

WESTERN MICHIGAN UNIVERSITY WESTERN NEWS

Volume 18, Number 17

January 23, 1992

Geologist uses Teflon to speed up recovery of petroleum spills under \$93,000 EPA grant

The material that stops a hamburger from sticking to a frying pan could find new life as a tool to speed up recovery of underground oil spills, says a WMU geologist.

Duane R. Hampton, geology, an expert on ground contamination caused by leaking underground storage tanks, recently was awarded a \$93,000 grant from the U.S. Environmental Protection Agency to support the second of three years of research aimed at improving cleanup procedures at underground petroleum spills. His research recently has focused on use of Teflon as a promising new tool to speed and improve cleanup efforts.

Hampton is working on ways to improve the quality of the materials used for recovery wells that are sunk to retrieve petroleum products spilled at underground sites. Such spills are becoming more common as gas station, home heating oil and other storage tanks age and begin leaking. In Michigan alone, more than 1,000 such spills have been confirmed and nationwide, the tally is more than 100,000. The EPA estimates the average cost of cleanup per site at \$110,000.

Recovery wells installed at spill sites are nearly identical to water wells and are surrounded by a gravel pack made up of sand or gravel granules that are of a larger size than the surrounding soil. The purpose of the pack is to filter out the smaller soil particles and allow easier passage of the liquid into the well pipe.

Hampton's research has been aimed at identifying the correct material to use in the gravel pack that surrounds a recovery well. The ideal gravel pack material would ease the passage of petroleum into the well, speeding the rate at which the product is recovered. His research has included varying the size and texture of the granules of the gravel pack and coating those granules with materials that repel water and ease the entry of greater amounts of spilled petroleum into the well. Early work with the same chemicals used in products such as Scotchguard to make clothing water repellent had good results, but introduced an unacceptable risk of contamination to the already damaged area.

When Hampton learned of technical advances that made Teflon available in a liquid or spray form, he began using Teflon pellets

in gravel packs to test that material's suitability for use in recovery wells.

"Petroleum seems to actually be attracted to the Teflon and a pathway directly into the well is created when the Teflon packs are used," Hampton says. "That's exactly the quality we are looking for to speed the rate at which the spilled petroleum product migrates into the recovery well."

Spray-on Teflon was developed for the apparel industry and is now being used on fabric to repel water and stains. Hampton believes it can be used to treat a well gravel pack to make it more conducive to the passage of petroleum. Although scrap Teflon pieces are available in a variety of granule sizes and he has worked with gravel packs made from that material, Hampton says it would be impractical for the petroleum recovery industry to depend on a constant inexpensive supply of such material. Conventional gravel packs treated with spray or liquid Teflon, he believes, may be a viable alternative.

Hampton currently is testing the Teflon packs in the laboratory and expects to continue the tests at a field site in central Michigan by sinking five or six recovery wells. Once tests are complete, he expects to compile a "Consumer Reports of gravel packs" for professionals who handle product recovery.

A second aspect of the research being financed by the EPA grant focuses on efforts to develop a chemical "tracer" that can be added to the soil at a contaminated site to help investigators determine the direction and speed at which the spilled product is spreading. As with additives to the gravel pack being studied, the main requirement is that the tracer cannot introduce any additional

(Continued on page four)



SALUTE TO KING — A candlelighting ceremony Jan. 20 in the Bernhard Center was one of several activities sponsored at the University in observance of the birthday of Martin Luther King Jr. Maria D. Sandoual, left, a freshman from Holland, and Elizabeth F. Richardson, a freshman from Detroit, helped light 39 candles to symbolize King's age when he was assassinated in 1968. The candlelighting was preceded by a program planned by students with the help of staff from the Division of Minority Affairs. Among the speakers were Provost Nancy S. Barrett, Rep. Mary Brown and Kalamazoo Mayor Beverly Moore, social work. The keynote speaker was a WMU alumnus, the Rev. J. Lewis Felton from the Galilee Baptist Church in Kalamazoo, who told the audience, "What Dr. King stood for did not get buried — it is embodied in you and me. We celebrate that he lived, he loved and he struggled for our rights."

CEO Council asks WMU to take on business center

The CEO Council Inc. has asked the University to assume responsibility for the council's Business Development Center (BDC).

WMU will operate the center through WESTOPS, the WMU Office of Public Service. The CEO Council took the step after its

Community Growth Alliances funding was ended in a state budget cut.

The change, under consideration for the past few months, is effective immediately.

