was offered through the auspices of Lawrence Tech's department of humanities and College of Arts and Science. □ *BJA*

Student SAE chapter wins award

Lawrence Technological University's SAE student chapter took the first place prize of \$900 in the SAE International Congress and Exposition's student chapter booth competition. The Expo, held at Detroit's Cobo Hall February 26 - March 1 attracted 39,000 visitors. SAE is a professional organization of engineers involved in transportation and mobility activity. Eaton Corp. provided prize money.

Twelve universities or colleges participated in the international competition. Students from the University of Michigan took second and a Michigan State University team gained third place honors. A total of 12 universities entered.

This is the second consecutive year that Lawrence Tech has taken first place honors in the competition. □ *PAB*



BRUCE ANNETT PHOTO

Dr. Lucy Siu-Bik Lam King (standing) is embarking on a research project to develop a computer-based way of improving manufacturing productivity. Her work is being funded by the National Science Foundation.

NSF research grant to engineering

Supported by a two-year, \$110,000 National Science Foundation grant, subject to renewal in the second year, two Lawrence Tech faculty members are researching methods to develop a computer based technological tool that could improve productivity and reduce costs in manufacturing.

The research is being conducted by Dr. Lucy Siu-Bik Lam King, professor of mechanical engineering. Acting as a materials consultant is Dr. John F. Watton, chairman of mechanical engineering. While Lawrence Tech has previously received NSF grants, this is the first NSF research grant for the University.

The goal of King's research is to streamline the process of designing and building the assembly fixtures that hold products as they move down the assembly line. King hopes that by designing the fixtures and products together, the manufacturing process can get underway faster and with better quality.

King expects to perform geometric feature extraction of parts of a design for an alternator, as an example, and analyze the assembly motions necessary to put the parts together to form the alternator. Incorporating the results of feature extraction and force analysis, a software program will be written to deduce a design for a fixturing mechanism to hold the part during assembly. At present, this process is performed manually with the aid of computer aided design (CAD) systems. Once the software program is completed, a design/manufacturing facility will be able to take a design from a CAD system, and automatically configure and generate a fixture for assembly.

The program would allow for testing the mating of the part with its fixture on the computer screen. Presently, a manufacturer

has to produce two plans, one for the part and one for the holding fixture, which could then require making prototypes and performing stress tests.

"I believe the whole manufacturing process can be based on one single database, which is the database for the design of the product," King says. "The concept here is that we can move from the product design directly to the design of the fixture. This would save time and

money."

She adds, "This will speed up the manufacturing process and make it more efficient."

Initially the subject of the research will be on an automobile part, possibly an alternator, that will be relatively simple — meaning the part will not have a lot of complex surfaces. Once perfected, the program would have a wide array of manufacturing applications, and could save manufacturers "hundreds of thousands of dollars," according to King.

Why do all this?

"There is a trend toward automation, improved quality, increased productivity and decreased production lead time," King says. "This can help." □ WEK

1991 Open House is April 21-22

"Contributing to the World Community" is the theme of Lawrence Tech's 1991 Open House set for April 20-21. Students in all disciplines are preparing displays and there will be a number of special campus activities of interest to visitors, including prospective students and alumni.

The '91 Open House is expected to demonstrate, in particular, the many ways that Lawrence Tech students, faculty, and alumni make positive contributions to humankind throughout the nation and world.



BRUCE ANNETT PHOTO

Area youngsters exercise scholastic skills

Students, parents and teachers in "Summer Fun at Lawrence Tech," part of the Detroit Area Pre-College Engineering Program, listen to Elaine Dowell, director of minority educational development at Lawrence Technological University, (at podium) during the event's closing ceremony July 25 on campus. About 30 ninth-graders from schools in the tri-county area participated in the advanced study of English, math and physics. The four-week program involved faculty from Lawrence Tech, and teachers from the Highland Park and Detroit school systems. The event was aimed at helping the students prepare for the rigors of high school.

Joint Lawrence Tech-Madonna project promotes Japanese knowledge

With many aspects of its culture entrenched in ancient tradition, Japan can be a complex country to try to understand. For the next eight months Lawrence Technological University and Madonna College are co-hosting lectures on Japan — covering Japanese music to business and trade practices.

This joint endeavor, the first between the two schools, is a faculty development project in Japanese studies. It is being funded by a grant from the Panasonic Foundation. The project involves 17 faculty members from both schools. They've been busy in preparation over the summer, including reading approximately 1,000 pages of background information and several texts.

Upcoming programs scheduled for Madonna College's campus, located near Schoolcraft Road and Levan in Livonia, include Japanese literature, Jan. 25; Japan in world history, Mar. 22; and Japanese education, April 26. Topics scheduled for the Lawrence Tech campus are the Japanese in business and trade, Nov. 30; and Japanese art, Feb. 22. While these lectures are primarily to benefit the faculty involved in the project, the programs are open to the public. After the lectures the faculty and speakers may further discuss the topics. Eventually, this information will be incorporated into a booklet, and by next fall the faculty will incorporate this knowledge into their classes.

Credit for the formation of the project goes to Bob Rann, an assistant professor of Japanese studies at Madonna, and a lecturer in humanities at Lawrence Tech.

Rann holds Ph.D.s in Japanese language and literature and musicology, and for the past year he has worked at putting the project together and securing the grant monies for it. Interest in the project quickly swelled. Rann credits this to the curiosity Americans have about the Japanese, stirred primarily by Japan's business successes.

One of the Lawrence Tech faculty involved is Douglass V. Koch, assistant dean, College of Management. Koch says he is anxious to hear the Nov. 30 lecture and discussion on Japanese business and trade. The importance of understanding the Japanese can be seen in the fact that there are approximately 288 Japanese businesses based in the southeast Michigan area alone, according to the Detroit Chamber of Commerce.

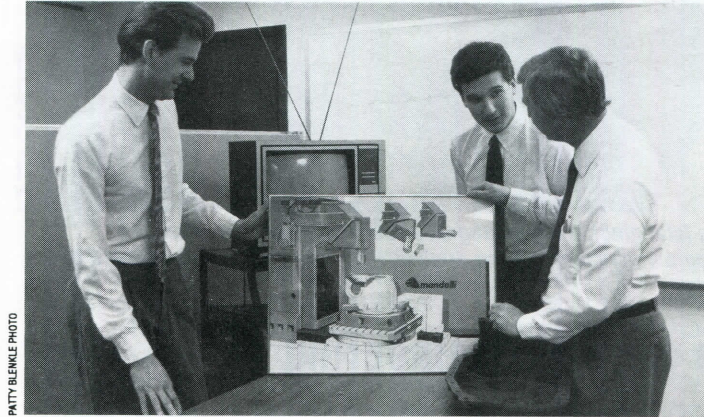
"This series not only gives a feeling on how they do business but the culture behind their attitudes and their way of doing business," Koch says. "One of the objectives of all of this

is to make sure we go away with a clear picture. If we're going to pass this on to our students we should make sure we pass it on correctly."

Rann says Japan's "phoenix-like rise from the ashes is worth study." Rann also said that another aspect that has piqued American curiosity about Japan is that it is a model of a working industrial democracy. He says that

the goal of this project is to give an understanding, of the "land of the rising sun."

"They're rich, and there are many who want to know how they got to be so rich. But that alone is not enough to sustain an interest in Japan," Rann says. "There are many endearing qualities of the Japanese people — their arts; their theater." □WEK



(L to R) Mark Danielewicz, Sean Stawiasz, and Mandelli, Inc. supervisor Jack Harbison at work in the firm's Farmington Hills office.

Arivederci! Co-op goes international

By now, two Lawrence Tech students, Mark Danielewicz and Sean Stawiasz, have fielded their share of language barrier situations and are enjoying their Italian work setting as part of the Lawrence Tech co-op program. They represent an important step for the program — international involvement.

Danielewicz, 23, and Stawiasz, 20, are working for Mandelli, Inc., which produces flexible manufacturing systems and stand alone machining centers. Danielewicz, a mechanical engineering student, and Stawiasz, an electrical engineering student, had been quite busy learning the engineering and design of Mandelli systems, mainly at the company's Farmington Hills location. However, they were also called upon in late August to be part of a Mandelli installation team that was setting up a system at a Rockwell International truck transmission plant in North Carolina.

All of this was a prelude to their September 9 departure overseas to work at Mandelli's headquarters in Piacenza, Italy. With 650 employees, Mandelli is the fourth ranked machine company in Europe. They are ranked 15th in the United States.

The machines can range in price per individual system from \$500,000 to \$1 million, while an entire stand alone center may cost \$5-10 million, according to Jack Harbison, manager of applied engineering for Mandelli at its Farmington Hills location.

Harbison said he has been impressed by the two Lawrence Tech students. However, he added this is not the company's first encounter with Lawrence Tech. Two years ago the

company hired Jeff Scott part-time. Following graduation Scott was put on the payroll full-time. A similar story is true for 1989 grad Sean Kurtz.

Danielewicz and Stawiasz have been working at the Farmington Hills location for the last semester. Harbison admitted the company was watching the students.

"It was a testing ground. We wanted to see who they were. What they can do. And to make sure they were interested in us," Harbison says.

Now Mandelli is paying the airfare, housing and food expenses for Danielewicz and Stawiasz while they are in Italy. The company will also supply them access to a car. They are expected to return from Italy in April.

"The experience is definitely going to be a plus," Stawiasz said. "This is at the forefront of manufacturing. What we're learning should be invaluable. Employment and experience — that's what I was hoping to get out of co-op."

Stawiasz was anxious to get to Italy. He said he believes once there he is really going to get the chance to use his computer expertise, especially in the area of computer aided design. Of course, there is the allure of a nearby Ferrari plant being outfitted with Mandelli equipment.

Danielewicz said he too was eager to get to Italy, but he admitted to one potential problem.

"This is giving me a once in a lifetime opportunity, not just in engineering but a international experience. It will be a challenge because of the language barrier. I don't speak Italian," Danielewicz said.

Danielewicz had praise for the Lawrence Tech co-op program. He said it offers "hands-on experience that is necessary in the real world because things can be different from the classroom."

"Sending students overseas adds a new dimension to cooperative education," says Jackie Ciupak, Lawrence Tech's co-op and placement administrator. "It has taken a lot of work by many people."

Ciupak said about 52 companies are now participating in the co-op program, and about 118 students are currently employed.

Approximately 79 percent of the students, after completing the program, are offered full-time employment with those companies. Lawrence Tech offers co-op opportunities in electrical and mechanical engineering □ *WEK*

Distinguished civil engineer named to head program

Dr. Alan L. Prasuhn, formerly a professor at South Dakota State University, has been named chairman of the civil engineering department at Lawrence Tech.



Dr. Alan L. Prasuhn

Dr. Khalil S. Taraman, dean of Lawrence Tech's College of Engineering, made the announcement, noting that the department offers the state's only Bachelor of Science degree program in construction engineering that is accredited by the Accreditation Board for Engineering and Technology, Inc.

"Dr. Prasuhn comes to Lawrence Tech with impressive credentials as an educator, author, and researcher," says Taraman. "His experience and many contributions to the field of civil engineering will be of enormous benefit to our students and our educational program."

Prasuhn is the author of two engineering textbooks — one published by Prentice-Hall and the other by Holt, Reinhart and Winston — and he has also authored 22 other publications in the area of hydraulics and hydrology.

