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Since their inception, higher education institutions have played a vital role in helping America develop new technologies and foster economic growth. But it’s the forward-thinking institutions like Western Michigan University which are the key players. These universities continually prepare for the future, ever ready to lead their region, state, and country through the challenges of a rapidly changing world. They look to Western Michigan University," Dr. Donald E. Thompson, vice president for research, says. "The University’s research and development efforts are at the forefront of work on new technologies and continue to promote economic growth in the region and increased opportunities for collaboration."

That collaboration is increasingly important, says Dr. Richard T. Burke, vice president for regional education and economic development, because America is part of a global economy that is in desperate need of revitalization. It also must compete with a multitude of nations struggling to keep pace with technological change and adjust to its far-reaching impact.

"In this information age," Burke says, "strategic alliances between businesses, industry, government, and higher education are necessary to become more competitive in our economic environment. As an institution with a public service mission and a wide range of available technologies, WMU has become an enormous resource to the local community and the West Michigan region, reaching out to assist in economic development in a variety of ways." Along with the University and society, students reap big rewards because of WMU’s worldwide research linkages, economic development projects, and service commitments. This results in activities that keep the University abreast of evolving educational needs and keeps its teaching and research current. At the same time, they expand the amount and depth of learning opportunities available to graduate and undergraduate students alike.

As an example, the College of Engineering and Applied Sciences’ long-standing relationship with the paper and printing industries has led to WMU’s unique position as the only university in the nation with both paper and printing pilot plants on one campus. Funding for such state-of-the-art facilities came primarily from the paper and printing industries.

Because of that support, WMU students have unparalleled opportunities to gain hands-on experience using the latest equipment and to explore their interests and career possibilities. Additionally, they’re able to work side-by-side with industry professionals, making valuable contacts and performing some of the work they’ll be doing after graduation. In return, companies can use the University’s facilities to conduct important research that they might not otherwise have the equipment or personnel to conduct. And as an added bonus, WMU supplies the paper and printing industries with some of the nation’s best trained professionals.

But the benefits of outside linkages don’t end there. Thompson notes. The University operates more than fifty research centers, institutes, and programs that develop new knowledge in areas ranging from new crop development to enabling technologies to assist people with physical challenges.

WMU isn’t content with simply transferring new knowledge from research laboratories to the commercial marketplace. Th is foster economic growth. But it’s also putting forward creative initiatives to make the University more competitive, nationally and internationally. Among the recent initiatives he cites is the WMU Centers for Excellence Competition, which offers awards of up to $175,000 for developing centers focusing on interdisciplinary research projects.

"Under the leadership of President Diether Haenickie, Thompson continues, "the number of research proposals awarded to faculty has doubled. Increasing the number of faculty involved in research has generated new ideas and created new technologies, providing WMU with more knowledge and technical advances to share."

Such foresight is a University tradition according to Burke, who stresses that WMU has long been a front-runner in technological and human resource development, providing educational programs and establishing partnerships that meet the needs of Michigan’s regional economy. When corporations in the Benton Harbor area had trouble recruiting and retaining engineers for its industries, Burke points out, WMU provided the necessary graduate programs at its regional center in that city. Similarly, he says, Grand Rapids’ need for graduate educational and research opportunities led to WMU joining with four other educational institutions and local businesses and industry to found the Research & Technology Institute of West Michigan, one of several consortia WMU belongs to that increases regional cooperation and economic development.

The University shares its technological resources and research services with a much wider audience as well, serving a variety of clients through WESTOPS, Western’s Office of Public Service. "WESTOPS basically serves as a broker that puts callers in touch with the appropriate place at the University that will meet their needs," Burke explains. "For example, an entrepreneur interested in developing a business in the Kalamazoo community might call WESTOPS for technical assistance and be referred to the Business Research and Service Institute in the Haworth College of Business."

With its heritage of innovation and enduring commitment to public service, WMU isn’t waiting around to encounter tomorrow. Instead, it continues to prepare itself for a new century while embracing the future that’s here.
Western Michigan University marked two milestones April 24 when it dedicated the remodeled and expanded Dwight B. Waldo Library and the new University Computing Center.

Set off by a distinctive heather and off-white glazed tile, the buildings rest majestically in the heart of West Campus. Both facilities were opened to the public late last year. The ribbon-cutting ceremonies took place in the W. H. Upjohn Rotunda, a new feature of Waldo Library.

Center consolidates computing and telecommunications technology
B: The $7.6 million University Computing Center is the focal point for WMU's computing and telecommunications operations. The second floor's main classroom allows members of the campus community to get hands-on training in various computer platforms and software. A Faculty Resource Center elsewhere on the floor provides support staff, advanced computer equipment, and a wide selection of software for the specialized needs of faculty.

C: A special feature of the third floor is the domed Clock Tower Conference Room. Equipped with special lighting and projection equipment, the room sports a wide expanse of windows. The third floor also contains offices for academic and administrative computing support personnel and the Department of Telecommunications.

D: The second floor's main feature is a large open-access student laboratory and study area with a Help Desk staffed to handle phone calls and walk-in traffic. The laboratory houses the University's most sophisticated collection of computer systems.

E: Closed to the public, the first floor's operations center has been specially designed to protect the communication, network monitoring, and computer processing and printing machinery that runs much of WMU. Here, locked and guarded rooms house the crucial equipment needed by the University's computer laboratories and other academic computing facilities. The only portion open to the public is the first floor lobby area, where students order telephone service and pay their telephone bills through the Department of Telecommunications.

Waldo Library has new look, new services
F: The $19.3 million Waldo Library project has transformed the facility into one of the most attractive, convenient, and automated university libraries in the nation. An impressive clock tower overlooks the spacious patio leading to the new main entrance and links the library to the University Computing Center.

G: One of the less visible enhancements has been automation. Computer networks like WESTNET have eliminated yesterday's familiar card catalog files, allowing a computer to do the tedious work of locating University books and journals. Other networks and new databases give patrons access to a wealth of regional, state, national, and international information retrieval systems.

H: Aesthetic enhancements are secondary benefits of the library project. The primary benefit has been much-needed space to expand student seating and house the library's growing collection of more than 2.8 million items.

