



OAKLAND UNIVERSITY

News

A publication for faculty and staff

104 North Foundation Hall
Rochester, MI 48309-4401

June 1988

Commencement Day: Five Ceremonies, Many Memories

A day of pomp and circumstance begins early in the morning June 4 and continues through the evening as the university conducts five commencement ceremonies for 1,380 degree candidates from the fall and winter semesters.

All ceremonies will be held at Baldwin Memorial Pavilion at the Meadow Brook Music Festival, except for the School of Nursing, which will hold its program in Varner Recital Hall.

The School of Business Administration begins the day's events at 9 a.m. Marina V.N. Whitman, vice president and group executive of General Motors, will give the oration. Also participating in the ceremony will be Keith R. Kleckner, senior vice president for university affairs and provost; Ronald M. Horwitz, dean; John E. Tower, associate dean; Lizabeth A. Barclay, associate professor; Eleftherios N. Botsas, professor and marshal; and Steven McPherson, vice president of the SBA Alumni Affiliate.

Several awards will be presented to students at the ceremony. The names of the winners will be published in the July issue of the *Oakland University News*.

The College of Arts and Sciences begins its commencement at noon. Among the honored students will be recipients of the Matilda R. and Alfred G. Wilson Awards (see separate story); Forbes-Wilson Book Award, Jeannette M. Marchand, Kimberly A. Romanchuk and Laura Lynn Vandenheede; and the Leo Gerualitis Book Award, Sharadha Natraj.

Student winners of the Arts and Sciences Meritorious Achievement Award and the Advising Awards will be announced at the ceremony.

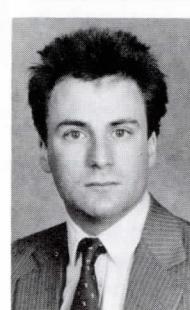
Faculty members receiving the Marian P.



Wilson Memorial Award are Jane D. Eberwein for an article, *Emily Dickinson and Edwards Amasa Park: The Loveliest Sermon*; and Mary C. Karasch for her book, *Slave Life in Rio de Janeiro, 1808-1850*.

Participants in the program are President Joseph E. Champagne; Dean Brian P. Copenhaver; Carl F. Barnes, Jr., director, Center for the Arts; Brian P. Murphy, director of the Honors College and marshal; Abraham R. Liboff, professor; Joan Rosen, associate professor; and Kenneth Schleicher, secretary-treasurer, Arts and Sciences Alumni Affiliate.

The Trumpet Ensemble, directed by John Smith, will provide music.



Higgins



Romanchuk

chairperson for a residence hall floor, was assistant radiation safety officer, a research assistant in the Eye Research Institute and a published author.

Higgins is a political science major and winner of the 1988 Michigan Association of Governing Boards Outstanding Student Award, Commuter Involvement Award 1986-88, and the Sidney Fink Memorial Award for enhancing race relations at OU.

The Alfred G. Wilson winner also served as a student assistant to the late Honorable G. Mennen Williams, as executive assistant and member of the University Congress, as president of Commuter Council, and as secretary-treasurer of the campus Young Democrats. He helped establish the Commuter Involvement Award Program and was a student assistant in political science. He was a member of the Honors College.

The Matilda Wilson winner has also been active in the Campus Crusade for Christ, played varsity basketball for 2½ years, was activities

decreased by 214 students, or 34.2 percent. The change reflects an intentional effort to offer more on-campus classes.

The total fiscal year equated student total for spring stood at 866.5, down 17.7, or 2 percent, from the 884.2 recorded in spring 1987.

The total FYES for 1987-88 stands at 9,376, down 247, or 2.6 percent, from the 1986-87 final figure.

FYES is determined by dividing the "average" class load into the total number of credits delivered.

The School of Human and Educational Services begins proceedings at 3:30 p.m. A reception under the Oakland Tent follows, sponsored by the SHES Alumni Affiliate.