In addition to his position at South Dakota State, which he held since 1978, Prasuhn has been visiting fellow at the University of Birmingham (England), and from 1970 to 1978 was a professor at California State University. His research includes the characteristics of sediments and sediment problems in waterways, flood plains, and sanitary sewers, and how such structures as bridges affect sediment movement and scouring. He is currently doing research for the U.S. Army Corps of Engineers.

A registered professional engineer, Prasuhn holds a bachelor's degree from The Ohio State University, a master's degree from the University of Iowa, and a Ph.D. from the University of Connecticut. He is a fellow of the American Society of Civil Engineers and was a national director of that organization from 1985-88. He was North Midwest Section chairman of the American Society for Engineering Education for 1989-90. □ *BJA*

New engineering master's degree in manufacturing is offered

A Master of Engineering in manufacturing systems (MEMS) degree program was launched March 1 by Lawrence Technological University's College of Engineering.

Designed for working professionals, the MEMS courses are offered on Tuesday and Thursday evenings, according to Dr. Khalil Taraman, dean of Lawrence Tech's College of Engineering.

"The program was developed in response to needs of area industries," says Taraman. "Surveys we conducted that were supported, in part, by the Society of Manufacturing Engineers, revealed that area businesses and industries seek individuals who can improve the manufacturing process. Application of special skills can assist and strengthen interaction between manufacturing, engineering, research, suppliers, marketing, sales, and management," he adds. "Understanding the systematic relationship is vital as we in Southeastern Michigan seek to sustain this region's leadership as a center of advanced manufacturing and research."

September enrollment figures revealed 27 students already enrolled in the MEMS program. Sixteen of the students are grads of Lawrence Tech's bachelor's programs and the remainder represent a variety of other schools. The students are employed by a variety of manufacturers. Ford and GM are each represented by seven students.

Taraman says Lawrence Tech is well situated for the new program because many of Michigan's major manufacturers are located only a few miles from the University's campus in Southfield. In recent years the University has provided 40 percent of the undergraduate engineers in the three county metro area.

All faculty for the new program hold doctoral degrees and have experience in industry. Lawrence Tech has spent several million dollars in recent years preparing new engineering laboratories in advance of the program. The new program is accredited by

the North Central Association of Colleges and Schools. Lawrence Tech's bachelor's programs in electrical, mechanical, and construction/civil engineering and associate programs in engineering technologies are also accredited by appropriate agencies of the Accreditation Board for Engineering and Technology, Inc. (ABET).

Dr. John Watton, ME '81, chairman of the mechanical engineering department, led the faculty team that developed the new program and is serving as the MEMS program coordinator.

Candidates for the new degree program at Lawrence Tech must be graduates of an ABET-accredited engineering college, hold at least a "B" average, and have at least a year of industrial experience.

For more information, contact Lawrence Tech's graduate admissions office at (313) 356-0200, ext. 3160. □ *BJA*

Bolt failure concerns experts

Fake designer watches and blue jeans were bad enough, but what about counterfeit low-quality bolts that endanger lives because they fail in normal use?

These and other concerns were topics discussed by the American Society of Mechanical Engineer's Bolting Technology Council as it held its semiannual meeting this spring in Detroit and at Lawrence Technological University.

Experts from throughout the United States met to discuss recent developments and advances in fasteners and bolted joints, and the growing problem of low-quality "counterfeit" substitutes.

The topic has generated considerable public attention and media interest locally following the apparent failure of bolts that allegedly caused a freeway sign to fall on and kill a motorist earlier this year in Dearborn. Nationally, the U.S. Congress and other agencies are concerned with other failures of bolts in a variety of applications and bolt "counterfeiting" — the clandestine substitution of low-quality weak bolts that do not meet specifications in vital weapons systems, and construction and transportation applications.

Dr. Sayed A. Nassar, professor of mechanical engineering and director of Lawrence Tech's fastener research lab, addressed the Council and discussed the work of his lab, which is believed to be the only university-based threaded fastener research lab in the country. Nassar and senior mechanical engineering students conduct experimental, analytical, and computer research on bolts and bolted joints — often under contract with industry. □ *BJA*

Reunion '90 brings grads 'back home'

The 1990 alumni reunion weekend, April 21 and 22, attracted a large number of enthusiastic grads back to campus to revel in past glories and view the activities of current students.

Held during the University's annual all-campus open house, the reunion weekend featured hundreds of special student displays and activities highlighting campus life for visitors.

The Alumni Association's reunion dinner-dance, held on Saturday evening, attracted almost 200 grads and their guests. The dinner-dance committee planned a terrific evening of good fellowship, great food, and entertainment that included tributes to alumni, dinner music, a portrait caricaturist, and the dance band "Musically Inclined" featuring Sue (Hu'86) and Rich (Ma'78) Pouch.

Singled out for special honors this year were the "0" and "5" classes. Thus, grads from 1935, '40, '45, '50, '55, '60, '65, '70, '75, '80, and '85 received recognition from the Association and reunion mementos.

Reed Abt, CivE'55, recognized six grads for coming the longest distances: James Borden, EE'80 from Edmundson, MO; Harold Foster, ME'50, from Overland Park, KS; Ed Kesselring, ME'50, from Erie, PA; Ray Moy, ChE'43, from Atlanta, GA; Walt Ruffer, ME'50, from Pittsburgh, PA; and Adam Shostak, AeE'50, from Rockville, MD.

Dennis O'Connell, IM'70, the 1988-90 Alumni Association president, served as master of ceremonies. Eugene Kaczmar, IE'50, presented the invocation. Carl Cowan, ME'40, and Gerard Burke, IE'50, presented brief remarks on behalf of their classes.

In addition to O'Connell, Abt, Cowen, Kaczmar, Pouch, and Burke, other members of the reunion planning committee included: Roger Avie, IM'68; Diane Marcucci, ME'86, Bruce Polkinghorne, ME'50; Richard Larkins, ChE'50; Doug Wood, BA'85; Randall Kamischke, ME'40; Mark Bill, ME'75; William Ironside, ChE'50; Dave Stirling, BA'88; and Walter Broker, ME'50, IE'52.

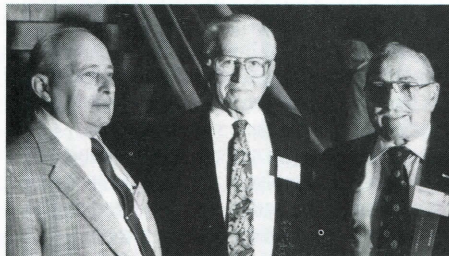
In case you missed the fun, mark your calendars for Reunion '91 coming next April 20 and 21! □ BJA



Bruce Polkinghorne, '50 "gets characterized."



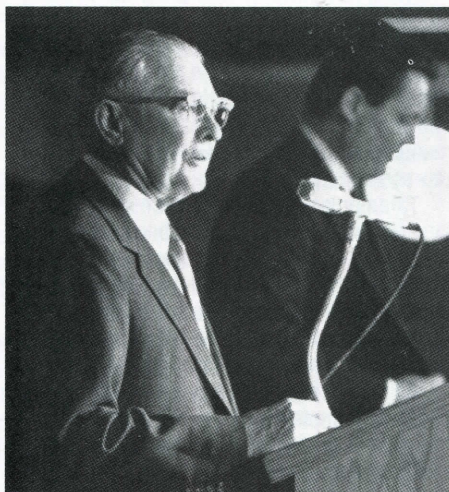
Alumni from across the U.S. returned to campus for the annual reunion and open house weekend April 21 and 22. A reception prior to the dinner-dance allowed several hundred grads and their guests a chance to renew old friendships.



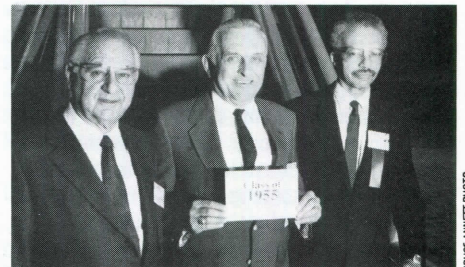
Classes of 1934 and '35: (L-R) Edgar Claes, Charles Gergle, Vincent Kaye.



Class of 1940: (Front Row L-R) Alfred Sands, Robert Kamphaus, Carl Cowan. (Second Row L-R) Robert Roggenbuck, Robert Anderson, Marion Kolasa. (Back Row L-R) William Ironside, Anton Joen, Richard Newman.



Carl Cowan, '40, spoke of his class's past 50 years.



Class of 1955: (L-R) John Manoogian, (DIT), Reed Abt, Sidney Cobb.

'Diversity' describes alumni activity year

The 1989/90 activity year was one of the busiest in the Alumni Association's history. Certainly, it was the most diverse in terms of the range of activities offered.

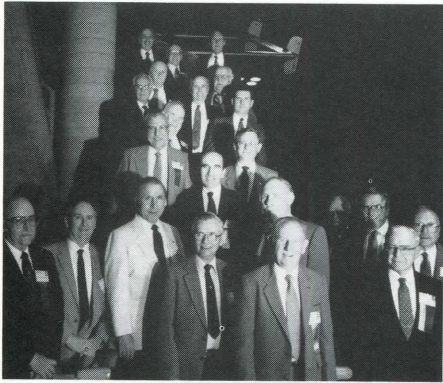
Alumni Association members and their guests could take advantage of a Caribbean cruise on the ship "Regent Sea" in February, a tour of Australia, New Zealand, and Hawaii in March or April, white water rafting in West Virginia in July, the Soviet Union in July or October, and an African Safari in October. A Mackinac Island trip was also offered in June.

In addition to the trips, local activities in the Detroit area this past year included theatre outings to Les Miserables at the Fisher and Cinderella at the Bonstelle. There was also a Tiger baseball outing, and interaction with the Toastmasters public speaking organization. The Alumni Reunion on campus in April was well attended by alumni coming in from across the country.

"All of our activities and events are offered at very competitive pricing in order to attract as much participation as possible," says Dennis O'Connell, the 1988-90 president of the Alumni Association. This past year, we expanded our programming and went virtually world-wide in our offerings.

"All of our trips came 'prescreened' and highly recommended," adds O'Connell. "The agents we use have good reputations and usually have a track record of years of interaction with some of the largest and most successful alumni associations in the country. With our local trips, our directors or alumni services staff handle all particulars and actually travel with the group to take care of all details."

□ BJA



Class of 1950: (Front Row L-R) Jack Cooley, Osie Jackson, Walter Ruffer, Gerard Burke. (Second Row L-R) John Moran, Bruce Polkinghorne, Eugene Kaczmar, John Wallace, Harold Foster. (Third Row L-R) William Bartolomeo, Raymond Jenzen, John Dinan. (Fourth Row L-R) Stan West, Leo Tomaszewski. (Fifth Row L-R) Austin Stanzel, Adam Shostak. (Sixth Row L-R) Richard Vartanian, William Stairs. (Seventh Row L-R) Richard Kloock, Wilfred Green. (Back Row L-R) Harry Hayter, Robert Hagemann, Edwin Kesselring.