I: With its latest expansion, Waldo Library has added a Rare Books Room, which provides a secure environment for the University's many rare books, manuscripts, and incunabula.

J: The entrance opens into a rotunda featuring a three-story atrium with a skylight at its pinnacle. The rotunda, made possible through a gift from Mary U. Meader, is named in memory of her father, William Harold Upjohn (inset photo).
The Campaign for Excellence

Ulmer scholarships to be endowed from $130,000 insurance policy
James L. Ulmer, associate professor of printing and paper science and engineering, has concluded a major life insurance and estate agreement with the WMU Foundation when he transferred a $130,000 insurance policy to the WMU Foundation which will provide a permanent endowment for the Jane L. Ulmer Memorial Scholarship.

Employee aids President’s Fund by making WMU beneficiary of policy
Charles T. Overberger, ’81, a head engineer and desk-top project manager for the University Computing Services, has named the WMU Foundation as beneficiary of a $20,000 life insurance policy.

Thorne gift of $50,000 supports building wing for theatre department
A gift of $50,000 from James and Mary Thorne of Kalamazoo is needed to complete funding for the new educational wing for the Department of Theatre. The 250-square-foot wing will be added to LaVerne V. Shaw Theatre and will include a 25-foot multi-form theater/classroom, studio classrooms, dressing rooms, lobby areas with rest rooms and concessions, a street-level arts management and ticketing center, and much-needed faculty offices. More than $2 million of the $4 million project total has been raised, including a $25,000 gift from the Irving S. Gilmore Foundation of Kalamazoo.

Other major commitments to the project include a $50,000 pledge from an anonymous donor, $20,000 from Jacob (Jake) and Naomi Studci of Kalamazoo, $10,000 from Margaret and Sheldon Strong of Kalamazoo, and $10,000 from Dr. Janet E. Stillwell, associated dean of the College of Fine and Performing Arts, and her brother Jack O’Brien, of San Diego, in honor of their parents, the late Evelyn M. and J. George O’Brien.

School of Music receives major grants for sound recording studio console
The Irving S. Gilmore Foundation and the Monroe-Brown Foundation, both of Kalamazoo, have provided major grants to help fund a new twenty-four-track console in the School of Music sound recording studio. According to Don B. Gibson, director of the School of Music, 85 percent of the $101,000 needed for the new console has been raised from a variety of sources, including the Gilmore and Monroe-Brown foundation grants. Approximately $15,000 is needed to complete the funding.

Schoenhals to endow rare book fund with $40,000 charitable life insurance policy
Leta C. Schoenhals, B.S., ’42, M.A., ’58, E.D.S., ’65, has named WMU as owner and beneficiary of a charitable life insurance policy valued at more than $40,000, the proceeds from which will be used to endow a book acquisition fund in her name for the University’s rare book collection. A resident of Kalamazoo, Mrs. Schoenhals previously established the endowed Neil L. Schoenhals and Leta C. Schoenhals Undergraduate Assistantship Memorial Fund, which provides grants to students pursuing a degree in a technology-related program.

Through her estate, she will further support that endowment. Her late husband, Neil L. Schoenhals, B.S., ‘40, died in 1975. He was a member of the WMU College of Education faculty for thirty years, and served for many years as principal of the campus school. Mrs. Schoenhals was employed in the Portage Public Schools from 1936 to 1980, where she worked as a student counselor.

The Westerner, May 1992

Development

Charitable gift annuities can provide secure retirement income
One of the newer gift options available through the WMU Foundation is "charitable gift annuities," which can provide significant financial benefits to some donors, according to Kenneth J. DeVries, director of planned giving services.

Among the advantages of a charitable gift annuity are guaranteed interest payments: tax-free, limited contributions (unlike some qualified pension plans), and an immediate income tax deduction.

"The concept is simple," DeVries says. "The donor makes an irrevocable contribution to the University now, and we agree to pay the donor a guaranteed life income starting at any date the donor wishes. Donors can also arrange for a survivor to receive payments. Married couples find this especially advantageous."

Gift annuities provide significant financial benefits to some donors, according to DeVries, noting that recently there have been several articles in the public media, including a prominent feature in USA Today, which point to charitable gift annuities as a sound retirement alternative because of the declining interest rates on investments such as certificates of deposit. Any amount of $5,000 or more may be used to create a charitable gift annuity and, as is true of all gifts to the University, the donor may designate his or her gift for unrestricted use or for a specific department, program, or scholarship. Gift annuities meeting the minimum requirements (in most cases $30,000 or more) may be used to create a named endowment for scholarships, for visiting scholars or artists, for a book acquisition fund, or for another program or project of interest to the donor. Income payments may begin immediately or may be deferred to a later date of the donor's choice. The longer the payments are deferred, the higher the annual income rate will be. For example, if a donor aged fifty-five establishes a charitable gift annuity and begins receiving payments immediately, the annual income rate would be 6.5 percent. If payments are deferred until age sixty-five, the annual income rate would be 14.2 percent. And if payments are deferred until age seventy, the annual income rate would be 18.9 percent. In addition to higher annual income rates, deferring payments may be especially advantageous if the donor is in a higher tax bracket now than he or she will be in when payments begin.

"One of the real benefits to those planning their retirement," DeVries says, "is that this provides a guaranteed, steady source of income. It's worry-free. The tax benefits and the income are generous, and the donor knows before the agreement is signed exactly what he or she will receive every year for life."

"The calculations are not complicated," DeVries adds. "If we know the donor's date of birth and a few other specifics, we can prepare estimates that show what the annual income and tax deductions would be based on payments starting at several different ages, without any obligations."

For more information on charitable gift annuities, write to: Kenneth J. DeVries, Director of Planned Giving Services, WMU Foundation, Kalamazoo, MI 49008-3555.

Moving center will strengthen education in Battle Creek area
Western Michigan University is adding a new dimension and new opportunities to Battle Creek by moving its South Central Regional Center to offices in the former Robinson's department store at 51 West Michigan Mall.

The 2,000-square foot addition to the Robinson building, which is located across West Jackson Street from McCamly Place and behind Stouffer's Battle Creek Hotel. When renovation of more than 24,000 square feet of the three-story building is completed, this portion will be sold to WMU for an amount not to exceed $100,000.