Donald L. Bemis, university trustee and superintendent of Utica Community Schools, will deliver the commencement address.

Other ceremony participants will be Kleckner; Dean Gerald J. Pine; George Dahlgren, vice provost and dean of graduate study; Cynthia B. Riggs, president of the Human Resource Development Student Association; Cecilia M. Peters, president of the Graduate Counseling Student Association; Jan Piet, president of the SHES Alumni Affiliate; and Patrick J. Johnson, associate professor and marshal.

A unique aspect of the program will be the awarding of specialists in school administration to the first graduating team of nine members.

The St. Andrews Pipe Band with Highland Dancers will provide the musical interlude.

At 4 p.m., the School of Nursing begins its commencement. Participants will be President Champagne, Dean Andrea R. Lindell; Robert Hutton, chairman of the School of Nursing Board of Visitors and former chairman of the board of Standard Federal Bank; Joseph F. Galvin, member of the board of visitors and attorney with Schlussel, Lifton, Simon, Rands, Kaufman, Galvin & Jackier; Lorraine Headley, assistant director of hospital administration at William Beaumont Hospital in Troy; Marsha Bunker, president of the School of Nursing Alumni Affiliate; Gary Moore, assistant professor and marshal; David C. Bricker, associate professor and guest marshal; and Charles B. Lindemann, associate professor and guest marshal.

Award recipients will be Luanne Kuziemko, Geraldene Felton Award for Leadership, and Terry C. Leach, Board of Visitors Award. Receiving the Award for Professional Development will be Steve Barnett, Alice Brennan, Luana Folk, Tracie LeDuc, Michelle Lentz, Patricia Martin, Gaye McCormick, Josephine Mobbs, Mary Sherman and Bethany Smith.

The School of Engineering and Computer Science activities begin at 6:30 p.m. Guy D. Barnicoat, vice president and general manager of Lectron Products, Inc., will give the commencement address. Also participating in the ceremony are President Champagne; Associate Dean Bhushan L. Bhatt; James Nykanen, graduating senior; Steven Caioto, president of the SECS Alumni Affiliate; and Richard E. Haskell, professor and marshal; David E. Boddy, professor and deputy marshal; and Glenn A. Jackson, professor and deputy marshal.

Awards will be presented to these students: Morris J. Burley, Academic Achievement Award for outstanding academic performance; Gregory P. Collier, Professional Development Award for demonstrating the greatest technical development in studies and for showing outstanding individual initiative in a research project; Lynda K. Fulgenzi, Service Award for contributions to the school; and Brian L. Wallwey, Exceptional Achievement Award for maintaining the highest level of academic excellence. The students were selected by faculty members.

Close Your Books by This Schedule

Controller Thomas C. Evans asks that you close accounting records for 1987-88 according to the following schedule.

Accounts payable — Invoices dated on or before June 30, 1988 for goods and/or services received during 1987-88 must be submitted to Voucher Audit by July 7 for inclusion in 1987-88 business. Claims for travel reimbursement which are to be charged to 1987-88 cannot include expenses incurred subsequent to June 30, 1988.

Payroll — "Salary" pay period: June with June 30 pay date. "Labor" pay period: June 13-26 with time sheets to be submitted June 27 for July 1 pay date. "Student" pay period: June 20-July 3 with time sheets to be submitted July 5 for July 7 pay date. "MBPAC" pay period: June 27-July 3 with time sheets to be submitted