"We are fortunate that Western Michigan University, with its outstanding track record of public service, was able to assume this important responsibility," said Ward Nay, acting president of the CEO Council. "The center's many clients will be in very good hands."

"We are delighted to have this further opportunity to participate in the economic development of Kalamazoo County and all of West Michigan," said Richard T. Burke, WMU vice president for regional education and economic development. "It strengthens our ability to respond to the needs of our community, our region and our state."

"WESTOPS will maintain current BDC programs," said William H. Cotton, WESTOPS. "The center will serve businesses using existing WESTOPS staff."

Services include assistance with business planning, marketing and distribution as well as counseling in such areas as product devel-

opment. In addition, the center will provide conferences and workshops for budding entrepreneurs, emerging and established businesses of any size and persons interested in starting a business.

"The center will help business people understand the realities of operating and maintaining a business by providing a link to expert resources available through WMU, other area educational institutions and the business community itself," he continued.

WESTOPS has access to a sophisticated information retrieval system that will provide clients with current information on many issues confronting new or developing as well as mature businesses.

"The BDC is committed to timely and cost-effective service to enhance economic development in the region," Cotton said. "In most cases, services are provided without charge unless specialized assistance is required, when a charge may be involved."

More information about the BDC and WESTOPS is available by calling 7-2714. WESTOPS is located at 350 Columbia Plaza, Suite 29, in downtown Kalamazoo.

Committee seeks service award nominations; forms for 1992 due Wednesday, March 11

Nominations for the 1992 Distinguished Service Award are being sought by the committee that oversees the program. The deadline is Wednesday, March 11.

The award is designed to recognize: service through innovative and effective programs that are academic or related to another facet of University life, such as programs that serve students, faculty or staff in some important and unique way; service in areas and organizations that contribute to the growth and stature of the University; service that extends the impact and presence of the University into the larger community.

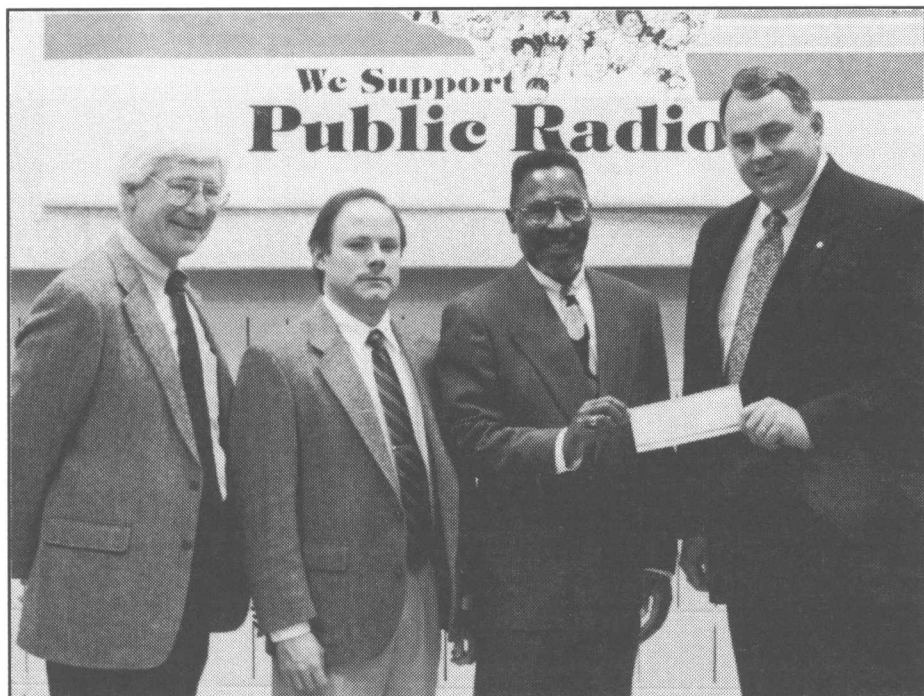
Up to two Distinguished Service Awards are made each year. When two awards are

made, one is given to a faculty member and one to a staff member.