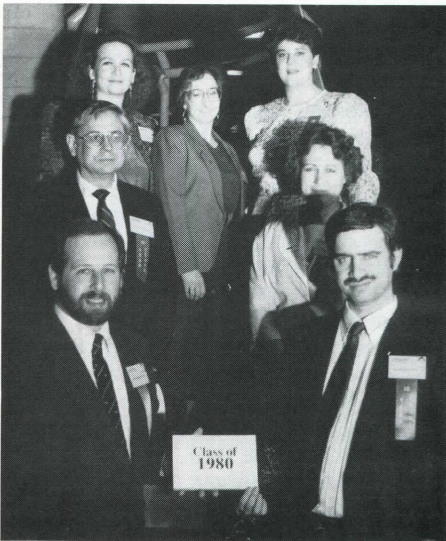
Class Of 1970: (L-R) Ezio Walter Masciulli, Dennis O'Connell.



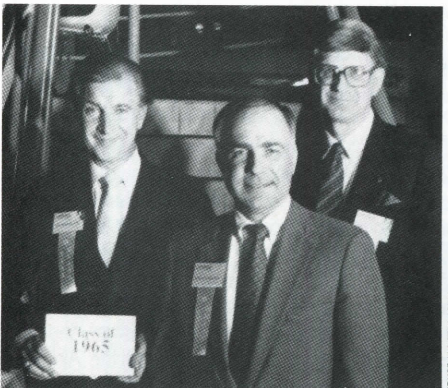
Class of 1975: (L-R) William Foss, Carl Szabelski, Steven Sawka, Thomas Ladloski.



Class of 1960: (L-R) Coda Edwards, Ronald Gold, Nicholas Fakaros.



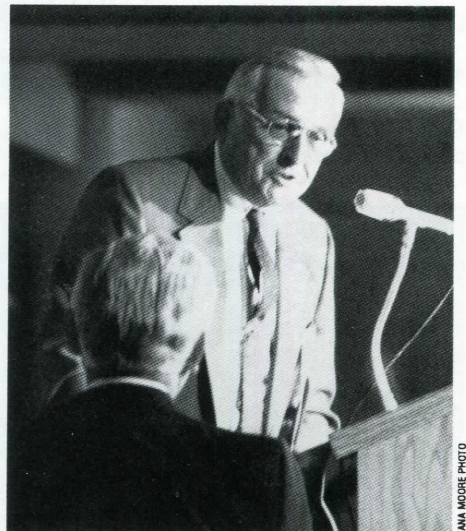
Class of 1980: (First Row L-R) Mark Kovalsky, James Borden. (Second Row L-R) Henry Leshinsky, Mary (Novak) Coppinger. (Back Row L-R) Barbara (Felosak) Stewart, Diane (Margosian) Paulsen, Karen (Partalis) Ialacci.



Class of 1965: (L-R) Hank Murawski, Arthur Fischer, James Neisch.



Class of 1985: (L-R) Tom Margosian, Jim Johnson, Angelo Ialacci.



Reed Abt, '55 presented awards to those who journeyed farthest to attend.



BRUCE ANNETT PHOTO

1990-91 Alumni Association Board (L to R): Ron Stofer, Sue Pouch, Marshall Bloom, Dave Stirling, Judy Milosic, Dennis O'Connell, Dave Ashland, Eric Lewis, Diane Marcucci, Roger Avie, Roger Shtogrin, Sharon Rubino, Laura Slenzak, Charles Koury. Not pictured: Roy Hoenle.

Alumni Association elects new board members

Judith S. Milosic, Ma'76, has been elected president of the Lawrence Tech Alumni Association. Milosic is among nine graduates elected or re-elected to the Association's board in June elections.

Milosic is the first woman president of the Alumni Association. She was elected a director in 1985, and had served as the Association's recording secretary since 1986. In recent years she has played a major role in researching and planning of Association programs and activities. Milosic is assistant director of business affairs at Lawrence Tech.

Re-elected to new two-year terms as officers are Ronald Stofer, CE'76, vice president; Eric A. Lewis, EE'76, treasurer; and Roy Hoenle, RAC'58, IM'76, corresponding secretary. Stofer is fire chief at General Dynamic's Detroit Tank Arsenal. Eric Lewis is engineering supervisor and Roy Hoenle is plant engineering supervisor for General Dynamics Land Systems.

Diane Marcucci, ME'86, was elected recording secretary. She is a project engineer.

Elected to a two year term as a director was Sharon Rubino, MCS'85. Rubino fills an unexpired term. She is assistant staff manager of

Michigan Bell.

Elected as directors for three year terms were: David J. Stirling, BA'88, general supervisor of investment recovery for Detroit Edison Company; Laura Slenzak, MCS'84, EE'85, legal specialist for Dykema, Gossett; and David Ashland, EE'61, manager of computer resources for Ford Motor Company.

Other directors not up for election in 1990 are: Roger Avie, IM'68; Marshall Bloom, Hu'78; Charles Koury, Ma'73; Roger Shtogrin, IM'61; Dennis O'Connell, IM'70, (immediate past president; and Suzanne Pouch, Hu'86.

Retiring from the board was Henry Selewonik, IM'57 who served nine years in many capacities, including being 1986-88 president; Alice Selewonik, IA'83, who served 3 years as director; and Theodore Milek, ME'51, who served 15 years as director.

The Selewoniks are the first "multigeneration" combination ever to serve simultaneously as directors. (Alice is Henry's daughter.) Milek and the Selewoniks were each cited at the annual business meeting for their dedicated service to the Association and the University.

□ BJA



TANA MOORE PHOTO

Ray Moy, ChE'43, received special recognition at the alumni reunion from 1988-90 Association president Dennis O'Connell for outstanding work with the Georgia chapter.

Georgia chapter up and running

The Alumni Association's first active chapter is up and running in Georgia, thanks to the efforts of Ray Moy, ChE'43, and several other dedicated grads.

The group's events have included dinner meetings and picnics. Moy, Lois Grant, Ar'79, BA'80, and Ted Darzi, Ar'68, and their families have hosted receptions at their homes and an August summer picnic at Stone Mountain state park was a big success. George Drake, IM'70, is hosting the group's next event on December 2.

Roy Hoenle, RAC'58, IM'76, corresponding secretary of Lawrence Tech's national Alumni Association, and Bruce Annett, director of alumni services, have visited the group in Atlanta on separate occasions.

The Georgia chapter's latest project is to encourage top students from Georgia high schools to explore and, it is hoped, enroll at Lawrence Tech. Area grads are visiting high school "college nights" and doing other visitations and contacts with support from the admissions office. The goal is to continue to widen the geographic base from which the University draws students.

Moy is president of the Chapter and lives in Atlanta. Other officers are Edward R. Ciul, IE'59, vice president; Frank G. Lamia, Ar'76, BA'80, secretary/treasurer; Frank J. Pudysz, Jr., Ar'79, BA'80, publicity chair; and Mark Oberholzer, MCS'85, membership chair. Lois Grant is program chair.

Georgia area grads who would to become involved can contact Moy at 2335 Riverglenn Circle, Atlanta, GA 30338. — □ DAS

Want to get involved in your Association?

Lawrence Tech Alumni Association officers are elected to two year terms. Directors serve three year terms and about one third are up for election each year. Graduates and former students may become members of the Association by, in lieu of dues, making a donation to the University. Association membership extends for one year from the date of the gift,

which can be designated for any academic program or support activity.

The Board seeks involvement and suggestions from all alums and welcomes alumni to serve on committees and help plan events. If you're interested in volunteering, call the Alumni Services Office at (313) 356-0200, ext 2200. □ BJA

1991 reunion April 20-21

The 1991 alumni reunion weekend is set for April 20-21, and will again coincide with Lawrence Tech's campus wide open house. While all alumni are invited to attend, if your class year ends with a "1" or a "6," this will be your year for special recognition! The 1991 reunion committee is forming now so volunteer to help plan an event you'll long remember. For information or help as you begin tracking down your "lost" buddies, call the Alumni Services Office at (313) 356-0200, ext. 2200.

A L U M N I N O T E S

1933-59

Eugene Kaczmar, IE'50, entered the 1990 race for Oakland County Commissioner in the 10th District as a Democrat. He has served on the Madison Heights Council, Planning Commission, Zoning Board of Appeals, and the Advisory Commission on Senior Citizen Concerns. He is a member of Clean Air Please, a group opposing the reopening of the Madison Heights Incinerator. Kaczmar holds a master's degree from Wayne State University. He is retired, having worked for Ford Motor Company for 22 years as an engineer.



Alvin R. Prevost, ArE'51, AIA, was named an associate at Harley Ellington Pierce Yee

Associates Inc. in Southfield. He is manager of technical services for the operations group of the firm. Prior to joining HEPY, Prevost had been president of Prevost Treacy & Partners Inc. He and his wife reside in Troy.

Victor L. Kochajda, EE'52, president of Teal Electric Co. in Troy, MI, received the National Association of Electrical Distributors' Distinguished Service Award in April. The presentation was made at the NAED's annual meeting in Salt Lake City. Kochajda has served the organization as a representative, central region vice president, executive committee member, and is chairman of the advisory committee for The Electrical Distributor magazine. He is a member of the Engineering Society of Detroit.

David Reichard, EE'54, of West Bloomfield, is vice president of marketing and sales for Comau. His duties include overseeing a staff of field engineers and responding to customers' needs for integrated equipment systems. Reichard and his wife Jean have three children.

1960-69

Robert E. Addy, EE'61, retired May 25, 1990 from the Michigan Department of Transportation after 23 years of service. He had held several posts within the bureau and was head of the Airport Development Division at the time of his retirement. Addy also had taught mathematics part-time at Lansing Community College for 19 years. He holds a private pilot's certificate with an instrument rating and is a registered electrical engineer.

David C. Paterson, ArE'62, AIA, is



a senior associate with TMP Associates Inc., a Bloomfield Hills architectural/engineer-

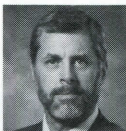
ing firm. He directs TMP's Quality Assurance Program as director of architectural development. Paterson was previously a senior associate at Yamasaki & Associates. He has worked on projects such as Chrysler Corporation's World Headquarters in Highland Park and the Royal Reception Pavilion at King Fahd International Airport in Saudi Arabia, among others.

Gary Van Neck, EE'63, was named president of a new subsidiary of Walbridge Aldinger in Livonia, called Spectra Facilities Services.

Harold E. Bargar, ME'64, of Omaha, NE, is retired from the Sperry-Vickers Company based in Troy, MI. Bargar and his wife, Florence, have a son and a daughter.

Kenneth R. Jenkins, ME'64, PE, was named a senior associate at TMP Associates, Inc. in Bloomfield Hills. Jenkins is a member of the American Society of Heating, Refrigerating and Air Conditioning Engineers and the Engineering Society of Detroit.

Conrad S. Niezur, ArE'64, of Shelby Township, is project director at Walbridge Aldinger, a Michigan construction company. Niezur is a member of the Engineering Society of Detroit and the Association of Iron & Steel Engineers.



Thomas F. O'Connor, ArE'64, PE, AIA, FASTM, was elected as vice president of Smith,

Hinchman & Grylls Inc. in Detroit. O'Connor specializes in building technology, including curtainwall design, skylights, and evaluation of building problems. He has served as an expert witness and provides consulting services. He was elected chairman of the American Society for Testing and Materials' committee on building seals and sealants. O'Connor also serves on the building code board of appeals for the city of Livonia, where he lives with his wife and four children.

Henry F. (Hank) Peters, CivE'64, of Rochester, has been named treasurer of Professional Engineering Associates in Birmingham.