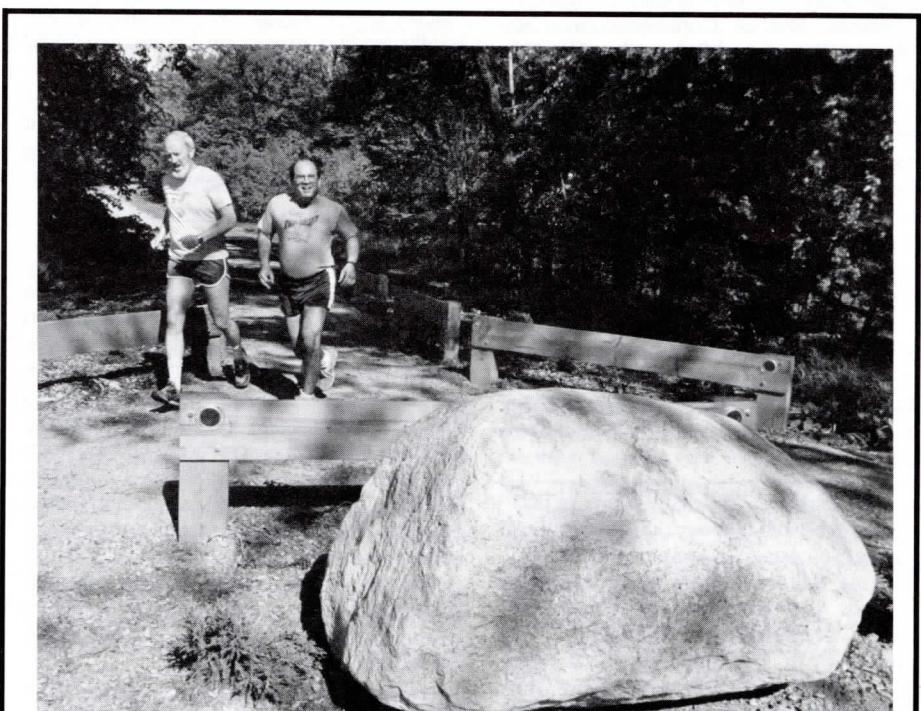
July 5 for July 7 pay date.

Interdepartmental charges — Charges incurred prior to July 1, 1988 must be submitted to the Accounting Office by July 7, to be included in 1987-88 business.

Cash receipts/deposits — All monies on hand June 30 must be deposited with the Business Office Cashier by 9:30 a.m. on July 1. The Cashier will be open from 8:30 a.m. to process these deposits.

The above data will be included on the June accounting ledgers that will be available about July 12. Any adjustments or corrections that are to be made to the ledgers must be communicated to the Accounting Office no later than July 18 to be considered in the final 1987-88 accounting reports.

If you have any questions, call the Accounting Office at 370-2447.



It's happy trails to you, as Gerald Pine, left, and David Cooper know. Campus Facilities and Operations has completed landscaping and other improvements to the old trail that leads from the south side of Meadow Brook Music Festival to the area near the athletic fields. Walkers and joggers may use the trail.

University Honors Two Seniors with Wilson Awards

Seniors from Kalamazoo and Pontiac will receive Matilda R. and Alfred G. Wilson Awards at commencement June 4 as the university's outstanding female and male graduates.

Kimberly Romanchuk (nee McDowell) of Kalamazoo, and Sean M. Higgins of Pontiac will each receive \$500, a medallion and have their names engraved on a special Wilson Award Plaque.

The university honors two top seniors each year in an award named in memory of the Wilsons, who donated their land and money for the formation of OU. The students are nominated by the faculty and chosen by a university selection committee.

Romanchuk is a biology major who has held a Competitive Scholarship, the Biochemistry Alumni Memorial Scholarship, the 1987-88 UAW Golf Classic Scholarship, a Presidential Academic Fitness Award and the U.S. Army Scholar/Athlete Award and the 1986 Michigan Association of Governing Boards Outstanding Student Award. She is the 1988 OU nominee for the Michigan Woman Award.

The Matilda Wilson winner has also been active in the Campus Crusade for Christ, played varsity basketball for 2½ years, was activities

decreased by 214 students, or 34.2 percent. The change reflects an intentional effort to offer more on-campus classes.