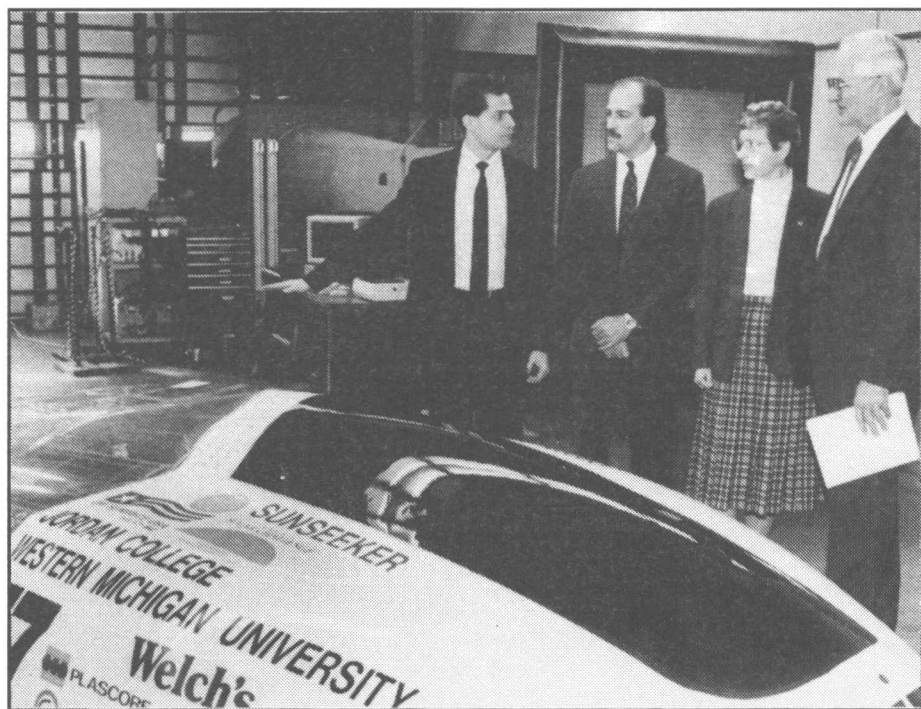
Each recipient of the award receives a \$1,500 honorarium and a recognition plaque.

All current, continuing full-time faculty and staff who have at least five years of service at the University are eligible. An individual may receive the award only once.

Nominations may be made by any current, continuing faculty or staff members and must be made annually. Nomination forms have been distributed through campus mail. For more information or additional forms, persons may contact Ellen K. Page-Robin, chairperson of the committee, in the Faculty Senate office at 7-3311.



AWARD WINNERS — WMU's Institute for the Study of Race and Ethnic Relations recently was the recipient of a \$1,000 scholarship from the State Bar of Michigan and WMUK-FM, the University's public radio station, was honored with a first-place award in the bar's Wade H. McCree Jr. Awards for the Advancement of Justice competition for the news media. Present at the awards ceremony were, from left: Garrard D. Macleod, WMUK; Andrew C. Robins, WMUK, who was the reporter of the award-winning story, "Arcadia Creek Condemnation"; Earl M. Washington, Institute for the Study of Race and Ethnic Relations, who accepted the scholarship check; and Grand Rapids attorney Joel M. Boyden, chairperson of the McCree awards judging committee.



TAKING THE TOUR — Lamont Eltinge, right, 1991 president of the Society of Automotive Engineers, paid a visit to the College of Engineering and Applied Sciences Jan. 21. He attended a reception for engineering and technology chairpersons and faculty, took a tour of the college and attended a luncheon with WMU faculty and students as well as local industry representatives. During the tour, he had the opportunity to look over Sunseeker, the WMU/Jordan College solar-powered vehicle that took eighth place in the 1990 General Motors Sunrayce. Conducting the tour were, from left: Michael S. Turnauer, a junior from Wilmington, Del., who is treasurer of the SAE student branch at WMU; Tim Zwit, chairperson of the West Michigan SAE section and a sales engineer at American Coil Spring in Muskegon; and Molly W. Williams, associate dean of the College of Engineering and Applied Sciences. Eltinge is retired as director of research at the Eaton Corp. and in 1989-90 he served as one of two SAE fellows in the White House Office of Science and Technology Policy.

Biographer to speak on her craft Jan. 30-31

The biographer of such well-known American literary figures as Carson McCullers, John Dos Passos and Tennessee Williams will speak at the University Thursday and Friday, Jan. 30-31.

Virginia Spencer Carr, chairperson of the Department of English at Georgia State University, will present a lecture on "Writing Biography" at 8:30 p.m. Thursday in 3321 Brown Hall. She also will lead a seminar on conducting biographical research at 10:30 a.m. Friday on the 10th floor of Sprau Tower. Both sessions are free and open to the public.