William J. Pesch, ArE'65, CSI, CCS, was named an associate at Harley Ellington Pierce Yee Associates Inc. in Southfield. He



had been assistant director of architecture and manager of specifications for the

firm. Pesch is a certified construction specifier and a member of the Construction Specifications Institute. He and his wife live in Oxford.

John S. Wilkie, ArE'65, AIA, is a partner in the firm of Yops & Wilkie, Architects, A.I.A. in Wyandotte. The firm has designed many major buildings in the downriver area, including the One Heritage Place building in Southgate and the Benjamin Yack Arena in Wyandotte. One Heritage Place won an "M Award" from the Masonry Institute of Michigan.

Robert A. Black, Ar'66, Ph.D., is president of RAB, Inc. Black is a speaker, trainer, and consultant specializing in promoting leadership, marketing, and communication and problem solving skills. He was selected for membership in Who's Who in American Education.



Thomas M. Ebejer, Ar'66, AIA, was named executive vice president of design and

construction at the Specialty Hospital Group of National Medical Enterprises, Inc., based in Santa Monica, CA. Ebejer is a member of the American Arbitration Association and the National Council of Architects Registration Board. He and his wife, Carleita, reside in Annapolis, MD.

Samuel D. Begola, IM'67, has formed his own business valuation and financial management consulting firm, Samuel D. Begola Associates, Inc., in Sterling Heights. Begola was previously director of business valuation for Multi Financial Services, Inc. Begola holds a Masters in Business Administration from Central Michigan University. He is affiliated with the National Association of Accountants, the National Association of Credit Management, the American Society of Business Appraisers, and is a member of the Institute of Business Appraisers.

Donald L. Pratt, Ar'69, of Wake-Pratt Inc. in Troy, MI, was the 1989 treasurer of the Michigan Association of Home Builders.

1970-79

Christopher I. Dow, Ar'70, RA, was named assistant project administrator at Harley



Ellington Pierce Yee Associates Inc. of Southfield.



John Dziurman, Ar'70, AIA, was named senior vice president, director of

architecture, and a member of the board of directors of Giffels Consultants Inc. of Southfield. Giffels is an architectural/engineering/planning firm. Dziurman had previously been senior vice president, director of architecture, with the Wade-Trim Group.



Donald K. Giroux, Ar'70, AIA, was named senior vice president of Harley Ellington

Pierce Yee Associates Inc. of Southfield. Giroux resides in Milford with his wife and three children.

R. Rocco Romano, Ar'70, AIA, was named a senior associate at TMP Associates, Inc. in Bloomfield Hills. Romano is a department head for TMP's Architectural Development Group.

Dale N. Scrace, Ar'70, RA, won a seat on the Grosse Pointe City Council in August, running as an incumbent. Scrace is president and owner of the John Cooley Construction Company in Sterling Heights. He is involved in numerous Grosse Pointe civic organizations and is chairman of the Friends of Lawrence Tech's Frank Lloyd Wright-Affleck House.



Clifford C. Hubbard, Ar'71, passed the Michigan Architectural Registration Examination.

Hubbard holds a master's degree in urban planning from Wayne State University.



Dale W. Hurrigam, Ar'71, RA, was elected an associate of Ellis Naeyaert Genheimer

Associates, Inc. of Troy. He has worked on such projects as the central office complex for General Dynamics in Sterling Heights and the reconstruction of the Detroit/Windsor tunnel plaza. Hurrigam serves on the Macomb Township zoning board of appeals.

Robert C. Trombley, IM'71, was appointed corporate secretary and

director of administration of Voplex Corporation in Troy, MI. His duties include investor relations, internal auditing, risk management, and administration of company policies. Trombley had previously been vice president of finance of George Fischer-Bohle Machine Tools Corp. in Farmington Hills. He is a member of the American Management Association.

Mark Wayne, MT'71, is founder and chief executive of Martec Plastic Inc., in Fenton. The firm makes plastic components for defense, the automobile industry, building and construction, and computers. Wayne is a certified mechanical engineer and served on former Governor William Milliken's High Technology Task Force for Michigan.

C. Richard Hall, Ar'72, BA'73, is a project architect with Hobbs & Black Associates, Inc., a Michigan architectural design firm. Hall was project architect on the Ross Roy Group world headquarters in Bloomfield Hills, which was honored by the Construction Association of Michigan for excellence in design.

Kenneth J. Pesta, Ar'72, was named chief construction estimator at Harley Ellington Pierce Yee Associates Inc. of Southfield.



Richard E. Bentley, Ar'73, BA'76, AIA, was appointed project team manager at Ellis Naeyaert

Genheimer Associates in Troy, MI. He has directed major projects for the U.S. Department of Energy, General Electric Co., and Boeing, among others. Bentley is a member of the National Trust for Historic Preservation and the Historical Society of Michigan.

Arnold T. Campbell, IM'73, ran as an incumbent for Farmington's city council in 1989. Campbell is employed by Ford Motor Co. in Dearborn in the NAAO Design Center. He and his wife, Betsy, have two sons.

Peter M. Dobrzeniecki, IM'73, is the city controller in Grosse Pointe Park. He was previously employed as finance director for Independence Township.

Jerry Gause, IM'73, was named vice president/general manager of Sparton Engineered Products - Lake Odessa Group in Gladwin. Gause was previously vice president of sales and product engineering at McInerney Inc. in Grand Rapids. He holds a master's degree from the University of Toledo.

Daniel E. Hoey, Ar'73, AIA, was named senior consultant at Harley Ellington Pierce Yee Associates Inc., a Southfield architectural, engineering, and planning firm. Hoey was previously a construction field representative for the firm.



Frank A. Massucci, IM'73, was appointed director of member finance at

Florists' Transworld Delivery Association based in Southfield. He is responsible for member financial services, including credit and collections, corporate insurance, building services, and purchasing.



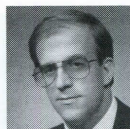
Gordon T. Peck, Ar'73, AIA, was named assistant director of design and

manager of health care planning at Harley Ellington Pierce Yee Associates Inc., a Southfield architectural, engineering and planning firm. His responsibilities include direction of space planning and and supervision of health care planners and programmers.

William J. Trubilowicz, ME'73, of Charlevoix, is operations superintendent of the Big Rock Point nuclear plant. He has been a member of the plant's operations department since 1976. His current responsibilities include heading up the reactor engineering group and the day-to-day operation of the plant's reactor, turbine generator, and related systems. Trubilowicz and his wife, Martha, have two children and reside in Charlevoix.

Norbert F. Chmielewski, Ar'74, BA'78, AIA, is an associate at BEI Associates, Inc. of Detroit. BEI is Detroit's third largest architectural/engineering firm. Chmielewski recently was project architect on the Madden Building, the largest high-rise built in Detroit since the Renaissance Center. Chmielewski is a member of the American Institute of Architects and the National Council of Architectural Registration Boards. He lives in Warren with his wife, Cecilia, and their three children.

Dave Koziarz, Ar'74, AIA, was named senior associate at TMP Associates in Bloomfield Hills. Koziarz is chief of construction services. He worked on the Sports Training Complex for Northern Michigan University and the Maternal and Child Health Care Center for University of Michigan Hospitals, among other projects.



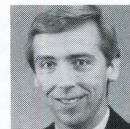
Daniel H. Lafferty, Ar'74, RA, AIA, was elected an associate of Ellis Naeyaert Genheimer Associates,

Inc. in Troy. He is an assistant team manager whose projects have included the Detroit/Windsor tunnel plaza and the Detroit Downtown People Mover. Lafferty resides in Mount Clemens.

Al R. Pawluk, MT'74, IM'78, was named director of sales for the heavy duty braking systems division of Lucas Automotive North America in Troy. Pawluk was previously sales manager for specialty vehicles at Rockwell International. He and his family live in Rochester Hills.

Richard L. Torri, Ar'74, of Shelby Township, is a project architect with Ellis Naeyaert Genheimer Associates of Troy. Torri headed a project team responsible for the award-winning Upjohn Corporate Learning Center in Portage. The \$49 million building, which combines extensive use of windows, skylights, and atriums with creative landscaping, won an Outstanding Achievement Award from the Engineering Society of Detroit.

Rev. Bradley Yops, Ar'74, is administrative pastor of St. Paul Lutheran Church in Flint. Yops holds a master of divinity degree from Concordia Theological Seminary in Fort Wayne IN. He and his wife, Janice, have three children.



Jeffrey R. Zokas, Ar'74, BA'75, was named principal at Harley Ellington Pierce Yee

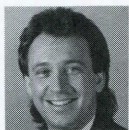
Associates Inc. of Southfield. He was previously a project administrator.

John Germany, Ar'75, of Dearborn, ran as an incumbent for the Dearborn City Council in 1989 and for the Michigan House of Representatives in 1990. He previously served on the Dearborn City Council for three years. Germany owns KnowledgeWax of America, an engineering and development consulting firm dealing with development and environmental issues in industry.

Jon Holowicki, Ar'75, and associate Don Szczepanski have formed an architectural firm in Farmington Hills.

Gary Jelin, Ar'75, BA'76, was named an associate at TMP Associates, Inc. in Bloomfield Hills. Jelin served as a designer on programs for the Novi and Saline community schools, among

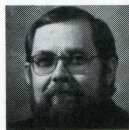
others. He is a member of the Engineering Society of Detroit.



John J. Merkler, Ar'75, AIA, was named an associate of Cambridge Seven Associates in Cambridge,

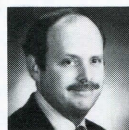
MA. He is a project architect with the firm. Merkler has been an instructor at the Boston Architectural Society, and is a member of the Boston Society of Architects. He has received awards from the Detroit City Council for environmental design.

Jim Cummins, Ar'76, of Warren, is president of The Cummins Group, an architectural, planning, and consulting group. The company renovated a former theater in downtown Utica as its office.



Paul G. Johnson, Ar'76, AIA, CSI, was named an associate of Smith, Hinch-

man & Grylls Associates Inc. of Detroit. Johnson had been a senior architect prior to his promotion. He has served as project architect on the Aurora Young Adult Psychiatric Hospital in Detroit and the University of Michigan Hospitals Radiation Oncology expansion, among others. Johnson resides with his wife and two children in Taylor.



Victor S. LaFay, Ch'76, director of technical services and quality assurance for the

Hill & Griffith Company, received the 1990 American Foundrymen's Award for Scientific Merit. The award was given based on LaFay's contributions to the foundry industry and for his technical developments and promotion of industry-wide quality assurance programs.

Ronald McRae, IM'76, was a finalist in the selection of Thomas Township, MI city manager. McRae has served as financial director for Buena Vista Charter Township. He was previously chief financial officer for the Bay County Department of Water and Sewer. McRae resides in Bay City.

Jim Mumby, Ar'76, AIA, RA, was named an associate at TMP Associates in Bloomfield Hills.

James Stanley, MA'76, served as a session chair for the Engineering Society of Detroit's international programmable controller 1990 conference steering committee. He also served on the expert

systems planning committee for the 1989 conference. Stanley is employed by EDP Temps & Contract Services.

Donald Topping, IM'76, was named senior vice president, management director for Ford Car at J. Walter Thompson USA, Detroit. He was previously senior vice president and manager of the firm's research and planning department.

William Warfield, EE'76, together with his wife, Irene, owns Warfield Electric Co., Inc. in Davison. Warfield personally supervises all work done by his company, ranging from minor repairs to new wiring and remodeling work. The Warfields reside in Davison.