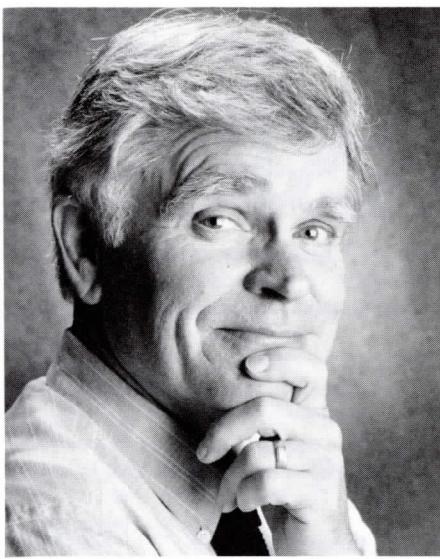
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The total FYES for 1987-88 stands at 9,376, down 247, or 2.6 percent, from the 1986-87 final figure.

FYES is determined by dividing the "average" class load into the total number of credits delivered.

Enrollment at the doctoral and specialist level stayed the same at 57 students.

The enrollment figures show that on-campus enrollment increased by 168 students, or 3.5 percent, while off-campus enrollment



Richard Brooks

Students, Public Will Learn from Best

The first of three visiting McGregor Professors in the Humanities and Arts arrives June 12, establishing a "chance of a lifetime" learning opportunity for students.

Legendary composer-critic Virgil Thomson arrives June 12 for one week, film writer Kurt Luedtke comes here for the fall and winter semesters, and British stage and screen star Glenda Jackson will be on campus in 1989-90.

The program is made possible by the generosity of the McGregor Foundation of Michigan which is contributing \$75,000 a year for three years to fund the professorships. The program is a gift to OU through the Campaign for Oakland University.

Brian Murphy, director of the Honors College, expressed his appreciation for the McGregor Foundation gift, noting that it enables the university to "offer its students some

Brooks Follows a Bumpy Road to the Unusual

The word "parapsychology" is enough to make the hair stand on the head of some scientists.

Associate Professor Richard Brooks, philosophy, knows he has detractors among the faculty because of his interest in parapsychology, a field of study recognized for the past century. Although some snicker at what they call a pseudoscience, Brooks believes he may get the last laugh — if not in this lifetime, then surely in another.

"It's considered controversial," Brooks says of the field. "Parapsychology is a science, it is not a cult. There are people who feel it is not a science, and that is because its subject matter doesn't exist. How can you have a science if its subject matter doesn't exist? Those of us who are involved in the field feel that the subject matter does exist. It requires careful investigation and the same scientific investigatory tech-

niques, whether in field investigations or laboratory investigations, that any of the other sciences involve."

Brooks doesn't mind skepticism about the field he promotes through teaching and lectures to community groups. Critical evaluations will weed out charlatans. His latest speaking engagement is at the CPA Weekend on June 3, sponsored by the Division of Continuing Education.

"I think that as far as the scientific community is concerned, generally speaking, they don't think it's very important. They think that it probably should be lumped along with other irrational beliefs, such as astrology. Therefore, there are actually some scientists actively involved in debunking parapsychology, usually using guilt by association techniques, trying somehow to lump it with Big Foot, UFOs, astrology and things like that, rather than looking carefully at the good material."

Parapsychology offers an understanding of the odds and ends in life, the "things that go bump in the night," as Brooks refers to them.

"I think once the phenomena are accepted — reasonably grounded — they will offer a severe challenge to some of the most basic assumptions of 20th century science, specifically, materialism."

Parapsychology's approach to proving a phenomenon is just the opposite of what scientists in other fields use in an experiment.

"Parapsychologists are well aware that you are finding the absence of a normal explanation. You haven't found a mechanism that explains the abnormality," he says.

Phenomena are divided among two major categories: extra-sensory perception and psychokinesis, which is the ability of the mind to influence things without direct intervention.

Researchers look into a broad range of

events, from poltergeists to out-of-body experiences. Brooks has interviewed persons who experienced one or more such events. He had a few himself, he says.