Officials say the gift enables WMU to offer more educational options to the people of Battle Creek, Calhoun County, and all of West Michigan; introduce a new satellite down-link system to the area; and strengthen its long-standing partnership with Kellogg Community College, which has hosted WMU's regional center since 1974. In the process, WMU will become an integral part of the continued revitalization of downtown Battle Creek.

"This is a giant step forward for WMU in this part of Michigan," said Anthony L. DeRose, director of the South Central Regional Center. "We have offered courses in Battle Creek since 1917 and we established the University's full-time center here in 1974. We now serve more than 1,500 students each year from Barry, Branch, Calhoun, Hillsdale, Jackson, and St. Joseph counties."

KCC president Paul Ohm added that the college welcomes WMU's new initiative. "It will complement the excellent pre-university program we have here and make it very convenient for our students to get advanced education," he said.

Under the current proposal, the United Arts Council's 100-seat Discovery Theatre will move to another side of the Robinson building, while other building space will be available for commercial use.

Dr. Richard T. Burke, WMU vice president for regional education and economic development, said the University's plans call for twelve classrooms, a computer laboratory, offices, an advising area, and indoor and outdoor common areas. In addition, Burke said, WMU will offer its television master of business administration degree through installation of the satellite down-link.

Jack Howell, executive director of the Cereal City Development Corporation, said $4.6 million for the project has already been committed by the Battle Creek Downtown Development Authority, W. K. Kellogg Foundation, Miller Foundation, Battle Creek Community Foundation, Kellogg Company, and other private sources. Construction began early this year and should be completed by early 1993.
Franklin, Brady leading Board of Trustees

George A. Frank-

lin, has been selected
chaim of the Board of Trustees,
replacing Dr. William
F. Martin. Franklin
joined the WU
Board in 1989 and

served this past year as its vice chairman. He has been the vice president for public affairs at the Kellogg Company in Battle Creek since 1988.

James S. Brady, B.S. '66, of Grand Rapids was elected vice chairman of the board. Brady became a member of the Board of Trustees in 1987. He previously served as vice chairman in 1990 and this past year was chair-

person of the Board’s Budget and Finance Committee. He is a partner in the law firm of Miller, Johnson, Snell, and Cummi

sky, which has offices in Grand Rapids, Kalamazoo, and Lansing.

Four faculty selected to lead major projects

The World Bank has awarded a $362,825 grant from the Edward Lowe Foundation of Big Rapids, which has offices in Grand Rapids, Kalamazoo, and Lansing.

According to Brinkerhoff, World Bank interest in WMU was piqued by his department's graduate program in training and development, which focuses on evaluating training effectiveness.

Dr. Joseph P. Stoltman, professor of geography and an internationally recognized authority on geographic liter-

acy, is a part of a national team of experts who are design-
ing innovative collection of geography materials for

secondary education. The project, initiated by the Association of American Geographers and funded by a

$519,000 National Science Foundation grant, is part of a larger effort to develop curriculum exchanges with several countries.

tne, director of WMU’s Center for Science Education, has been named program manager to implement a nationwide initiative to provide teach-

ers with innovative instructions with an instructional model that future teachers both the knowledge and the tools to

instruct elementary students in basic physical science concepts. The Michigan Department of Education awarded Poe a

$160,240 contract to lead the initiative, which was developed by the American Institute of Physics and the American Association of Physics Teachers.

The Speech Communication Association has named Dr. Steven C. Rhodes, professor of communication and a 1984 recipient of WMU’s Alumni Teaching Excellence Award, one of Michigan’s three regional directors of the K-12 Oral Communication Teacher Training Workshops. The workshops are part of a new national training program integrating teaching and listening into the school curric-

ulum.

Powell, Hodge named to administrative posts

Dr. Theresa A. Powell has been named vice pres-

ident for student affairs, Powell had served as acting vice pres-

ident for student affairs since January 1991. She replaces

Dr. Thomas E. Coyne, B.A. ’55, who retired. Powell came to WMU as dean of students. She also has held positions with the Ohio Board of Regents, Ohio State University, and Wilfrid Laurier University.

Dr. Charles M. Hodge has been named dean of the College of Education, replacing interim education dean Dr. Daniel L. McNulty. Hodge is a professor and dean of the College of Education and Human Develop-

ment at Lamar University in Beaumont, Texas, since 1989. He has also held positions with the University of Central Arkansas at Conway and the Arkansas Department of Higher Education.

Teflon promising oil cleanup tool

Teflon, the same material used to keep food from sticking to cookware, may improve the rate at which petroleum spills are recovered from leaking underground tanks or pipelines, according to research being conducted by Dr. Duane R. Hampton, assistant professor of geology.

Hampton, who has a patent on his own on a petroleum-sen-

sitive “dipstick” that he developed to map oil spills and tailor clean-up operations, is testing materials like Teflon as part of a three-year grant from the U.S. Environmental Protection Agency that is expected to total $266,000.

Hampton is testing various materials to increase the speed at which gravel packs attract and remove petroleum.

The packs surround recovery wells that are installed at con-
nested sites to recover leaked oil. Dr. Michael E. McCiville, chairperson of the Department of Chemistry, is the principal investigator in a second aspect of the research. McCiville is focusing on developing a chemical “tracer” that can be added to contaminated soil to help investigators determine where and how fast a spill is spreading. As Hampton’s work, the main requirement is that the tracer cannot introduce a contaminant to the spill site.

Study aims to understand entrepreneurs

A $362,825 grant from the Edward Lowe Foundation of Big Rock Valley in Caspian funded a unique pilot project to intensively study entrepreneurs in a four-state area. Dr. Trudy G. Verter, assistant professor of management, worked with two groups of entrepreneur couples and two groups of entrepreneur spouses to discuss family stress triggers by the demands of starting and running a busi-

ness and to construct solutions that could help address the high divorce rate experienced by entrepreneur couples. Dr. William E. Zwergel, associate professor of psychology, studied the professional challenges encountered by entrepreneurs and recording the solutions proposed by entrepreneurs.

Institute seeks to prevent job injuries

A new research institute and new laboratory facilities are helping area industry and future engineers design jobs to stop the Agency that is expected to total $24,500 as part of its work are in the Governor’s Cup Solar Challenge, both of which took place in Phoenix last year. WMU hopes to raise nearly $500,000 in cash and materials to fund the design, construction, testing, and competition phases of the 1993 race.