Carr is the author of a number of critical essays and of three books: "The Lonely Hunter: A Biography of Carson McCullers" (1975); "Understanding Carson McCullers" (1990); and "Dos Passos: A Life" (1984). She currently is working on a biography of Williams and a critical casebook on Katherine Anne Porter's "Flowering Judas."

A faculty member at Georgia State since 1985, Carr specializes in 20th century American literature, biography, writers of the '30s and '40s, and literature of the South. She has been the recipient of several grants in support of her research as a biographer.

She has earned three residency fellowships at the Yaddo Artists Colony in Saratoga Springs, N.Y., a Thornton Writer in Residence Award at Lynchburg College, a senior Fulbright professorship at the University of Wrocław in Poland and a visiting professorship as director of the Summer Creative Writing Institute at Emory University.

Carr also has received an honorary doctor of humane letters degree from Lynchburg College, a Governor's Award in the Humanities from the state of Georgia and the 1991 Alpha Omicron Pi Elizabeth Heywood Wyman Distinguished Alumni Award, a nationally com-



Carr

petitive honor presented biennially for outstanding professional achievement.

This past November, Carr was interviewed in Washington, D.C., for a documentary film on Dos Passos, funded by the National Endowment for the Humanities for broadcast on public television.

Her visit is being sponsored by the Department of English, the Department of History, the Women's Center and the Cultural Events Committee.

Group spans four decades of education in music school

While their experiences at WMU have spanned some 30 years, a common love of music and desire to perform have brought the members of "Pieces of Dreams" together.

The music group is comprised of four graduates of the WMU School of Music, who earned their degrees between 1960 and 1991, and music faculty member Bob Ricci. The group has been performing throughout the Midwest since 1973 in places ranging from nightclubs to country clubs.

While its members have changed some over the past 19 years, Ricci says almost all but a couple of vocalists have been WMU alumni. "It's a Western phenomenon!" he says.

Current members of the group are: Ricci, who is the group's leader and pianist; Ken Morgan, a 1960 graduate who performs on saxophone and flute; Tim Melvin, a 1979 graduate who plays drums; Tom Michael, a 1991 graduate who plays bass; and Deb Harvey, a 1984 graduate who is the group's vocalist.

Ricci says the education the students received in WMU's School of Music provides the group with a common thread when it comes to performing. "We've all gone through the same musical literature," he says. "Somebody will say, 'Let's play this piece,' and everybody else will say, 'We know that one.'"

"Pieces of Dreams" originally was formed with both creative and functional purposes in mind. Ricci, who is a jazz composer, says the group gives him the opportunity to showcase many of his pieces. Members also are able to earn some extra money by performing for various functions.

The band's repertoire includes hundreds of songs, ranging from the big band era to music of the '90s for listening and dancing. The group performs an average of once or twice a week, although the number of performances varies with the season.

Ricci says January and February generally are slow, but in the summer the group can perform up to three and four times a week. This year, however, the beginning of the year has proven to be a busy time. "Pieces of Dreams" is performing Jan. 24-25 at Club Bistro on South Westnedge Avenue and weekends during February at Charron's on West Lake.

Most of the group's members have other

Well-known philosopher, local health care expert to lead off winter semester ethics center series

An internationally known philosopher and a local expert on health care issues will lead off a series of lectures planned for the winter semester by the WMU Center for the Study of Ethics in Society.

Alasdair MacIntyre, professor of philosophy at the University of Notre Dame, will discuss "Truthfulness and Lying" in the first lecture at 8 p.m. Tuesday, Jan. 28, in 2203 Sangren Hall.

At 3 p.m. Friday, Jan. 31, Alan O. Kogan, medical director of behavioral medicine and of the DeLano Clinic at Borgess Medical Center, will speak on "Universal Health Care: The Options From an Ethical Perspective" in the Faculty Lounge of the Bernhard Center.

MacIntyre is well known as the author of three recent books that have revitalized interest in the virtues as a central part of philosophical ethics: "After Virtue," "Whose Justice? Which Rationality?" and "Three Rival Versions of Moral Enquiry." Articles on his works, which focus on moral character, have appeared in the New York Review of Books.

MacIntyre, who also has written several other books, taught at Oxford University, Princeton University, Vanderbilt University, Boston University and Wellesley College before joining the faculty at Notre Dame. His lecture is being co-sponsored with the Department of Philosophy.

Kogan will discuss the evolving consensus that some type of health care reform is necessary in the United States. He will examine some of the proposed models in universal coverage and reform from an ethical perspective. He is expected to address such issues as individual autonomy, the right to health care and rationing of health care resources.