Once, during a lecture, he had an out-of-body experience. Suddenly he found himself a few feet to the side of the podium, looking over at himself. The event lasted just a few seconds at most. When it ended, his memory of where he was in his lecture notes was blank. "I do know one thing that resulted from that experience: I quit reading my talks!"

Brooks says investigators must continue to document cases, either in the field or in the laboratory. Regardless of the methods used, critics still charge experimenter fraud when they wish to discredit the findings.

"There are some people who will never be satisfied, and there are legitimate questions that you can raise," he says. "We recognize that."

As an associate of the Parapsychological Association, Brooks spreads the word about the field, even though he knows his detractors are out there.

"Years ago I became actively involved professionally in parapsychology because I perceived that there was ignorance on the campus, especially on the part of the faculty, and there was gullibility on the part of many of the students. I felt it was necessary for somebody to steer a middle course between these two extremes," Brooks says.

In a field where questions are more plentiful than answers, Brooks has a philosophy about that. He quotes e.e. cummings: "Always the beautiful answer that asks a more beautiful question."

—By Jay Jackson

Our People

Brief items from the university community are welcome and may be sent to the News Service, 104 NFH.

PUBLICATIONS

•Frank M. Butterworth, biological sciences, with E. Emerson and E.M. Rasch, wrote *Maturation and Degeneration of the Fat Body in the 'Drosophila' Larva and Pupa as Revealed by Morphometric Analysis* for the publication, *Tissue & Cell*. The article describes a particular tissue in the fruit fly as a model for cellular aging.

•Anahid Kulwicki, nursing, wrote *Nursing in Lebanon* for the April issue of *The International Nurse*.

PRESENTATIONS

•Robert T. Eberwein, English, spoke on *Psychoanalytic Film Theory: Past and Present*, to the University of Chicago Workshop on Psychoanalytic Studies.

•Lyle Nordstrom, music, theatre and dance, delivered a paper, *Lute Duets in the Publications of Pierre Phalese*, at the Lute Society of America regional conference in Chicago.

•Kevin Grimm, English, presented a paper at the 23rd International Congress on Medieval Studies Conference in Kalamazoo: *Tristan and Palamedes: The Thematic Center of the Prose Tristan Legend*.

•Monifa Jumanne, special programs, recently addressed the Spring Workshop for Excellence at Michigan State University on *Leadership for Tomorrow's World*.

•Anahid Kulwicki, nursing, presented a workshop, *Training of Medical Social Workers with the Minority Elderly*, at Eastern Michigan University.

•Harold Hotelling, business administration, coauthored *The Liability Controversy: Evidence from Michigan* with Floyd Willoughby. The paper was presented at a meeting of the Tri-State Business Law Association in Toledo.

The *Oakland University News* is published every other Friday during the fall and winter semesters and monthly from June-August. Editorial offices are at the News Service, 104 North Foundation Hall, Oakland University, Rochester, MI 48309-4401. The telephone is 370-3180. Copy deadline is noon Friday of the week preceding the publication date.

•James Llewellyn, senior editor and news director

•Jay Jackson, staff writer

•Rick Smith, photographer

•Naomi Eliezer, biological sciences, presented a paper, *Phosphorylation of FPLC-purified Oviduct Progesterone Receptor by cAMP-dependent Protein Kinase*, at the 72nd annual meeting of the Federation of American Societies for Experimental Biology in Las Vegas. Coauthors were Makoto Nakao and Virinder K. Moudgil.

CONFERENCES

•Thomas W. Casstevens, political science, chaired a panel on *Elites in Communist Countries* at the annual meeting of the Midwest Political Science Association.

•Virinder K. Moudgil, biological sciences, has been invited to present a lecture during the *Steroids as Regulatory Factors* symposium at the 14th International Congress of Biochemistry in Prague, Czechoslovakia from July 10-15.

•Daniel Braunstein, business administration, will visit the information systems departments of the Copenhagen, Denmark, School of Business from June-August, and the University of New South Wales from September-December. In Denmark, he will lead a research workshop studying the relationships between decision theory and information system design. In Australia, he will jointly teach a course on knowledge-based information systems.