Western Herald celebrates 75th anniversary

Since June 28, 1916, the Western Herald has paralleled WMU’s growth. Like the University, it has grown from a small, specialized operation to a large, top-rated organization serving a diverse audience. This academic year, the newspaper is celebrating seventy-five years of publication. Originally named the Western Normal Herald, it began as a four-page weekly, serving as a vehicle for student writing and distributed to 1,200 students at Western Normal College. Today, the student newspaper publishes two times a week as well as four to seven pages per issue, and serves as a major source of campus, community, and state news for more than 24,900 on-campus students.

Computer expert turns words into pictures

A picture may be worth a thousand words, but Mr. Ben Pinkowski, associate professor of computer science, would rather have a picture of the computer language that will "bear" the spoken word for deaf persons or portable translation equipment for travelers that can convert spoken foreign language into the travelers’ native tongue.

Project could speed up searching for “trees”

A $541,345 grant from the U.S. Department of Navy’s Office of Naval Research to Dr. Allen J. Schwartz, professor of mathematics and statistics, is being used to conduct research that may lead to a dramatic increase in the speed with which computer-run searches of mathematical “trees” are conducted. Many problems in mathematics, manage-

ment, and computer science require computer users to search through billions of trees in a short amount of time. The research will be to the job of making the language more usable by building a simulator to test software specifications written with those language.

Lasers enhance specialized laboratory

A $500,000, four-year grant for a laser-enhanced reaction laboratory, awarded to Dr. Harry Haworth, Incorporated, of Holland, has been added to the College of Engineering and Applied Sciences’ autom-

ated discrimination laboratory. The equipment is being used by faculty and students to investigate high thermal-

ity processes and a variety of materials, including polymer composites and wood products.
Commencement brings honors and optimism

Top: A group of fall graduates showed their team spirit during December commencement.
Left: During April commencement, WMU granted an honorary doctor of public service degree to William E. LaRothe, who retired in December as chairman of the board and chief executive officer of the Kellogg Company. LaRothe served Kellogg, the world's largest manufacturer of ready-to-eat cereals, for more than forty years. In addition to healthy Kellogg cereal, he has held numerous other leadership positions, including serving on the WMU Foundation Board of Directors from 1962 to 1989.

Right: For the first time in seven years and for only the seventh time ever, the WMU Board of Trustees unanimously voted to present a board Distinguished Service Award. The award, bestowed during December graduation exercises, went to Thomas E. Coyne, B.A. '55, who recently retired as the University's longest serving vice president. A board resolution cited Coyne as "a great advocate for our students" and recognized him for "his long and distinguished service for almost thirty years to the University, first as director of alumni relations (1962-69), then as administrative assistant to President James W. Miller (1966-70), and thereafter as vice president for student services.

WMU practiced in greeting presidential contenders

If history repeats itself, especially recent history, Western Michigan University can expect to entertain many or most of the candidates in this year's race for the presidency. During the 1988 election, the Rev. Jesse Jackson brought his Rainbow Coalition to WMU, and candidiat Michael Dukakis and Paul Simon also stumped on campus.

While President George Bush didn't campaign at WMU in 1988, he did make important stops here in the two previous elections when he was Ronald Reagan's vice-presidential running mate. His 1984 campus visit came on October 23.

as part of an effort to shore up support in Michigan less than two weeks before the election.

Either future Republican candidate, then-Congressman Gerald R. Ford, was on campus in April 1973 to receive an honorary doctorate. Less than six months later, he was appointed vice president of the United States, and the following year, he became president.

Visits by current, past, and future presidents are not so new to the University nor to Kalamazoo. In 1856 then-Congressman Abraham Lincoln made an historically significant address on behalf of Republican presidential candidate John C. Fremont. Lincoln spoke in the small village of Kalamazoo, in what is now Bronson Park. Other important presidential visits to Kalamazoo were made by Theodore Roosevelt and John F. Kennedy. The most famous political visit to campus—and the only one by an incumbent U.S. president—occurred September 21, 1911, when William Howard Taft spoke to the faculty and students on the "important role of normal schools." President Taft's visit to Bush, Ford, and Taft, Richard M. Nixon is the only other president to visit WMU. He was on campus in 1966, two years prior to his first election as president.

Increasingly, the campaign trail has led through WMU's campus for both Democratic party hopefuls, like Hubert Humphrey in 1964, and Republican party hopefuls, like Nelson Rockefeller in 1976. Campaign '92 is no exception. So far former Gov. Jerry Brown has made a stop on campus, and this year's presidential election is far from over.
—by Thom Myers from research conducted by Julia Dumont '94

Basketball, hockey teams have banner year

Coach Bob Donorow's men's basketball team ended the 1991-92 season with its first National Invitational Tournament appearance, first winning record since 1982, and highest MAC-American Conference finish since 1947-48. The 16-13 squad lost to Notre Dame 63-56 in the NIT opening round, finishing with a 21-10 overall record and an 11-5 MAC record. The twenty-one victories were the second most in school season history and earned Donorow MAC "coach of the year." honors.

WMU's hockey team, which enjoyed a top fifteen national ranking for most of the 1991-92 season, won a ninth consecutive Central Collegiate Hockey Association playoff bid, and had a winning season for the seventh time in its last nine years. The CCHA lost to Miami University 3-1 and 4-3 in first round playoff series and a fifth place finish in league. The twenty-one wins was a second best in overall record and a 14-12-4 CCHA record. Since Coach Bill Wilkinson joined the program in 1980-81, WMU has finished among the top four teams in the CCHA race five times.

MAIL BAG

Ethics emphasis is encouraging

It is most encouraging to learn from the January Westerner that a new emphasis on the teaching of ethics is happening at WMU. It is sorely needed.

In addition to the very fundamental personal life, and ethical perspectives and deliberation shape cultural and civic life. To leave ethics out of a curriculum makes little sense.

However, after reading and rereading the article, I felt something very vital was missed. It did not go far enough. No mention was made of the very basic foundation upon which all our rules and laws are based—the Ten Commandments. The scale of justice is useless without a standard for measurement.