A licensed psychiatrist, Kogan also is an adjunct instructor at Michigan State University's Kalamazoo Center for Medical Studies and a member of the biomedical ethics committee at Borgess Medical Center.

Other speakers scheduled for this semester are:

• John Baker, professor of philosophy at University College in Dublin, Ireland, who will discuss "Violence for Equality: A Machiavellian Perspective" at 3 p.m. Monday,

Feb. 10, in 3020 Friedmann Hall; and "Arguing for Equality" at 8 p.m. Monday, Feb. 10, in the Faculty Lounge of the Bernhard Center.

• Daniel Coffey, broker-owner of RE/MAX Harbor Country in New Buffalo, on "Ethics in Real Estate: Real World Dilemmas" at 7:30 p.m. Tuesday, Feb. 18, in 2217 Brown Hall.

• Charles Redding, professor emeritus of communication at Purdue University, on "Ethics and the Study of Organizational Communication: When Will We Wake Up?" at 7:30 p.m. Tuesday, Feb. 25, in 3770 Knauss Hall.

• Jane Zembaty, professor of philosophy at the University of Dayton, on "Lying: A Failure of Autonomy and Self Respect" at 7:30 p.m. Thursday, March 19, in 3770 Knauss Hall.

• Joseph S. Ellin, philosophy, on "Should We Use Nazi Data?" at 3 p.m. Friday, March 27, in the Faculty Lounge of the Bernhard Center.

• Matthew Seeger, professor of communication at Wayne State University, on "Crisis Communication: The Bhopal-Union Carbide Industrial Accident" at 6:30 p.m. Tuesday, March 31, in 2217 Brown Hall.

• Eva Mozes Kor of Fort Wayne, Ind., a survivor of the Nazi experiments with twins during World War II, on "How I Survived the Mengele Twin Experiments" at 7:30 p.m. Tuesday, April 7, in 3770 Knauss Hall.

University community invited to reception for Sundberg

Members of the University community are invited to attend a reception from 4 to 6 p.m. Wednesday, Feb. 5, to welcome Carol M. Sundberg to campus.

The event will take place in the College of Health and Human Services Conference Room, B-114/115 Henry Hall.

Sundberg is the newly appointed director of the Center for Developmentally Disabled Adults. Previously, she was employed at MRC Industries Inc. in Kalamazoo. She earned both her bachelor's and master's degrees from WMU.

full-time occupations outside of the musical field. Morgan is a substance abuse counselor, Melvin is an energy conservation consultant and Harvey is a marketing consultant. Ricci has taught full time in the School of Music since 1968. Michael is a bass player with other groups, including a well-known WMU band, "Inside-Out" that performs frequently in Detroit.

Over the years, members of the group have opened or performed with such nationally known artists as Tom Jones, Louis Armstrong and Henry Mancini. Ricci is proud of the fact that despite a few changes in personnel, the group has remained active and has been comprised of almost all WMU graduates.

"One of the hardest things in music is to keep a group running this long," he says. "Members will leave the area to go to New

York to perform and it can be difficult to keep replacing people."

Turnover has been relatively low in "Pieces of Dreams," with the group going through two drummers, two saxophone players, two pianists, four bass players and five vocalists.

Whether performing in Grand Rapids, Traverse City or Frankenmuth, the group often encounters other WMU alumni who want to know how things are on campus. Some remember the group from hearing it at a function during their student days.

Besides through performing, the group has gained some recognition through an album it cut in 1981. This past summer, "Pieces of Dreams" was voted "Group of the Year" by the West Michigan Jazz Society and was invited to perform a special concert to receive that honor.



KEEPING THE MUSIC IN THE WMU FAMILY — Members of "Pieces of Dreams" in this photo were: (standing from left) Ken Morgan; Tim Melvin; Greg Ganzter, who attended WMU and has since been replaced by Tom Michaels; Bob Ricci; and (seated) Deb Harvey. The group is comprised of four decades of WMU School of Music graduates along with Ricci, who teaches in the school.