•Robert T. Eberwein, English, attended the meeting of the Michigan Association of Departments of English at Michigan State University. He is vice president of the organization.

APPOINTMENTS

•Virinder K. Moudgil, biological sciences, has been asked to serve a four-year term as a member of the Clinical Sciences Study Section of the National Institutes of Health. The study section is a fellowship committee in the Division of Research Grants. By serving, Moudgil has the opportunity to contribute to the national biomedical research effort. Study sections usually meet three times a year in Bethesda, Md. Moudgil was nominated because of his "demonstrated competence and achievement in (his) scientific discipline as evidenced by the quality of (his) research accomplishments, publications in scientific journals, and other significant scientific activities, achievements and honors."

•Elinor Waters, Continuum Center, has been elected president of the Association for Adult Development and Aging. AADA is a national association of counselors who work with and on behalf of midlife and older adults.

•T. Andrew Aston, Center for the Arts, has been appointed to the Steering Committee of

the Michigan Renaissance Festival. The university's Mime Ensemble, directed by Aston, has performed at the Renaissance Festival in Clarkston for the past seven years.

•Ronald B. Kevern, student affairs, has been re-elected vice president of the Board of Trustees of the Greater Rochester Area Community Foundation.

•Jacqueline Lougheed, education, has been elected state president-elect by the Alpha Delta Kappa Sorority. As the oldest international honor educational sorority, Alpha Delta Kappa

has a Michigan membership of 2,000 and a binational membership in the United States and Canada of 60,000.

HONORS

•Jane Goodman, Continuum Center, received a gold medal from the Michigan Career Development Association. The Champion of Career Development Award was given in connection with the association's Olympic theme at its annual conference in April.

Funding Opportunities

Details about sources of external funding are available from the Office of Research and Academic Development, 370 SFH, or by calling 370-3222.

Unless noted, proposal due dates are unknown.

National Science Foundation

Developmental biology, July 1; young scholars projects, August 8.

Department of Energy

Basic energy sciences.

Department of Health and Human Services

Health policy research, June 30.

Department of Education

Research and development centers program, September 16.

Health Resources and Services Administration

Home health care demonstrations, July 1.

National Endowment for the Arts

Fellowships for playwrights, June 30.

NEH Office of Preservation

Preservation grants, June 1 and December 1.

National Institute on Alcohol Abuse and Alcoholism and National Institute on Drug Abuse

Factors contributing in the sequencing of alcohol and other drug use, June 1, October 1 and February 1.

National Cancer Institute, Cancer Prevention and Control Division

Developmental research in special populations, June 17.

Child Health and Aging Institutes

Development of planning skills throughout life, July 29.

In the News

Recent appearances before the media have included the following.

•The Texan, a newspaper in Houston, published an article by Kate Rodwell, Meadow Brook Hall, on music student William Harris. The student is a Houston native who studies conducting and composition. His credits include conducting with the Pontiac-Oakland Symphony, of which he is a violist, and assisting with the Youth Symphony.

•President Joseph E. Champagne and Provost Keith R. Kleckner were interviewed at length by *Detroit Free Press* education writer Steve Jones for a feature on the university.

•President Champagne was interviewed by the *Oakland Press* for a Sunday magazine feature.

•The *Eccentric* newspaper interviewed Harry Hahn for a feature on his impact on the teaching of reading and language arts.

•The *Free Press* carried a release on the appointment of three McGregor Professors.

•Ann Sandoval of admissions was quoted in a *Free Press* story on rising admissions standards.

Bits & Pieces

Watch Your Weight

Weight Watchers at Work has begun a 10-week session.

Although the session began June 2, those missing the first week may register on June 9. The cost is \$85. Meetings are held in 171 SFH at noon Thursdays.

For further information, call Pat Nicosia at 370-2370.