Stanley M. Wyre, Ar'76, was named director of Wayne County Buildings. His responsibilities include overseeing maintenance, operation, and control of all county-owned buildings, as well as providing building space for all agencies mandated by the Michigan county. Wyre holds a law degree from the Detroit College of Law.

Kirk D. Yuhasz, Ar'76, BA'82, is an associate at Ellis Naeyaert Genheimer Associates in Troy. Yuhasz was previously an assistant team manager for the firm.

Wayne G. Haugan, ET'77, and Connie Jean Sell were married on Sept. 30, 1989 in Harper Woods. Haugan is employed as a technical writer.

George Houhanis, Ar'77, BA'78, was promoted to vice president of the technical division at William Kessler and Associates, a Detroit architectural firm. He is responsible for all technical aspects of the firm's work.

Warren M. Kelley, CE'77, and Arnette Kay Glesmann were married on June 18, 1989 in Birmingham. Kelley is employed by Quick Green. The couple resides in Pontiac.

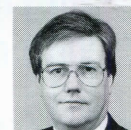
James T. Pappas, Ar'77, BA'80, of Livonia, was elected vice president and partner of Fusco, Schaffer & Pappas Inc., a Southfield architectural firm. Pappas is responsible for overall architectural/engineering services.

Dale J. Belsley, CE'78, was appointed executive vice president in charge of all field and estimating operations at T.H. Marsh Construction Company in Livonia. Belsley was previously employed by Darin-Armstrong and Walbridge Aldinger.

Robert Bryce, Ar'78, BA'81, is president and founder of Erdstein, Bryce & Palazola Architects and

Planners. The West Bloomfield firm has acquired a reputation for unusual and luxurious home designs.

Gene P. Ferrera, Ar'78, ran for a seat on the Rochester Hills city council in 1989. He had previously served as director of the city's building department. Ferrera is employed as project manager by Frank Rewold and Son, Inc. in Rochester Hills. Ferrera holds an MBA from Oakland University.



William G. Gillies, Ar'78, BA'81, RA, was named assistant project administrator at Harley

Ellington Pierce Yee Associates Inc. of Southfield.

Scott Hoeft, Ar'78, BA'80, RA, was named a senior associate at Hobbs & Black Associates, Inc., a Michigan architectural design firm. Hoeft has worked on projects such as the Washtenaw Community College campus renovation and the Ann Arbor Marriott Hotel addition.

Robert Ratz, CE'78, PE, was one of four finalists for the position of landfill director for Riverview. He has been supervisor of Wayne County's solid waste program's engineering and inspection team for eight years.

Arthur F. Smith, Ar'78, BA'81, AIA, of Rochester Hills, is director of design at Neumann/Smith and Associates, a Southfield architecture, planning and interior design firm. Smith is president of the Detroit chapter of the American Institute of Architects. Smith and his wife, Pamela, have two daughters.

James A. Zachow, Ar'78, AIA, was made a principal at GBKB Associates, an architectural firm in Traverse City. Zachow manages computer aided design technology for the firm and has been involved in several local projects. He is treasurer of the Northern Michigan Chapter of the American Institute of Architects.

Glenn Kowalske, ME'79, is employed as senior project engineer at the Eaton Corporation Proving Grounds in Marshall. He and his wife, Diane, live in Marshall with their three children.

Emil Sdao, Ar'79, BA'80, RA, was named an associate at James P. Ryan Associates, a Farmington Hills architectural and planning firm. Sdao was the senior design architect for the Gardens, a shopping center in Palm Beach Gardens, FL. He holds a Master of Architecture degree from the University of Michigan.

1980-89

Michael W. Evans, Ar'80, BA'r'83, AIA, was named an associate at TMP Associates, Inc. in Bloomfield Hills.



Robert A. Formisano, Ar'80, BA'r'82, AIA, director of programming and planning at

Smith, Hinchman & Grylls Associates, Inc. in Detroit, was elected as an associate of the firm. He is responsible for marketing and delivery of long-range facility planning, facility management services, programming and planning. Formisano, his wife, and their child reside in Grosse Pointe Farms.

Rose Jenkins, BA'80, is director of finance and control at the Michigan firm of Miller, Canfield, Paddock & Stone.

Michael Mageau, Ar'80, BA'r'82, is an architect at Giffels Associates in Southfield. He remodeled his own home in Royal Oak in a classical modern style, doing both the design and labor himself.

Joyce Murdock, BA'80, ran for the post of Northville Township Treasurer in 1989. Murdock has worked as an accountant for the City of Southfield, and is a member of the Oakland County chapter of the National Association of Accountants.

Nicola Petrella, Ar'80, was named project manager of Kirco Realty & Development, Ltd., a Michigan-based development and property

management firm. Petrella supervises space planning and improvements in tenant areas. He holds a Michigan residential builder's license. Petrella and his wife live in Farmington Hills.

D. Brooke Smith, Ar'80, BA'r'82, was named an associate at William Kessler and Associates Inc., an architectural firm in Detroit. Smith had previously been a principal designer with the firm. Some of his projects are a new Wayne County Medical Examiner's Office and an expansion at the Center for Creative Studies.

Philip J. Candela, BA'81, was appointed manager of the Rochester Hills office of Schweitzer Real Estate, Inc. Candela, who has worked in real estate since 1983, served on the Rochester Board of

Realtors as secretary in 1988 and as vice president in 1989.



Leon F. Darga, CE'81, is a senior consultant in the management consulting department

of the Detroit region of Touche Ross. Darga holds an MBA from the University of Michigan. He and his wife, Sharon, reside in Plymouth with their daughter.

John Friel, CE'81, is a design engineer with the Oakland County Road Commission, with which he has worked for ten years. Friel previously worked as transportation operations engineer for the Commission.

Sam Kakos, EE'81, ran for mayor

of Oak Park, MI in 1989. He works with Oak Park Youth Assistance and his local PTA as well as other civic groups. Kakos and his wife, Janan, have three daughters and two sons.

Rick McKinstry, IA'81, is co-manager of the interiors division of Stein Hinkle Dawe Wood Johnson in Lansing.

Steven E. Minar, ME'81, and Stacey Elise Comiskey were married Sept. 16, 1989 in Woodland Hills, CA. Both are employed by Rockwell International in Los Angeles.



Kenneth P. Thom, BA'81, is an associate in the tax department of Miller,



Lawrence Tech grad wins international architecture competition

Francis X. Arvan, Ar'78, won the \$25,000 first prize in an international competition that attracted more than 300 architects and designers from 42 countries.

The competition for the design of a 30-acre resort complex in the Dominican Republic was organized by New York University's International Center for Advanced Studies in Art (ICASA) with the support of *Architectural Design* magazine for Las Terrenas Investment, a Montreal-based developer.

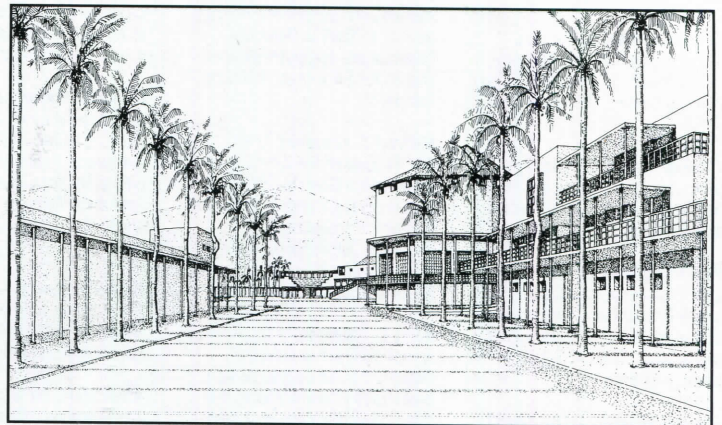
Arvan's award-winning design was selected as the best expression of the rich simplicity of an oriental philosophy as required by competition specifications. The site plan includes a 125-room hotel, 50 condominiums and 20 individual villas sheltered between the ocean and the mountains with a promenade as a unifying design element.

Activity-oriented sports and community centers, shops, and the open air amphitheater are balanced by individual private gardens that offer quiet and intimate places to "get away from it all." White masonry walls are used throughout the complex to reflect the tropical sun and conserve energy.

World-renowned architects served on the

jury, including Tomas Dagnino, Francesco Dal Co, Rafael de la Hoz, Kenneth Frampton, Charles Moore, Cesar Pelli, Rod Hackney, Andreas Papadakis, Zhang Qinnan, William Reid, Robert Welch and Jorge Glusberg. They met in London to judge the entries.

An award ceremony was held in New York



and the winning entries were part of a special touring exhibition that traveled to London, Berlin, Buenos Aires, Tokyo and New York. Arvan's design was also featured in *Architectural Design* magazine.

Arvan is the head of his own architectural firm in North Tarrytown, NY, and a professor of architectural design at the New Jersey Institute of Technology. He received a Master of Architecture degree from Columbia University in 1982, and is a registered architect in New York. □ HCB

Canfield, Paddock and Stone, a Michigan-based law firm. Thom holds a master's degree in taxation from Walsh College and is a 1990 summa cum laude graduate of Detroit College of Law. He was previously a tax accountant at Williams International in Walled Lake. Thom resides in Livonia.

Paul R. Urbanek, Ar'81, BAR'82, AIA, was named senior consultant at Harley Ellington Pierce Yee Associates Inc., a Southfield architectural, engineering, and planning firm. Urbanek had previously worked as a designer for the firm.



Jeffrey R. Wagner, Ar'81, AIA, was named real estate and development officer at

Comerica Inc. in Detroit. Wagner joined Comerica in 1984 as a facilities planner.

Kim J. Wilson, Ar'81, BAR'83, is employed by Parkes and Associates, Midland, as an associate designer. Wilson had previously worked for Blue Cross and Blue Shield of Michigan.

Ivars (Buzz) Dzirnīs, Ar'82, BAR'83, AIA, was named an associate at Jickling Lyman Powell Associates Inc. in Troy. His duties include assisting the principals with project planning and development from the design stage through construction.

Douglas E. Hart, BA'82, was named director of new business development for American Speedy Printing Centers. He resides in Berkley.

Thomas Hitz, CE'82, was promoted to vice president of the health/research group at Barton-Malow Company in Southfield.

Paul V. McGuan, CE'82, PE, is a staff engineer at the Masonry Institute of Michigan. He previously served as assistant public works officer, U.S. Naval Activities, in the United Kingdom.

Michael McIntire, IM'82, MA'82, of Novi, married Beth Latz on May 14, 1988. The McIntires are both employed at Compuware, where Mr. McIntire is MIS applications manager.

David Mielock, Ar'82, BAR'83, AIA, RA, was named a senior associate at Hobbs & Black Associates, Inc., a Michigan architectural design firm. Mielock's projects include the Lutz Development in Ann Arbor and the Hampton Office Park in Rochester Hills.

Christopher M. Pieknik, ME'82, and Olivia O. Ly were married in

August of 1989 in Detroit. Pieknik is a tool design coordinator for Kaydon Corp. The couple resides in Grand Haven.



Shawn Stevenson, Ar'82, passed the state examination to become a registered architect in

Michigan. Stevenson is employed by TMP Associates, Inc. of Bloomfield Hills.