Our educational system is under attack. We hear, "Let's return to basics." As an institution for preparing teachers of our youth, WMU is in a very strategic position in providing a standard by which our children will be enabled to evaluate rightly. Nothing is easy as formerly taught.

—Miriam Baehr, B.S. '41

Recycled versus recyclable

It was reported in the January 1992 Westerner that the EPA awards (WMU) $1.3 million for recycling research. Although the Westerner is printed on recycled paper, the paper itself is not recyclable. Why do you report about recycling, yet do only half the way in your own paper? I hope you consider this soon. What kind of "ethical" example is the Westerner setting?

—Brian, B.B.A. '93, and Ann, B.S. '90, Smolinski

Editor's note: Paper recycling is often contingent on the interests and capabilities of recycling companies. For instance, many companies across the country, including at least one in Kalamazoo, will recycle the Westerner. However, some vendors in some communities will not or cannot accept the recycled coated paper that the Westerner uses.
Sophisticated technologies transform science fiction into reality

Terms like "user friendly," "download," and "electronic transfer" were once a sign of technological literacy on college campuses. At Western Michigan University, however, such phrases have given way to "antenna farms," "fiber-optic," "sup-links," and "parallel processing." WMU early on recognized the importance of technology to the life and work of every citizen and has been acquiring state-of-the-art technology in the fields of global communication and computing. Now, less than ten years after it became the first U.S. university to make computer competency an undergraduate degree requirement, WMU is poised to take advantage of high-technology concepts once more common to science fiction stories than to mainstream University life.

That technology is dramatically affecting not only students, but all of the West Michigan region as the University and region race toward the year 2000 with a head start on much of the rest of the nation. On any given day, a corporate business leader, medical practitioner, high school history student, or fledgling entrepreneur can reap the benefits of WMU's expanding technological capabilities.

"In overall distribution of facilities and innovation in areas such as electronic classrooms, supercomputing, multi-media instruction, and conferencing technology, we are among the best and we're working to use that technology to address the needs of industry and the general public," says Dr. Harley Belin, a veteran campus expert on technology who in 1991 was named director of computing and communication services.

The new satellite teleport, supercomputer, and automated library system top the list of WMU's most sophisticated technologies.

The teleport, which makes West Michigan an equal partner with the world's great information centers, enables the University to deliver classes and information from Kalamazoo to any location in North America. This satellite uplink and downlink technology makes the city one of only six of comparable size in the nation with such communication ability. Already, the University is offering the state's first master of business administration degree via satellite through the Michigan Information Technology Network.

WMU also enhances education and fosters economic development by leasing its uplink facility to the public sector and private enterprise. Additionally, corporations such as The Upjohn Company are using WMU's facility to develop their own worldwide communication networks. In conjunction with this year's entering of Kalpana Chawla, the Indian astronaut, with fiber-optic cable, the uplink is one of the high-tech tools regional planners hope will attract information-dependent firms to West Michigan.

The University's new $900,000 supercomputer is equally impressive. Able to make a billion calculations per second, the nCUBE 2 is the most powerful computer of its kind in Michigan and links WMU with the world's leading research centers.

With its purchase in 1991, less than thirty years after the first computer arrived on campus, WMU entered the supercomputer age. The nCUBE 2 does the work of 128 threes and makes calculations 100 times faster than any other computing technology available on campus. The new machine, a distributed memory parallel supercomputer, is part of a class of computers considered the most powerful in existence and once applied only to national security matters.

Now the fastest growing segment of the computer sales market, they're being harnessed for science and industry. WMU's supercomputer is the foundation of the Concurrent Computation Research Center in the College of Arts and Sciences. It gives students access to some of the most advanced computing technology in the world and is already a significant resource for campus researchers and area industry.

WMU partially offset the cost of its supercomputer by winning a highly competitive grant from the National Science Foundation, which has established a network of supercomputer centers and gives researchers access to computer simulation as a basic tool of scientific research. An additional grant from nCUBE and $125,000 in University funds made the purchase possible.

Both the region and campus community benefit from other major computer developments on campus. In 1990 a $1 million grant from the W. K. Kellogg Foundation of Battle Creek to WMU's libraries brought about one of the most noticeable changes for West Michigan. The grant enabled the University to purchase computer hardware and software and to make licensing arrangements putting WMU's vast library collections at the fingertips of students, citizens, and businesses throughout the region.

Card catalogs have been replaced by an on-line system itemizing the University's holdings as well as those of libraries in Southwest Michigan. Anyone with a microcomputer and a modem can access WMU's library collections from home. Patrons can use cutting-edge computer graphics equipment, paving the way for art students to easily access and study hundreds of copies of prominent art works.

The interior of a blood vessel (magnified 3,500 times.)

High-technology products abound in every college classroom on Western Michigan University's campus. Employing some of the most advanced equipment available today, faculty and student researchers are delving into new and exciting technological areas. A sampling of recent activities demonstrates the broad range of inquiry being conducted. At WMU it's all in a day's work for researchers to:

- Develop quantitative methods of analyzing human speech to help clinicians and voice scientists evaluate speech quality.
- Investigate ways to make publication-quality recycled paper out of the mixed office waste that's now generated at the rate of one pound per worker per day.
- Produce customized maps of crucial zoning, factory siting, and groundwater protection information for area officials in a matter of months using an integrated satellite computer system, eliminating years of laborious work hand drawing maps.
- Work with elementary and special education teachers to determine how to best train them to integrate computing technology into the educational experience of children with learning disabilities.
- Teach students how customer orders, production scheduling, design changes, and other operations can all be handled by one state-of-the-art Computer Integrated Manufacturing system linking management, engineering, and production departments.
- Improve the workplace environment by measuring and analyzing job tasks to reduce or prevent such ailments as carpal tunnel syndrome.
- Digitize and compile color slides using cutting-edge computer graphics equipment, paving the way for art students to easily access and study hundreds of copies of prominent art works.
- An acrylic painting by contemporary artist Chuck Close.