MOT Tickets Available

Faculty, staff members and their friends are invited to purchase season tickets for the 1988-89 Michigan Opera Theatre by joining the OU block and receiving both group and educational discounts.

Season tickets are available for \$90, which includes all six productions. Pat Nicosia says this represents a \$60 savings from the \$150 face value of the tickets. As a season ticket holder, you can exchange your tickets for any other date of the same production, and you can upgrade your tickets if you wish and receive a full \$25 credit toward the purchase of the upgraded ticket(s).

The schedule includes *The Ballad of Baby Doe*, October 9; *Kiss Me Kate*, October 23; *The Pirates of Penzance*, November 13; *Norma*, featuring Joan Sutherland, April 19; *The Marriage of Figaro*, May 3; and *Carmen*, May 17.

Fall dates are Sundays and performances start at 6:30 p.m. at the Fisher Theatre. Spring dates are Wednesdays and performances start at 8 p.m. at the Masonic Temple.

For further information, call either Marion Bunt at 370-2244 or Nicosia at 370-2370.

Fencers Qualify 10

The OU Fencing Society has qualified 10 fencers for the national championships in Chicago this month.

Chris (Spike) Cameron qualified in both women's epee and women's sabre. Mark Ament is an alternate for under-19 epee and men's epee. Todd Dressell, captain of the sabre team, qualified. Pat Berg, Kevin Moore and Erik Kind (who just returned from a semester in Japan) are alternates in men's sabre.

Joe Burley, leader of the men's epee squad, qualified, as did Lance Foster and Assistant Coach Tom Decker. The epee team of Burley, Decker and Ament qualified in team competition for the nationals as well.

"Alternates for the nationals usually fence, as qualifiers from distant divisions sometimes have a difficult time traveling to the national championships," says Coach Paul Franklin.

Last year the club qualified three students for the first time. Prior to that, Decker and a nonstudent who fenced with the club had qualified. Franklin fenced in the nationals in 1978 (he fenced all three weapons) and in 1980 in foil.

This past season, the Fencing Society had wins over Michigan State, Cleveland State, Case Western, Eastern Michigan, and the University of Michigan at Ann Arbor and Dearborn.

Cool Front Moving In

The time when the air conditioning is turned on depends on the outside temperature.

Alan F. Miller, assistant vice president for campus facilities and operations, explains that air conditioning systems are routinely activated during the first week in June.

When the outdoor temperature is 80 degrees (or higher) for three consecutive days (excluding weekends), the air conditioning will be turned on.

Affected buildings are Dodge Hall, Graham Health Center, Hamlin Hall fourth floor, Hannah Hall Rooms 190 and 195, North Foundation Hall, Oakland Center, Varner Hall and Wilson Hall.

Mind the Deadline

Requisitions to be processed by June 30 must be received by the Purchasing Department no later than June 15 for the 1987-88 budget.

Physics Professor Abraham R. Liboff maintains that magnetic fields may provide a remarkable explanation for a wide variety of seemingly disconnected human ills.

Liboff asserts that "there is a range of extremely subtle biological effects that are tied to the Earth's magnetic field and other magnetic fields."

The researcher says up to now the scientific community has felt that the only important example of how the Earth's magnetic field interacts with animals is in bird migration.

"People assume that the magnetic field of the Earth somehow is sensed by birds when they migrate. However, even this is difficult to understand in physical terms, since the magnetic field of the Earth is extremely weak, and there simply has not been any reasonable physics explanation that could serve as a model mechanism for interactions between these tiny magnetic fields and living systems," Liboff says.

"The incredible thing is that there are undoubtedly many other examples of similar unexplainable magnetic interactions, in species ranging from insects to humans."

At a conference in mid-1984, Liboff suggested for the first time that there might be a physical way of explaining such interactions in terms of a phenomenon called ion cyclotron resonance. He says ions (charged particles) continually move between the inside and outside of all cells by means of membrane transport. It has long been known that this transport of ions is in essence a system of communication, enabling one cell to signal other cells in performing various functions.