Reid Cameron, MA'83, was named materials manager for Mallinckrodt Sensor Systems of Ann Arbor. He is in charge of purchasing, material control, and all warehouse functions. Cameron was previously employed by Whitlock Inc.



Andrew R. Craig, BA'83, is an account officer in the metropolitan loan division of Manufacturers

National Bank of Detroit.

John P. Crossley, Ar'83, of Brooklyn, NY, directed and produced a short film, "the semblant," which was completed in 1989. Crossley entered the film in both the New York University Film Festival and the Academy of Motion Picture Arts and Sciences Student Film Awards Festivals.

Danny D. Dadabbo, MA'83, and Pamela Jane Berge were married on May 6, 1989 in Dearborn. Dadabbo is a computer systems analyst for Price-Waterhouse in Tampa, FL.

Michael A. Giovanni, Ar'83, BAR'84, passed the Architectural Registration Exam in 1989, thus becoming registered and qualified to practice architecture in Michigan. Giovanni is employed by Harley Ellington Pierce Yee Associates Inc. of Southfield.

Barry C. Johnston, IA'83, Ar'84, is senior designer at Schaefer Design, Inc., an interior design firm based in Birmingham. He was previously a senior project designer at Carson Business Interiors.

George Korenic, ET'83, is an electrical engineer at the General Dynamics Tank Plant in Warren.

Damon K. Leverett, Ar'83, passed the Architectural Registration Exam in 1989, thus becoming registered and qualified to practice architecture in Michigan. Leverett is employed by Harley Ellington Pierce Yee Associates Inc. of Southfield.



Jane McCart, BA'83, was named vice president and principal at Stein Roe & Farnham, a

Chicago investment consulting firm. She was previously an assistant investment officer at National Bank of Detroit. McCart lives in Evanston, IL.

John Price, ME'83, and Lori Drouillard were married in New Boston. Price is employed by Chrysler in the engine design department in Highland Park. The couple took a honeymoon trip to Hawaii.

Keith Przybylski, ME'83, is engineering applications manager at TRW Vehicle Safety Systems Inc. in Washington, MI. He has overall responsibility for engineering Ford Motor Co.'s future seat belt requirements. Przybylski lives in Rochester Hills.

David L. Tratt, ME'83, PE, was named an associate at SSOE, Inc., an engineering and architectural firm with offices in Flint, MI, Nashville, TN, and Toledo, OH.

Pamela F. Bafs, CE'84, was appointed Ann Arbor Days Inns and Ramada Inns project manager at Parliament Company, a Birmingham construction firm. Bafs was previously a project manager for A.J. Etkin Construction Company.

Navy Ensign Mark V. Gadda, CE'84, earned his "Wings of Gold" as he was designated a naval aviator in Norfolk, VA.

Raymond Hatter, Ar'84, is an architectural intern at Tomblinson Harburn Associates. For nearly four years, Hatter worked part-time at the firm while working full-time at the General Motors Buick plant. He and his wife have three children.

Robert J. Howey, Ar'84, and Karen Marie Lyons were married on March 31, 1989 in Trenton. The couple resides in Southfield.

Allen Klein, ME'84, published an article entitled "Cumulative Effect of Field Theory" in the Indiana Journal of Theoretical Physics. The CEF Theory assumes that light from distant galaxies is red-shifted by gravitational fields in space. It counters the Big Bang Theory, which assumes that light is red-shifted as galaxies move away from the earth. Klein is senior editor of Advanced Composites and Plastics Design Forum magazines. He resides in Southfield.

William Knox, IM'84, is employed by Midland Computer Shoppe as an engineering account representative. He completed a five-day

training course which certifies the shop as an Authorized Apple engineering reseller. Knox is a graduate of the Bay County Leadership Program and is a member of the Bay Arts Council Finance Committee.

Paul Pompilius, ME'84, and James Webster, MA'83, have teamed up to produce a comic strip called "Alive and Kicking," which appears in the Detroit Monitor and a chain of east side weeklies. Pompilius is an engineer living in West Bloomfield and Webster is a computer programmer living in Lake Orion. They manage to get together several times weekly to collaborate on the strip, which Webster draws from Pompilius' story lines.

Timothy W. Reck, Ar'84, and Jennifer Diane Glahn were married on April 14, 1990 in Muskegon. Reck is employed by Precision Tool Co. of Muskegon.

Russell D. Templeton, Ar'84, and Elizabeth C. Grindle were married on April 14, 1990 in Otisville. The couple resides in Marietta, GA.

Raymond M. Williams, ME'84, passed the Michigan State Board examination for professional registration as an engineer. Williams is employed in the mechanical engineering department of Albert Kahn Associates, Inc. in Detroit, an architectural and engineering firm.

Lynn M. Daley, BA'85, CPA, is a senior staff accountant at Rehmman Robinson & Co. in Saginaw. Her responsibilities include compilations, reviews, audits, and tax accounting, both personal and corporate.

Eric G. Essique, Ar'85, BAR'88, passed the Architectural Registration Exam in 1989, thus becoming registered and qualified to practice architecture in Michigan. Essique is employed by Harley Ellington Pierce Yee Associates Inc. of Southfield.

Nicholas Giammarco, Ar'85, was named project manager at Jon Greenburg & Associates, a retail design firm in Berkley.

Rick D. Hagen, BA'85, won a seat on East Detroit's city council in 1989. Hagen is employed as an account administrator at IBM Corp. in Detroit. He is a member of the East Detroit Jaycees as well as several other local civic groups.

Sarah Haselschwardt, Ar'85, BAR'86, has been named design architect at Kingscott Associates Inc. of Kalamazoo.

Jeffrey A. Jenkins, Ar'85, was named senior consultant at Harley Ellington Pierce Yee Associates Inc., a Southfield architectural,

engineering, and planning firm. Jenkins had previously worked as a mechanical engineer for the firm.

Walter L. Kiehler, CE'85, is the building inspector for the City of Grosse Pointe Park. He was previously building inspector, assistant city engineer, and housing official for the City of Hastings.

Mark Nadeau, BA'85, is the financial director for the Village of Lake Orion. He was previously a staff accountant for the Detroit Board of Education. Divorced, he has a daughter and a son.

Lt. Timothy L. Overturf, Hu'85, is on a five-month deployment to South America and the Caribbean with U.S. Navy Destroyer Squadron-32, based in Norfolk, VA. Overturf and his wife, Ann, are both originally from Ottumwa, IA.

Theresa (Peel) Westrick, Ar'85, owns her own firm, T.M. Westrick Architectural Design and Drafting, in Grand Haven. She designs residential and commercial structures, and prepares drawings and site plans. She and her husband, Steve, live in Spring Lake.

Chrystal Bavetta, BT'86, is employed as an estimator by J.C. Beal Construction Inc. of Ann Arbor. She was previously an estimator/project manager at American Construction Inc. of Farmington, and has also worked as regional construction coordinator for Perry Drug of Pontiac.

Gary Cowden, ME'86, and Deanna Wojcicki were married on May 27, 1989 in Alpena. Cowden is a mechanical engineer at Caterpillar Inc. in Peoria, IL. The couple resides in Morton Grove, IL.

Lindsay C. Harding, ME'86, married Elizabeth A. Fry of Marlette on December 9, 1989 at Michigan State University's Alumni Chapel. They reside in Wixom.

Kevin J. Kootsillas, EE'86, and Pamela S. Dussia were married August 11, 1990 in Monroe, where the couple resides following a honeymoon in Hawaii. Kootsillas is employed by Great Lakes Steel in Ecorse.

Scott A. Amman, EE'87, married Julie Ann Rotundo on May 27, 1989 in Ontonagon. Amman is employed by Ford Motor Company in Dearborn and is working toward a master's degree in electrical engineering at U of M - Dearborn. The couple resides in Royal Oak.



Kathleen F. Carnacchi, BA'87, has been named a marketing officer in

A L U M N I N O T E S

Manufacturers National Bank of Detroit's retail marketing services division.

Robert H. Case, Ar'87, is an architectural intern at Spence & Forsyth Architects in Saginaw.

William W. Culhane, Ar'87, BA'89, and **Connie L. MacDermaid**, Ar'87, IA'88, were married September 16, 1989 in West Bloomfield. The couple resides in Wixom.

2nd Lt. Ross P. Dickinson, BA'87, has received his silver wings upon graduation from U.S. Air Force pilot training at Columbus Air Force Base in Mississippi. Dickinson is married to the former Pamela Seaman of Livonia.

Frank Gentile, EE'87, and Lisa Katherine Davis were married August 26, 1989 in Garden City. Gentile is employed at Lexington Army Depot as an electrical engineer.

Todd S. Gute, Ar'87, BA'89, is the building official for the City of Owosso. His graduate thesis was "Owosso Central Business District," a plan to revitalize the city. He is responsible for inspections of any residential, commercial, or industrial construction in Owosso. Gute previously worked as project manager for Michael C. Meldrum and Associates, a Rochester architectural firm.

Navy Ensign Steven Polidori, EE'87, completed Aviation Officer Candidate School in Pensacola, FL.

James A. Prokes, BA'87, and Kathleen C. Korte were married on August 21, 1989 in Livonia, MI. Prokes is employed as an accountant-manager by Victor Steel & Supply Company in Detroit. The couple lives in Farmington Hills.

Marine 2nd Lt. Vachira San-siribhan, EE'87, completed the Basic Communication Officers' Course at the Marine Corps Development and Education Command in Quantico, VA.

Tami (Livingston) York, BA'87, and her husband Steve are partners in a Whitmore Lake real estate firm, Nelson & York, Inc. The firm lists with the Ann Arbor Board of Realtors, the Livingston Association of Realtors, and the Western Wayne-Oakland County Board of multi-listing services.

William A. Biltz, ME'88, and Danielle Janine Devous were married August 19, 1989 in Franklin. Biltz is employed by CMI Tech-Center Inc. The couple resides in Ann Arbor.

Sal Caruso, ME'88, and Diane Marie Zimbalatti were married May

27, 1989 in Trenton. Caruso works as an engineer for Modern Engineering. The couple resides in Sterling Heights.

Paul J. Furioso, ME'88, and Laurie Lynne Roberts were married Sept. 9, 1989 in Ubyly, MI. Furioso is an employee of Pioneer Engineering. The couple resides in Westland.

Michael J. Gniewek, ME'88, and Amy E. Endres were married May 4, 1990 in Monroe. The couple took a honeymoon trip to California and now resides in Westland. Gniewek is employed by the American Yazaki Corp. as an engineer.

David J. Otto, Ch'88, and Caren Thomas Chamberlain were married on April 28, 1989 in Royal Oak. Otto is employed as a chemist by Ciba-Geigy Corp. of

Madison Heights. The couple lives in Auburn Hills.

Mark Smith, BA'88, owns the "Families" delicatessen in Troy. He had previously worked at his father's engineering firm and at several restaurants.

Mark A. Boxey, CE'89, was named expeditor at Parliament Company in Birmingham. Boxey was previously a construction engineer at Walcon Corporation in Southfield.

Robert L. Brown, BA'89, won a seat on the Dearborn Heights City Council in 1989. He also served on the council in 1981, 1983, and 1985. Brown is employed as a computer analyst and project leader for Ameritech Publishing. He and his wife, Ann, have three sons.