Program computers to simulate real business environments so students can practice analytical and decision-making techniques and see how their choices will affect companies a year or more later.
- Help students visualize the intricacies of calculus using computer graphics equipment.
- Transfer patented works to private industry for development, such as was the case with a "lost foam" casting technique that may result in perfectly formed complex metal parts for automobiles at a competitive cost.
- Enhance the performance of athletes by digitally analyzing their movements, which are plotted on a computer and appear on the screen in the form of a graphic image.
- Develop computer technology to enlarge text on monitors so vision-impaired persons can view it and to scan written material and translate it into spoken words for blind students.
- Map oil spills and tailor clean-up operations using a patented petroleum-sensitive "dipstick" invented at WMU.
- Compose musical scores on computers that write the individual instrument parts and even entire symphonies. The complete four-page score sections can be edited before musicians perform the work.
- Incorporate sophisticated laser equipment to obtain the precise measurements needed in projects involving mechanical systems to observe fluid flow phenomena.

The interior of a blood vessel (magnified 3,500 times.)

Incorporate sophisticated laser equipment to obtain the precise measurements needed in projects involving mechanical systems to observe fluid flow phenomena.
Remember the eight-hour days of standing in line in "the Pit" at Roeder Fieldhouse to register for classes? Remember flipping through the card catalog and using a typewriter to complete term papers?

Well, Western Michigan University, alumni, those icons of education past are now dinosaurs. Effects of the technological revolution permeate nearly every aspect of campus life, making today's graduates experienced high-tech consumers as well as products of high-tech instruction.

Communication is the most visible technological change from days gone by.

Students who don't arrive on campus with their own microcomputer in tow can join with faculty and staff in purchasing one from the University-run store, Micros and More, which has discount arrangements with major computer manufacturers. Those who still like proximity to their fellow humans can use one of the 400 computers available for general use in six supervised laboratories around campus.

However, some past traditions, such as all-nighters and the academic duos of studies and munchies, refuse to die. Despite creation of a newer, twenty-four-hour computer laboratory in the University Computing Center, for instance, students still prefer the Key Pad, the laboratory in the Bernhard Center's Bronco Mall.

"Why? Because the neon-lit mall, completed in 1989, is a fast food haven of pizza, burgers, and ice cream. In fact, the Key Pad is so popular that administrators reduced the computing center's hours in favor of keeping the Key Pad open all night.

General computer laboratories like those, along with specialized ones devoted to such disciplines as music composition, education, and graphic design, put a wide range of hardware and software in the hands of students. They can even execute numerous tasks without leaving their residence hall, just by using a modem or plugging into a campuswide data line adjacent to their telephone jack.

If students want to conduct a bibliographical search, for instance, they punch a few keys and access Waldo Library's on-line catalog or other library collections in southwest Michigan. They don't even need a printer in their room to print out the information they find. They can send their documents to the nearest campus computer laboratory and pick them up later. Then, if students want to "talk" about how their research is going, they can take part in discussions via the campus' electronic bulletin board. Professors often find learning rates improve when students can "talk" to a stranger in this two-way campus. They have to master television presentation skills, such as showing more than they tell.

Despite all human precautions, technology occasionally exhibits unfriendly quirks. Peculiar circumstances periodically cause WMU's registration computer to crash during Touch-Tone® registration, triggering an incorrect message from the mainframe computer to students—something to the effect that they're no longer admitted to the University. And computer laboratory attendants witness the pain of students who end up losing everything when they try to print their lengthy documents before properly saving their work.

Complications also arise when humans discover unexpected uses for the University's technological capabilities. Recently, for example, two ambitious students were simply exploring the University's computer networking potential when they were found trying to "hack" their way into NASA's private network.

Three other students encountered an unpleasant surprise because of a computer dirty trick that changed their class schedules. The students discovered their former sweetheart's punched the yes button. (A new personal identification number system will prevent such surprises in the future.)

Overall, the benefits of technology outweigh the drawbacks, as exemplified by such University services as the scholarship search service offered by the Office of Student Financial Aid and Scholarships. For a $10 service charge, students can tap into a national computer network to identify more than 300,000 sources of assistance. A similar computer search program is available in Career Planning and Placement Services. Its Discover program allows students to view a 3,000-item catalog of positions and obtain information about a job's marketability and educational requirements.

In the area of communication, WMU just last year debuted its own system, EduCABLE. The system, which serves 3,800 residential units on campus and selected buildings, offers students international programming, for example, language news broadcasts, local cable access, and the option of watching taped WMU classes, student forums, and student produced programs on a student channel. Because EduCable programs are provided to area community cable access channels, WMU programming also reaches 240,000 homes in southwest Michigan.

Additionally, students will soon be able to obtain in-depth world news on EduCABLE's Monitor Channel and observe the United States Congress on C-SPAN, although some information-weary students would rather receive HBO, a pay-TV entertainment channel.

Through its satellite down-link system, WMU receives scores of other programs on a wide range of topics. This year's broadcasts have included two live national teleconferences, "Rising Campus Racism" and "Understanding and Meeting the Needs of Gay, Lesbian, and Bisexual Students."

Through its newly acquired satellite up-link system, the University can broadcast its own programs to any North American location and much of Europe.

WMU's advanced up-link and down-link technology allows students and faculty to participate in special programs annually participate in about 200 specialized teleconferences, all without leaving campus. Additionally, this technology can provide a "lifeline" communiqué for students or faculty participants in Kalamazoo find themselves interacting with diverse groups across the country.

That has been the case for WMU students studying abroad. Some of them have even lost their master of business administration degree via television.

The unique program uses one video and two audio links to campus class rooms with locations around the state.

But gone are the days of whispering secrets in such a class. With microphones and cameras stationed throughout the room, a confidence in Kalamazoo may be shared with a stranger in Petoskey. Teachers also face problems on this two-way campus. They have to master television presentation skills, such as showing more than they tell and adapting to an electronic dress code that minimizes air-wave noise static.

As WMU continues to lead its peers in incorporating high-technology, it seems as if the only thing that hasn't changed at the University is WMU's ability to adapt to change.
Association chapter adds color to Chicago

Members of the Greater Chicago Chapter of the Alumni Association added some color to Chicago, Illinois, when they volunteered one Saturday each month to paint school rooms and low-income housing projects, clean parks, or do other projects in their communities.

Chicago Chapter president Gari Kersten, B.S., ’88, says, “Can you imagine an elderly or disabled person arriving at their new home only to learn that they have to clean, paint, and do some repair work?”