WESTERN MICHIGAN UNIVERSITY WESTERN NEWS

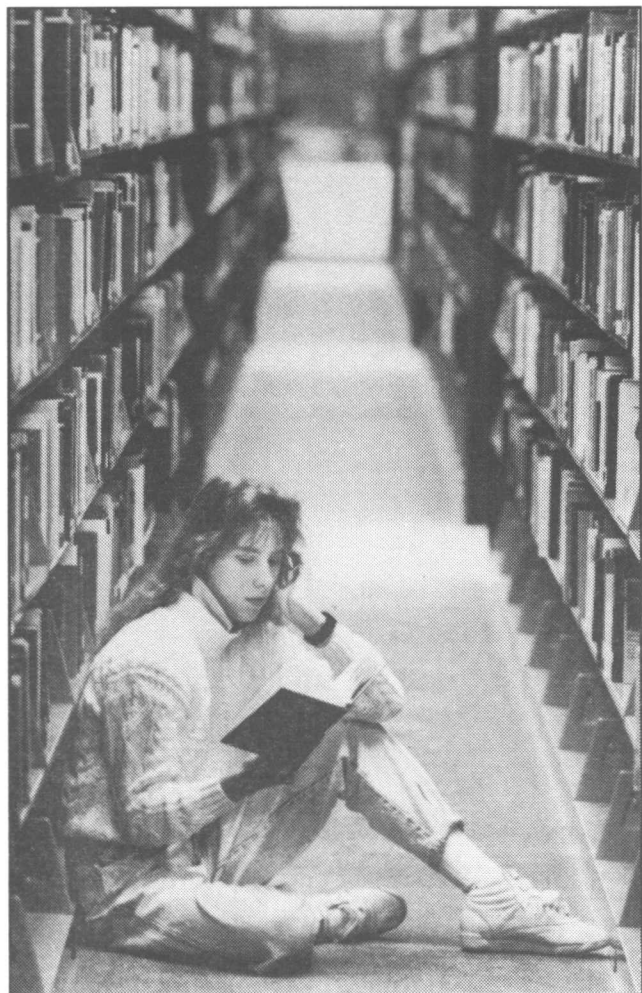
Editor: Ruth A. Stevens; Staff Writers: Cheryl P. Roland, Michael L. Smith; Photographer: Neil G. Rankin.

Western News (USPS 362-210) is published by News Services, B-207 Ellsworth Hall, Western Michigan University, 1201 Oliver St., Kalamazoo, MI 49008-5165, weekly during fall and winter semesters and bi-weekly during spring and summer sessions, except during vacation periods. Second class postage paid at Kalamazoo, MI 49008-5165.

Postmaster: Send address changes to Western News, News Services, Western Michigan University, 1201 Oliver St., Kalamazoo, MI 49008-5165.

Western News is distributed without charge to faculty and staff members, retirees and friends of the University, and is available at several campus locations.

Deadline: Items to be considered for publication should be submitted to News Services by noon Tuesday of the week of publication. Offices that receive too many copies — or too few copies — are asked to call 387-4100. WMU is an equal opportunity/employer/affirmative action institution.



Solitude in the stacks

Holly M. Hoffmann, a freshman from Kalamazoo, decided to get a jump on her studies this semester by spending some quality time at Waldo Library. The stacks provided the perfect framework for some quiet moments hitting the books.

Futurist to speak at Engineers' Week Dinner

"Engineering the Future" will be the topic of Gregg Edwards, a well-known futurist, when he speaks at the 13th annual Engineers' Week Dinner. The event is set for 6:30 p.m. Tuesday, Feb. 18, in the East Ballroom of the Bernhard Center.

Reservations are required by Tuesday, Feb. 11. The dinner will be preceded by a social hour at 5:30 p.m.

Edwards has subtitled his talk "The Opportunities and Challenges for Creative Imagination for a New Century." He is director of the Academy for Advanced and Strategic Studies, a future-oriented think tank in Wash-

ington, D.C. Also active as a speaker and consultant, he is the co-author of four recent books and monographs, including "Future Forces," a best seller among professional and trade associations.

Edwards is a principal in the Washington area's oldest microcomputer dealership and has worked with computers in the design of electronics and communication systems for 30 years. One of his special interests is the application of computers in communications in the global markets of the next decade.

Before joining the Academy for Advanced and Strategic Studies, Edwards was a special guest for a year at the Brookings Institution, a program manager for 13 years at the National Science Foundation and chief engineer for Newtronics.

The Engineers' Week Dinner is being sponsored by engineering organizations in Southwest Michigan and the WMU College of Engineering and Applied Sciences. For reservations, persons should call the college at 7-4017. The cost is \$16.

Duke elected representative

Marilyn V. Duke, Intellectual Skills Development Program, has been elected Great Lakes Regional Representative of the National Academic Advising Association. The organization represents some 2,700 faculty and professional advising specialists from across the United States and Canada.