Jacqueline Christian, MCS'89, is a computer analyst with the Associated Data Processors Company in Ann Arbor. Christian was featured in a Michigan Chronicle article in October of 1989 about foster and adoptive families. Christian was an adopted child and encourages families to consider adoption and fostering.

Jeremy Ames Gerak, BA'89, married Lisa Rene LaCross of Fenton on Oct. 15, 1989 in Flint. Gerak is employed as a manufacturers representative by International Sales and Engineering of Southfield. The couple resides in Howell.

Alan Hall, Ar'89, is an employee of JCK Associates in Novi. He and his wife, the former Lorrie Simpson, reside in Berkley.

Paul A. Redpath, CE'89, and Therese Marie Nannini were married in Greenfield Village's Martha Mary Chapel in Dearborn. Redpath is employed by Rex Environmental in Plymouth. The couple lives in Royal Oak.

Shawn Roberts, ME'89, was appointed project engineer for Detroit Tool Industries.

Kamela Torvinen, BA'89, is employed by Future Force, Inc. in Livonia. Torvinen lives in Livonia with her husband, Michael.

Andrew Paul Zager, Ch'90, of Redford, and Lisa Ann Nordman were married May 5, 1990 in Farmington Hills. The couple resides in Lansing, where Mr. Zager plans to attend Cooley Law School.

News for Alumni Notes

Use the space below to provide news about you or your fellow Lawrence Tech or DIT alums. Tell us about honors, promotions, marriages, appointments, and other activities.

check here if you've moved and are providing a new address.

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Send to: Director of University Relations and Alumni Services, Lawrence Technological University, 21000 W. Ten Mile Rd., Southfield, MI 48075-1058.

I N M E M O R I A M

Information in this section is provided by family members, friends of the deceased, and newspaper accounts. To assure inclusion, please send notices to the Director of Alumni Services, Lawrence Tech, 21000 West Ten Mile Rd., Southfield, MI 48075-1058. If including a newspaper clipping, include name and date of newspaper.

Robert J. Ford, AeE'35, of Palos Verde Estates, CA, on Oct. 26, 1989. Survivors include his wife, Joyce.

Dante V. Peroni, ChE'36, of Dayton, OH, in February of 1989.

Russell J. Porter, IE'36, of Muskegon.

Harold V. Christensen, ME'39, of Keystone Heights, FL, on April 29, 1989. Born in Denmark in 1906, he had worked at many firms, including Michigan Tool Company in Traverse City and Martin Marietta Corporation. He was active in the Christian Service Brigade, the Danish Brotherhood, the Gideons, and Big Brother Association, among other groups, and was a member of Park of the Palms Church. He is survived by his wife, Karen; and a son.

Sydney Partington, ChE'39, of St. Clair Shores, on July 29, 1988. Partington was an employee of Detroit Testing Laboratory for 37 years, where he was a director at the time of his retirement. Later he was a cofounder of Metasurf Corporation. Partington was a charter member of the Engineering Society of Detroit. He is survived by his wife, Elvera; and two sons.

Leon Sitrin, ME'39, of Southfield, on June 16, 1989.

Raymond L. Palmer, ME'40, of Carlsbad, CA.

Bruce D. Curtis, ME'41, of Lathrup Village, MI.

Norman E. Pringnitz, EE'43, of Dearborn, in March, 1990. He is survived by his wife, Marilyn; and two daughters.

Elroy L. Felch, ME'44, of Barnegat Light, NJ, on June 22, 1989. Although retired, he was practicing as a consultant at the time of his death. Survivors include his wife, Lucille.

Bruce E. Knight, ME'44, of Sebring, FL.

Mayo M. Reichardt, ME'44, EE'57, of Milford, on March 9, 1979.

Clifford S. Forbes, EE'46, of Bad Axe on August 13, 1988. He retired in 1967 after 30 years as an electrical engineer for Detroit Edison Co. Forbes is survived by his wife, Vesta; and three sons.

Henry A. Kafarski, ChE'47, IE'49, of Grosse Pointe Shores, on Sept. 7, 1989. Owner of Chemical Processing Inc. in Detroit for 39 years, Kafarski at one point cut his own wages to avoid laying off employees. In addition to his Lawrence Tech degree, Kafarski held a bachelor's degree in business administration from the University of Michigan. He served in the Coast Guard during World War II. He was active in many groups, including the Grosse Pointe Yacht Club, the Detroit Athletic Club, the Detroit Rotary, and the American Electroplaters Society. He was president of the American Association of Metal Finishers for ten years. Kafarski received Lawrence Tech's Alumni Achievement Award in 1967. He is survived by his wife, Emily; and two sons.

William A. Dryburgh, ME'48, CivE'49, of Oak Park, MI, on July 12, 1988. In 1983, Dryburgh retired from the Barton-Malow Corporation in Southfield. He had been a project manager on both the Pontiac Silverdome and the Hubert H. Humphrey Metrodome in Minneapolis. Dryburgh is survived by his wife, Harriett; and a daughter.

Harry J. Gee, IE'48, of Burbank, CA, on Aug. 11, 1989. He served in the U.S. Army Air Force during World War II. He is survived by his wife, Faye; a daughter; and a son.

Benjamin J. Klaasen, EE'48, of Orlando, FL, on Dec. 14, 1989. He is survived by his wife.

Fred C. Osemlak, ChE'49, of Florence AL, on February 17, 1990.

Leonard Petrykowski, CivE'49, of Posen, MI, on December 19, 1988.

John M. Beamish, ChE'49, of Bloomfield Hills, on March 7, 1990. He was executive vice president of the Quin-T Company. He was a member of the Society of Automotive Engineers, the Detroit Rubber Group, and the Gasket Fabrication Association. Beamish is survived by his wife, Margaret; a son, and a daughter.

Edward Koczat, ME'48, IE'52, of East Detroit, on Nov. 17, 1989. He served in the Navy during World War II. Koczat was employed by General Motors Corp. as an engineer until his retirement in 1983. He was active in the Knights of Columbus and a homeowner's association, and was president of a bowling league. He is survived by his wife, Phyllis; and four daughters.

Henry E. Ketelhut, Jr., ME'50, IE'50, of Spring Lake, in 1981.

John T. Kinne, ChE'50, of St. Clair Shores, on April 9, 1989.

Louis Lepri, Jr., EE'50, ME'55, of Grand Blanc, on May 1, 1989.

Burl A. Martin, ME'50, of Livonia, on September 15, 1989. He retired in 1986 after 30 years as a mechanical engineer with Ford Motor Co. He was a member of the Ford golf and bowling leagues. He is survived by his wife, Olga; and three daughters.

Dean F. Mason, EE'50, on June 15, 1990, in Cuyahoga Falls, OH. Mason served in the Army during World War II. He retired from Goodyear Aerospace after 18 years as an electrical engineer with the firm, and had also worked for Gould Inc. for ten years. Mason is survived by his wife, Althea; sons Douglas and Gregory; and five grandchildren.

Steve D. Nastas, IE'50, of Dearborn.

Floyd A. Nelson, CivE'51, of Dearborn.

Richard F. Price, IE'51, of Rochester, MI, on December 10, 1986.

Fouad Sliman, BA'51, of Stow, OH, on July 22, 1988.

Lawrence M. Gaabo, ME'52, of Union Lake, on March 18, 1989.

Vincent J. Herter, EE'52, of Livonia, on December 5, 1987.

Jimmie B. Harvin, ChE'53, of Detroit, on May 27, 1990. He retired from the Army Tank command, Detroit Arsenal as a supervising engineer. Harvin is survived by his wife, Mildred; and three sons.

Robert Hughlett, ET'53, of Los Angeles, CA, on December 9, 1988.

James H. Orrick, ME'53, of Troy, MI, on Feb. 24, 1989. He worked for Schenck Turner Inc. of Ferndale. Orrick is survived by his wife, Joyce; two daughters, and a son.

Edward L. Sorenson, EE'53, of Drayton Plains, on November 10, 1987. He retired from the U.S. Army Tank Automotive Command in January, 1985 following 30 years of service. Survivors include his wife, Katherine.

Jesse Filak, IE'54, of Sugar Land, TX, on April 16, 1990. Survivors include his wife.

Harry P. Kall, ArE'54, of Harper Woods, on June 18, 1989.

August P. Savage, RAC'55, of Roseville.

John J. Orlich, CivE'56, of Moran, on September 12, 1988. He retired in 1979 after 28 years of service for Wayne County as a civil engineer. He is survived by his wife, Ruth; five daughters; and three sons.

Joseph Anzack, IM'57, of Torrance, CA, on September 6, 1980.

Alexander Dungjen, MT'57, of Troy, MI, on October 10, 1985.

John Graham, AeE'57, of Livonia.

John Charlton, ET'58, of Warren, on Oct. 4, 1988. He retired from Detroit Edison in January of 1988.

William B. James, Jr., CivE'58, of Ypsilanti. James was a charter member of Lawrence Tech's Presidents Club. He is survived by his wife, Georgeann; a son, and four daughters.

Kenneth B. Kittle, MT'58, of Fenton, on November 29, 1988.

Gail H. MacDonald, MT'58, of Rochester Hills on March 12, 1989. He was the owner of Special Mould & Engineering Inc. in Rochester Hills, Condo Marine in Marine City, and Rochester Grinding, and a co-owner of other companies. MacDonald developed the Rochester Industrial Park in Rochester Hills. He is survived by his wife, Marta, two daughters, and three sons.

Earl G. McCurdy, RAC'58, of Harrisville, on May 22, 1988.

Joseph H. Plotzka, ET'58, of Lexington, MI, on June 18, 1988.

Elmer H. Diedrich, IE'59, of Lincoln Park, on March 16, 1989. Survivors include his wife.

Roy D. Doonan, IM'59, of Haslett, on Sept. 11, 1988. He is survived by his wife, Pat.

Zygmunt S. Nietubyc, ET'59, of Mt. Clemens.

William A. Hietala, IE'60, of Detroit, on June 14, 1989.

Bertil L. Persson, ME'60, of Taylor, on July 23, 1989.

Fred J. Takavitz, ME'60, of Delaware, OH.

Russell H. Glatz, MT'61, of Warren.

Richard C. Crow, ET'62, IST'68, of Highland.

Howard E. Herbison, IE'62, of Clawson, on June 20, 1988.

Stanley G. Holso, MT'64, of Southfield.

Melvin J. Pavelek, MT'64, of Warren, on Oct. 9, 1989. He worked as a senior computer application engineer for General Motors Corp. in the Buick-Oldsmobile-Cadillac Group Headquarters. Pavelek's varied interests included playing Santa, in costume, for children. He is survived by his wife, Patricia; and three daughters.

Ralph R. Schweizer, ET'64, of Venice, FL.

Anthony Ciesielski, BT'66, of Mt. Clemens, in March, 1990. Survivors include his wife, Patricia.

Claude A. Cady, Ar'68, of East Detroit.

Henry E. Gordy, BT'69, of Detroit, on July 30, 1985.

Wayne T. Robinson, MT'69, of West Bloomfield, on June 10, 1989. He was chief engineer worldwide at GTE Valenite Corp. of Troy. Robinson was a member of the Cutting Tools Manufacturers Association and the Society of Mechanical Engineers. He is survived by his wife, Carol; two daughters, and a son.