Kersten plans to offer the volunteering opportunity regularly to members of the Chicago chapter. While he hopes more Chicago-area alumni will volunteer next month, he encourages all alumni to get involved in some way.

Another option is to simply relax beneath a shady tree on Vermont’s tours are flexible and include easy biking on the roads and back roads that follow the edges of the historic Connecticut River. You plan to arrive Friday night, you’ll be served a delicious meal at The Westerner, May 9, 1992

Bike Vermont tour slated for August 14 through 16

The Wilmy Alumni Association is offering a bike tour through the beautiful Connecticut River valley beginning Friday, August 14.

The tour leaves August 14 from Dowd’s Country Inn, located in Lyman, New Hampshire. Bike Vermont’s tours are flexible and easy to moderate riding for the cyclist and alternate routes for the energetic rider. You set your own pace.

As you arrive Friday night, you’ll be served dinner and participate in an orientation meeting that will prepare you for the next two days of cycling.

Saturday, August 15, you’ll enjoy breakfast at the inn before riding twenty-three miles. Long quiet back roads that follow the edges of the historic Connecticut River are done at a leisurely pace, through relatively easy terrain that affords superb views. The Bike Vermont trip costs $280 per person, which includes a $25 administrative fee. This covers two nights lodging at Dowd’s Country Inn, breakfasts, dinners, and taxes and tips, tour guides, and a support van. Bike rental is available for $35. Transportation is extra. If you plan to fly to New England, tell your travel agent that your destination is Lebanon Airport in New Hampshire or Logan Airport in Boston.

The Bike Vermont trip will begin in Lyman, New Hampshire, on the reservation, send a $125 deposit for each person: to Bike Alumni Tour, WMU Alumni Association, McKee Alumni Center, Kalamazoo, Michigan, 49008-3854. For Bike Tour information, call the McKee Alumni Center at (616) 387-6179.
Alumni Insurance Program Expanded

In its ongoing effort to respond to the needs of Western Michigan University alumni, the Alumni Association has expanded its Alumni Group Health Insurance Program to include major medical (MajorMed), excess coverage (Supplemental MajorMed or SupliMed65+), and Medicare supplement (SupliMed65+) insurance.

The expanded health insurance program will allow alumni to elect the type of health coverage they need, when they need it.

Graded, the short term major medical plan, has been available to alumni since 1989 and provides up to $1 million in coverage for up to 180 days, and has been used by new graduates who are job hunting, alumni who are engaged in research for the Foremost Group, and the Staff of the Kalamazoo Tribune.

MajorMed, the comprehensive health insurance plan, is geared toward alumni who need complete medical insurance but have no access to a group plan, for instance, self-employed alumni. It provides up to $1 million in coverage of a choice of deductibles.

SupliMed65+, the Medicare supplement insurance, is available for alumni who desire coverage above and beyond their primary health insurance coverage. Because most people beyond this age are not covered by group supplementary insurance, it is difficult to obtain. If bought on an individual basis, it can be prohibitive expensive. This group coverage through the Alumni Association is designed to address these challenges.

Information about the expanded insurance plan is mailed to alumni as a reminder to alumni. Alumni desiring more information about these options can call the program administrator, American Insurance Association, 1001 00 922-1245.

Richard B. Bauer, Jr., MBA, 1979, was promoted to president of the new Florida Marlins Baseball Team, Ft. Lauderdale, FL.

Judy Keelum, BSN, in February 1991 published her second book, I Have Diabetes, a practical handbook for the insulin-dependent patient, Westland, MI.

Vernet L. McCoy, MD, 79, in 1991 became a Junior partner in the hired as an assistant physician in the Ohio State University Hospitals, Columbus, OH.

Dave Cooper, BS, 71, in 1989 was named principal at Cooper High School, Plainwell, MI.

Vance H Illinois, 74, in August was named marketing man- Fer, Ohio, 1982, as named a new president of the American Institute of Certified Public Accountants, Vic- in November 1991 was named assistant director of corporate affairs, Commercia Incorporated, Pentwater, MI.

Carmen M. Evans, BS, MS, in September 1991 was named instructor of mathematics- Science, Space, and Hearing Governor of the Ohio, Ohio, 1982, as named a new president of the American Institute of Certified Public Accountants, Vic- in November 1991 was named assistant director of corporate affairs, Commercia Incorporated, Pentwater, MI.

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Shuey, MA, 79, in September was named general manager of the Barnstable Community, 119, alsion of Pentwater, MI.

Dan Bishop, BBA, 80, of the University of Iowa, 1990, was named president of corporate quality and man- Ram, Michigan, 1990, was named president of corporate quality and man- Ram, Michigan, 1990, was named president of corporate quality and man- Ram, Michigan, 1990, was named president of corporate quality and man- Ram, Michigan, 1990, was named president of corporate quality and man- Ram, Michigan, 1990, was named president of corporate quality and man- Ram, Michigan, 1990, was named president of corporate quality and man- Ram, Michigan, 1990, was named president of corporate quality and man- Ram, Michigan, 1990, was named president of corporate quality and man- Ram, Michigan, 1990, was named president of corporate quality and man- Ram, Michigan, 1990, was named president of corporate quality and man- Ram, Michigan, 1990, was named president of corporate quality and man- Ram, Michigan, 1990, was named president of corporate quality and man- Ram, Michigan, 1990, was named president of corporate quality and man- Ram, Michigan, 1990, was named president of corporate quality and man-
**Look ma, hands-on learning**

For a preview of tomorrow's technological innovators, you don't have to look any further than Western Michigan University's College of Engineering and Applied Sciences. Here you'll find scores of seniors busy designing technological wonders that may one day find their way into the marketplace.

Their work is part of capstone learning experiences involving design courses that require projects. These Senior Engineering Design Projects are student-staffed and student-led, making every effort to integrate and put into practice all the diverse elements of the engineering and applied sciences curriculum. Faculty members provide guidance as students make decision designs and probe alternative design approaches.

One exciting feature of the project is the chance to explore just about any idea, from an auditory feedback system to help prevent stuttering to a motorized fishing reel for disabled or arthritic anglers. Projects like these evolve from a variety of sources, notes Dr. Dennis J. VandenBrink, associate professor of mechanical engineering.