Two promoted to positions in Division of Continuing Education

Two persons have been promoted to positions in the Division of Continuing Education.

Deborah N. Newson has become director of WMU's Muskegon Regional Center, effective Jan. 2. She replaces Gene D. Paulson, who has retired after serving the University at its Muskegon center for 24 years.

Replacing Newson, who has been the administrative assistant to the dean of continuing education since 1988, will be Annette M. Reese. Reese joined the WMU staff in 1987 as executive secretary to the dean of continuing education.

A 1984 graduate of Central Michigan University, Reese currently is completing a master of public administration degree at WMU. In her new position, she will be responsible for helping to coordinate off-campus programs and for producing WMU's Off-Campus Schedule of classes.

Newson has had many years of experience in the continuing education field, both as a professional and as a student. She joined the WMU staff in 1978 as a secretary at its Grand Rapids Regional Center. She served in that position for 10 years before being named administrative assistant in the Division of Continuing Education. She also served a brief stint in 1988 as interim director of WMU's South Central Regional Center in Battle Creek.

Newson earned her bachelor's degree in applied liberal studies in 1983 through WMU's General University Studies Program in Grand Rapids. She received her master's degree in communication from WMU in 1988.

Newson is a member of the National University Continuing Education Association and the Michigan Association for



Newson



Reese

Adult and Continuing Education. She currently is on the planning committee of the Michigan Adult Coalition Conference.

The Muskegon center was established in 1958 as a student teaching and field studies office. It became a regional center offering a range of bachelor's and master's degrees in 1968, with Paulson as director. The center presently serves about 1,800 students annually in some 105 courses in Muskegon, Holland, Grand Haven and a number of other communities.

WMU is a member of the Consortium of Universities and Muskegon Community College, which is creating the Muskegon Higher Education Center on the MCC campus. Newson will play an active and creative role in the development of programs at the Muskegon Higher Education Center.

WMU also is a member of the Michigan Information and Technology Network, which recently started to offer the master of business administration degree by satellite television transmission. With cooperation and facilities from MCC, the Muskegon Regional Center will be a downlink site for the televised MBA program.

Students provide free income tax preparation for the elderly and those making less than \$20,000

As the deadline for filing income tax returns approaches, a group of WMU students is planning to assist a segment of the Kalamazoo community with its preparation of forms.

WMU's chapter of Beta Alpha Psi, a national accounting fraternity, will provide free tax preparation for the elderly and persons with incomes of less than \$20,000 who do not itemize their deductions. The students will be preparing forms through the Volunteer Income Tax Assistance program (VITA).

The fraternity members will prepare both federal and state returns at the Douglass Community Center, 1000 W. Paterson, from 2:30 to 5 p.m. each Wednesday in February. In addition, the members will be helping their fellow students from 2:30 to 5 p.m. the last three Wednesdays in March in 1160 Haworth College of Business building.

The fraternity has been involved in this volunteer project for some 14 years, according to Kathleen Sinning, accountancy, who is the group's faculty adviser for VITA. The

activity is important for the group because it gives the students the opportunity to put some of their knowledge to use to benefit those in the community, said David L. Rozelle, accountancy, faculty vice president of the group. The students have completed an individual tax accounting course and receive supplementary training.

Persons seeking free tax assistance should bring their W-2 forms, Forms 1099 for interest income, other financial records and, if possible, a copy of their 1990 tax returns.

Teflon

(Continued from page one)

harm to the contaminated area. Several chemicals are effective as tracers, but unacceptable in terms of environmental risk.

Michael E. McCarville, chairperson of chemistry, is the principal investigator of that part of the project. He currently is investigating the suitability for use as tracers of a group of anthracene derivatives, which are chemicals compatible with gasoline.

Gary Center west doors to close Monday, Jan. 27

Beginning Monday, Jan. 27, the west entrances to the Gary Center will be permanently closed, due to the renovation of the building. Persons will be directed to use the doors on the east side of the building near the large parking lot. Signs will show emergency exits as well as routes through the building. Utility work around the construction site will involve temporarily closing sidewalks and traffic lanes on West Michigan Avenue and Western Avenue.

Calendar

JANUARY

Thursday/23

(thru Feb. 28) Art exhibit, "Landscapes, Still Lifes and Abstracts," mixed media by James C. Palmore, Kalamazoo artist, 1240 Seibert Administration Building, weekdays, 8 a.m.-noon and 1-5 p.m.