Harold D. Wild, ET'69, of Allen Park, on March 19, 1990. He served as a sergeant in the Air Force during World War II. Wild worked as supervisor of instrument repair at Detroit Edison's Trenton Channel power plant for 41 years until his retirement in 1987. Active in his church, he served as deacon and usher at Inter-City Baptist Church for 25 years. He is survived by his wife, Georganna; and four children.

Ray Zemens, IM'70, of Kokomo, IN, on April 22, 1990.

David W. Brooks, MT'71, of Royal Oak, in November 1988. He worked as product engineering manager for MGM Brakes Division of Indian Head Industries Inc., in Southfield. He was an avid gun collector. Brooks is survived by his wife, Deborah; a daughter, and a son.

Donald J. Ennis, ET'71, of Elk Rapids, on July 30, 1988. He owned and operated Ennis Electrical Inc. in Elk Rapids. He is survived by his wife, Jean; two sons, and two daughters.

Jesse Hunt, Ma'71, of Detroit, in May, 1990.

Wayne R. Eskola, IM'73, of Westland, on September 25, 1987.

George B. East, IM'74, of Livonia, on March 7, 1988.

Douglas F. Best, ME'75, of Hartland, on Nov. 11, 1988. He worked as a project manager for Williams International Corp. Best was a member of Fellowship Bible church and the Experimental Aircraft Association. He is survived by his wife, Una; and three daughters.

Charles C. Allen, BT'78, of Redford.

Frederic G. Jacks, Ar'78, of Detroit.

James F. Earp, ME'79, of West Bloomfield.

Allen J. Babiarz, ME'81, of Madison Heights, on July 16,

1988. Survivors include his wife.

Charles V. Lambert, EE'85, of Northville on March 29, 1988. He is survived by his wife, Cynthia, who reported that Lambert enjoyed his time at Lawrence Tech.

Mark E. Vraniak, EE'85, of Oak Park, MI, on Sept. 12, 1988.

Survivors include his wife, Darlene.

Deborah M. Isabell, EE'87, of Palm Beach Gardens, FL, on Oct. 29, 1989. She had been an honor student at Lawrence Tech and a member of the Society of Women Engineers and Eta Kappa Nu, as well as the Chi Omega Rho sorority. Isabell was employed by

Pratt & Whitney as an electrical engineer. Her numerous interests included painting, softball, and music. She is survived by her parents, Louis and Agnes; a brother; and a sister.



Tess Tierney, first female graduate

Therese (Tess) Shepard Tierney, EE'49, Lawrence Tech's first female graduate, died October 5, 1990.

During her lifetime, she was active in many efforts to increase the number of women in the engineering profession, which until recent years attracted few women.

Following graduation, Tierney worked for Industrial Electronics and the Detroit Arsenal, and later joined McGraw Edison in Milwaukee. She worked variously as a test engineer, technical writer, and was also a high school and college instructor of science and mathematics. Until recently, she was an instructor at Mott Community College in Flint. She received her M.A. in 1963 from Marquette University.

A charter member of both the Detroit and Milwaukee (now Wisconsin) sections of the Society of Women Engineers (SWE), in 1969 Tierney was chair of that group's national convention. She helped found SWE student chapters at four universities: Marquette and the University of Wisconsin at Milwaukee, Platteville, and Madison. In 1980 she received a special award from the Detroit section, SWE, for her work in career guidance and student recognition and in 1986 she was elected to SWE's "Fellow" status.

In both Wisconsin and Michigan she played an important role in encouraging young people, particularly women, to explore careers in engineering and other technological fields.

Tierney is survived by her husband, James V. Tierney, Jr., a former Lawrence Tech instructor. They had four children. She served on the planning committee for the Class of 1949's 40th reunion on campus last year and she and her husband were members of Lawrence Tech's Presidents Club. □ BJA

Friends of the University

ME Professor James M. Sneyd

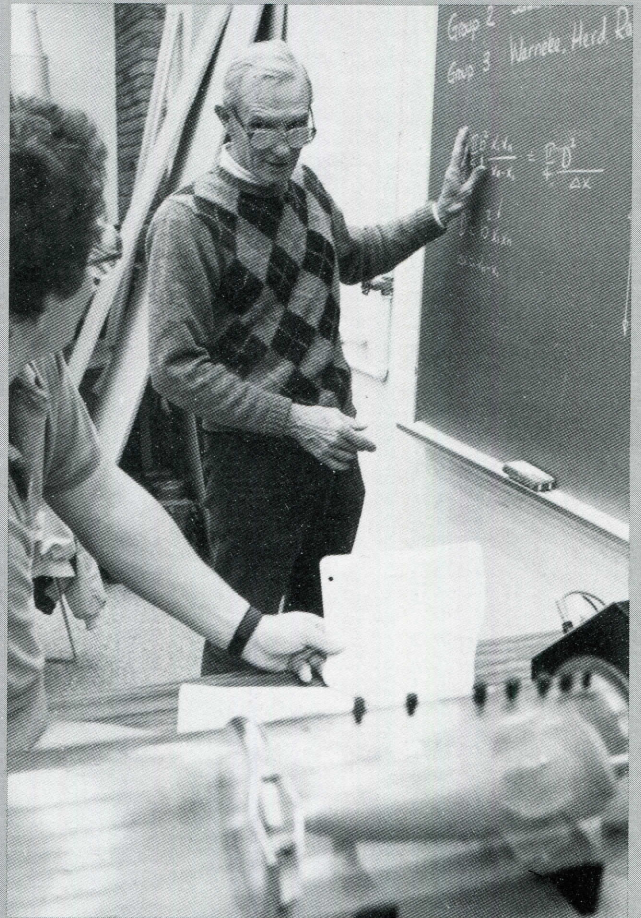
James M. Sneyd, assistant professor of mechanical engineering, died January 15 following a long illness.

Prof. Sneyd joined the Lawrence Tech faculty in 1980, following 25 years of service with the Chrysler Corporation, where he had been a senior engineer.

He earned a bachelor's and a Master of Science degree in mechanical engineering from the University of Illinois and served in the U.S. Navy during World War II.

Prof. Sneyd was director of the thermal science lab on campus and was one of three faculty advisors to Lawrence Tech's Formula SAE auto team, specializing in suspension and controls.

Dr. Wayne Brehob, professor and past chairman of mechanical engineering, recalls Sneyd as a professor who enjoyed working with students in and out of the classroom. Sneyd had been holding special evening sessions with students just shortly before his death so they could meet with a technical advisor who otherwise would not have been available.



"All of us in the College of Engineering share a sense of loss and sadness as we remember an esteemed colleague and fine teacher," says Dr. Khalil Taraman, dean of engineering.

Prof. Sneyd is survived by his wife, Joan, a son and two daughters. □ BJA



T H E B A C K P A G E

ENERGY SAVING TIPS: CONSERVE, INSULATE, BUNDLE UP!

Do you see dollar bills fly from your chimney every time your furnace kicks on?

Michiganders may fare better than residents of other regions of the United States if prices for fuel oil used in home heating follow the upward spiral of gasoline prices experienced in America since the latest Middle East crisis began.

"In the Detroit area there are very few homes still heated with oil," says Dr. Joseph Olivieri, professor and associate dean of architecture and design at Lawrence Tech. "New England is different. Almost everybody there uses home heating oil," Olivieri adds. "The last time we in Michigan went through an oil shortage (in the 1970s) it scared a lot of people into converting to natural gas. Not all areas of the country have that option.

"Where I live," Olivieri says, "my subdivision is about 37 years old. When we bought our home, our furnace and those of our neighbors were all oil fired. I don't see that oil truck around very often now."

But Olivieri, who is also a registered engineer, is concerned that one of the main lessons learned from the first energy crisis — the need for conservation — is being largely ignored by many consumers.

"There are a lot of new buildings, both residential and nonresidential, that are not energy efficient because everyone kind of forgot the energy lessons of the '70s," Olivieri says.

Olivieri is well versed in this topic. In fact he was on the committee which wrote Standard 90, which Michigan and many other

states have adopted as an energy code.

Olivieri says the drift away from conservation is apparent. Many new homes have a reduced emphasis on energy conservation and some consumers have attempted to shave costs by buying less efficient and thus cheaper furnaces and air conditioning units.

"People want to spend their money where it

not a viable option for Michigan homeowners.

"They (Local 80) did a patriotic thing. They wanted to see how solar energy would work and it operated fine, but the original building and material costs were quite high," Olivieri recalls. "In Michigan, we have clouds almost all the time. We don't have that beautiful blue sky they have out in Denver. We've found that because of the clouds we don't get enough sunshine to justify the costs of an active solar system."

There are also problems with passive solar heating, says Olivieri. Additional mass in the floors and walls helps moderate the effect of outside temperature changes, but also adds significantly to building costs. Residents also have to learn to tolerate fairly wide temperature swings inside the homes.

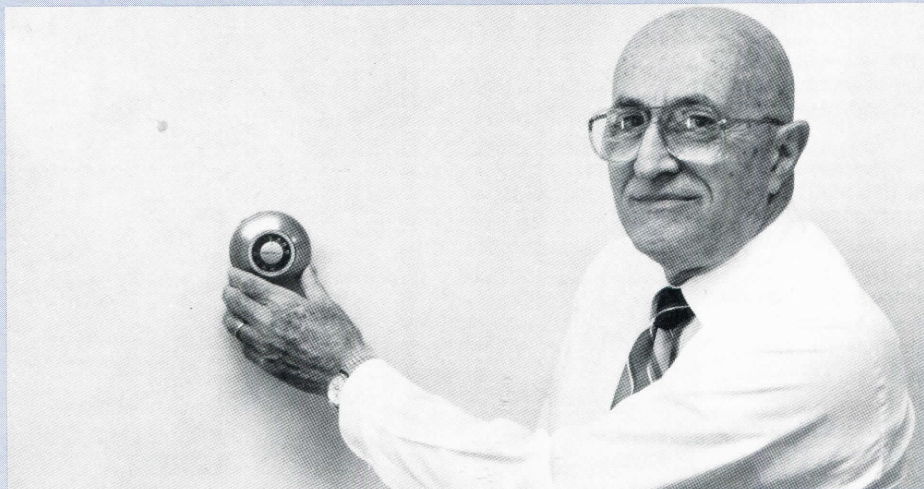
"Residents in solar homes generally have

to accept temperature swings from 65 to 80 degrees," he says. "It's not the same as gas heating where you set the thermostat at 75 degrees and it stays 75 degrees. If consumers commit to passive solar, even with the benefits being limited as they are in our climate, it can help save energy. But the system has to be designed very carefully by trained people. It is not a project for do-it-yourselfers."

It all seems so expensive — insulation, a new furnace, maybe a passive solar system? Is there anything cheaper we can do this winter?

Sure there is, grins Olivieri. Just dial down the thermostat and pull on a warm baggy sweatsuit. Yeah, and hope for an early spring.

□ WK



Dr. Joseph Olivieri

BRUCE ANNETT PHOTO

shows," says Olivieri.

He explains that while the more efficient furnaces and air conditioners carry a higher initial price tag than less efficient models, the better furnaces and air conditioners save money over time by reducing annual energy use during operations.

Olivieri suggests that the two major things homeowners can do to protect against higher energy bills are to install an efficient heating and cooling system in conjunction with plenty of insulation.

In his private architectural practice Olivieri designed the first 100 percent solar building — the Local 80 sheet metal apprentice training facility in Warren — in 1976. Today, however, after reviewing this project and other solar endeavors, Olivieri believes that solar energy is