Occasionally an idea will land in a student's lap, VandenBrink says, such as when a farmer contacted one student to show that the need to spray a larger field area than his commercially available sprayer could cover. But more often companies call the college seeking a solution to a problem or help with a project they don't have time to do. Other students take an idea to a company to generate interest and procure a project sponsor or gain their inspiration from faculty members.

VandenBrink provided that service when he asked two students to solve a problem with his above-ground swimming pool cover.

"I didn't like the way it sagged under snow and ice," the professor says, "so I asked two mechanical engineering students if they could find a solution."

Paul B. Hoke of Evart and Scott R. Kempf of Byron designed a dome-shaped structure of beams that attaches to the pool and is easy to assemble, inexpensive to manufacture, and requires no storage in a small area. The spider-like support should increase the cover's life and simplify springtime removal and cleanup.

"We took what we had learned in the classroom and used the information to solve his real-life problem," Hoke explains. "We wanted the pool cover support to be lightweight enough that no one or two people to manage, yet strong enough to withstand the winds and snow loads during the winter."

Invention is also born of necessity, and some project ideas originate from a student's own unique problem. Gary Wonski of Grand Rapids has a two-year-old child, a two-door car, and a strained lower back from hauling his child in and out of the infant car seat. For his project, Wonski teamed with Mark A. Sutton of Parchment and Ryan S. Hazel of Lake Odessa to design a less strenuous car seat under the guidance of faculty advisor Charles Woodward, assistant professor of engineering technology. After contacting five car seat manufacturers for donations of necessary parts, the team built a prototype infant seat that sits on a swivel base and has a sliding mechanism attached to the car seat, giving an adult easy access to the child.

"Several car seat companies, including Cosco in Columbus, Indiana, have expressed interest in seeing our design once it's completed," Wonski says. "This has been a great way to call off our college engineering career. It's just an everyday product, but it's been a great way to show off what we've learned."

Senior Mark Major of Flint is another student with a personal stake in his project. For years as a high school and WMU track team member, Major yearned for a more convenient way of setting up hurdles. His project team, which included Jeffrey D. Mann of Jackson and James J. Porter of Corunna, came up with the concept of a hurdle that can be stored in a pit area under the track. They also replaced the counterbalance weights with hinge joints so that the hurdle swings open and shut like a gate when hit by the hurdler.

"Each week we meet with our faculty advisor Dr. Pnina Ari-Gur, assistant professor of engineering technology," Major says. "We run our design changes past her, and she tells us if they're feasible. As our mentor, she makes sure we're not designing ourselves into a corner or overdesigning our project. It's really been a great experience."

As Dr. Ralph Tanner, assistant professor of engineering technology, says, he believes this team experience in problem solving is an important element of the senior project. "No one in business and industry works in a vacuum," Tanner stresses. "It's always a cooperative effort with other people."

Team projects culminate in a college-wide conference on Senior Engineering Design Projects, which showcases the students' work and requires them to present their projects.

Cori L. Brown of Adrian, an engineering graphics major with a plastics emphasis, says the experience of generating and presenting projects helps ready students for the "real world."

Brown joined Danny H. Branch of Kalamazoo and Marc C. R. Vander Koot of Holland. Using a computer-aided design system to develop software that creates a three-dimensional representation of a plastic injection mold base. They and their faculty advisor, Dr. Michael Atkins, assistant professor of engineering technology, say the software is marketable.

"The concept of the senior engineering design projects allows us to choose our own projects according to our individual backgrounds and career goals," Brown says. "And, hopefully, if business and industry take notice of our project and our capabilities, it will lead to job opportunities after graduation."

Businessman, student add new meaning to 'read my lips'

A joint project between a Western Michigan University student and a Kalamazoo businessman lends new meaning to President George Bush's no new taxes phrase "Read my lips."

The two collaborated to develop plans for a "Liperator," a computerized device that allows deaf persons to actually lip-read their telephone conversations.

The device translates voice communication into a series of lip movements that appear on a video display attached to the hearing impaired telephone. Robert P. Slager, a hearing aid specialist at the Hearing Aid Center of Kalamazoo, and Tair Mendelowitsch, BSE '90, an electrical engineer, spent the past year developing the device. Slager came up with the idea for the product several years ago.

"Persons with hearing loss have great difficulty on the telephone, especially when there is noise or background," he says.

So in 1991, Slager contacted WMU's College of Engineering and Applied Sciences with his idea. The college put him in contact with Mendelowitsch, who helped develop the Liperator technology and conduct the necessary research.

Although he specialized in digital signal processing while pursuing his master's degree, Mendelowitsch had to spend hours studying the art of lip-reading in order to develop the Liperator's technical components. The device he came up with is a computer that analyzes a voice signal received from the telephone. The instrument breaks down the stream of words into phonemes, the smallest units of speech that distinguish one utterance from another.

Once the phonemes are identified and factors such as frequencies and inflections and other data are accounted for, the computer matches each phoneme to a corresponding lip shape. These shapes are then shown in the form of lip movements on a video display.

"Watching the movement of the lips with the Liperator will augment anyone's—especially the hearing impaired person's—ability to hear," MUSE '91, an electrical engineering student, says. "Although it has yet to be manufactured, the Liperator last December received an honorable mention award in a national competition sponsored by the National Science Foundation to spotlight the potential of computing devices to improve the quality of life for persons with disabilities. Additionally, other universities and private industry showed interest in taking the project beyond the prototype stage. The device is garnering widespread attention partly because it has several advantages over today's telephone devices for the deaf (TDDs), which take voice messages and translate them to electronic readouts.

"The primary problem with the TDD is that you have to have one on the telephone at each end," Slager says. "Only the hearing impaired person would have to have a Liperator, so it would be less expensive. The Liperator also would enable two people to have a continuous telephone conversation, rather than having to wait to receive each other's messages."

Slager says other advantages of the device include its portability and its flexibility for modification. For instance, it could be modified to accommodate different languages, translate words into hand gestures for sign-language dependent persons, or connect to radios or other electronic audio devices.

Slager, who has a patent pending on the Liperator, is currently searching for a facility or a firm to develop the device. "I'm looking to manufacture it. My bachelor's and master's degrees from WMU in hand along with a unique project under his belt, looking for a job in the Detroit area as an electrical engineer."