(thru 30) Exhibition, "Computer Paintings," Joan Truckenbrod, Illinois artist, Gallery II, Sangren Hall, weekdays, 10 a.m.-5 p.m.

Doctoral oral examination, "The Reading Connection: A Leadership Initiative Designed to Change the Delivery of Educational Services to At-Risk Children," Gary L. Compton, educational leadership, Tate Center, 3210 Sangren Hall, 10 a.m.

Business meeting, Administrative Professional Association, Red Rooms, Bernhard Center, noon.

Student Employment Referral Service "Internship Search Workshop," conference room, first floor, Ellsworth Hall, 3-4:30 p.m.; registration required by calling 7-2725.

Retirement reception honoring June R. Fuller, WMU Bookstore, President's Dining Room, Bernhard Center, 4-5:30 p.m.

University film series, "Sunset Boulevard" (United States, 1950), directed by Billy Wilder, 2302 Sangren Hall, 6 and 8:30 p.m.

*(thru 26) University Theatre production, "Wedding Band," Shaw Theatre: Jan. 23-25, 8 p.m., and Jan. 26, 2 p.m.

Friday/24

Graduate recital, Mary Alice Bright, mezzo-soprano, Dalton Center Recital Hall, 5 p.m.

Student recital, Tracy Cowden, piano, Dalton Center Lecture Hall, 7 p.m.

Saturday/25

Men's track, WMU Invitational, Read Fieldhouse, 1 p.m.

Men's and women's gymnastics, WMU vs. the University of Illinois at Chicago, Gary Center Gym, 2 p.m.

*Hockey, WMU vs. Bowling Green State University, Lawson Arena, 7:30 p.m.

***Gala 70th Anniversary Celebration Concert, "Kalamazoo Symphony Orchestra with Gold Company, the Kalamazoo Singers and the Kalamazoo Junior Symphony, Miller Auditorium, 8 p.m.

Sunday/26

*Pre-Super Bowl Pops Spectacular, University Symphony Orchestra conducted by Robert L. Whaley, Dalton Center Recital Hall, 3 p.m.

Monday/27

Educational leadership seminar, "Venezuelan Higher Education Faculty: Leadership Roles," Antonio N. Rubino, doctoral student, 3310 Sangren Hall, 4:30 p.m.

Guest artist recital, Schubert Lieder featuring coach/accompanist John Wustman and students from the University of Illinois, Dalton Center Recital Hall, 8 p.m.

Tuesday/28

Zest for Life health enhancement seminar, "Shedding Light on Winter Blues: Seasonal Affective Disorder," Steven Young, psychiatrist, Red Rooms A and B, Bernhard Center, 12:05-12:50 p.m.

Student Employment Referral Service "Internship Search Workshop," 213 Bernhard Center, 3-4:30 p.m.; registration required by calling 7-2725.

Distinguished Faculty Scholar Colloquium, "Universities Facing the 21st Century: Transition or Obsolescence?" Kenneth A. Dahlberg, political science, Red Room B, Bernhard Center, 4 p.m.; reception, Red Room C, 3:30 p.m.

Physics colloquium, "Science and Applications of Electrorheological Fluids," John M. Ginder, Ford Motor Co., 1110 Rood Hall, 4:10 p.m.; refreshments, 4 p.m.

Concert, suites of two 20th century operas performed by faculty members and students from the School of Music, Dalton Center Recital Hall, 8 p.m.

Center for the Study of Ethics in Society lecture, "Truthfulness and Lying," Alasdair MacIntyre, professor of philosophy, University of Notre Dame, 2203 Sangren Hall, 8 p.m.

Wednesday/29

Convocation Series concert, the Merling Trio, Dalton Center Recital Hall, 2 p.m.

Women's basketball, WMU vs. Ohio University, Read Fieldhouse, 5:30 p.m.

*Men's basketball, WMU vs. Ohio University, Read Fieldhouse, 8 p.m.

Student recital, Paul Loesel, piano, Dalton Center Recital Hall, 8 p.m.

Thursday/30

Doctoral oral examination, "A Comparison of Blood Volume Pulse and False Feedback in the Treatment of Migraine," Paul Greilick, psychology, 353 Wood Hall, 8 a.m.

University film series, "The Green Wall" (Peru, 1970), directed by Armando Robles Goday, 2302 Sangren Hall, 6 and 8:30 p.m.

Lecture, "Writing Biography," Virginia Spencer Carr, chairperson, Department of English, Georgia State University, 3321 Brown Hall, 8:30 p.m.

*Admission charged