Liboff explains that "any pharmaceutical we happen to take for whatever reason, whether aspirin or an antibiotic or a blood pressure pill, has the ultimate function of controlling membrane transport, to cut down, control or change ion flow. All of the physiological actions that are controlled for us during our daily lives, whether we are well or ill, are directly or indirectly tied to membrane transport. What I postulate is that membrane transport is also affected by magnetic fields."

Liboff expands on an explanation of ion cyclotron resonance: "If ions in transit across cell membranes, calcium ions, potassium ions, etc., move in helical paths, then they can interact with a magnetic field. That field can be applied in a way that determines whether or not the ion will or will not be transported. It happens there is good evidence for such helical motion. When a charged particle, such as an ion, moves in a helical path, and you apply a certain magnetic field, then a condition is set up that allows cyclotron resonance to occur. In particular, if you apply a 60 hertz or other low frequency signal which happens to be in resonance with the frequency that this ion is moving, then the ion may be transported more readily."

Resonance conditions, Liboff says, are found throughout nature. For example, just the right note will find the resonance of a champagne glass and break it, freak winds set up a resonant condition that destroyed a major bridge in Tacoma, Wash., and soldiers used to be warned to break step when marching across a bridge for fear that walking in unison would cause vibrations that would bring the structure down.

Liboff has spent the past two decades studying the possible effects of electromagnetic fields on organisms and has concluded that there is more than sufficient evidence showing some sort of universal interaction between weak magnetic fields and all living systems.

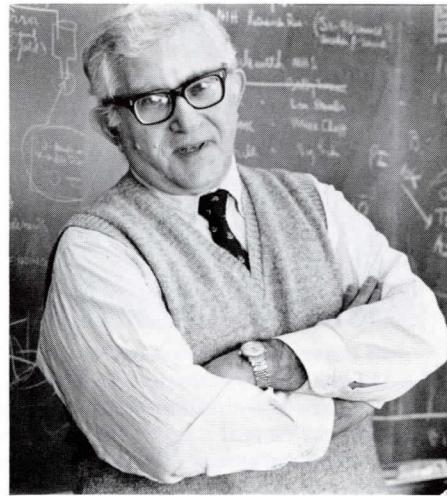
"Magnetic fields are found wherever electricity is used," Liboff says. "These fields are created around high voltage transmission lines, appliances and electric equipment. They exist in our homes, when we travel and in our workplaces. They also exist in nature — the Earth's magnetic field varies in many different ways, and it is becoming increasingly evident that human physiology is responsive both to the natural magnetic fields as well as to man-made fields."

Researchers in this area have found evidence for effects ranging from cancer to mood swings, from jet-lag to problems in fetal development, from behavioral changes to growth effects.

The model developed by Liboff has the advantage that it may have the potential to explain, in a unified manner, what has up to now seemed to be a crazy-quilt group of disparate effects, ranging from the reason for the Soviets' microwave-beaming of the U.S. Embassy 30 years ago to the present concern over the relation of power lines to cancer.

"There is a compelling argument for ion cyclotron resonance occurring naturally in cell membranes. The economy of effort in biological systems makes it reasonable to assume that we are all responsive to many physical and chemical parameters, for example tempera-

Magnetic Fields Effects on Humans May Reach Deep Within Your Body



Abraham R. Liboff

'There is the interesting possibility that a person could take a prescription drug to produce one effect and have it altered by the right combination of magnetic fields.'

ture, pressure or oxygen concentration. The same should be true for the Earth's magnetic field and changes in this field. Cyclotron resonance provides a simple and direct way for organisms to make use of the ambient field."

Much of Liboff's work has been in collaboration with two other scientists, Bruce R. Mcleod, professor of electrical engineering at Montana State University, and Stephen D. Smith, professor of anatomy at the University of Kentucky. Three research projects have been attempted in which "...we designed the experiments to try to show whether or not the cyclotron resonance concept was true. In all three cases we have gotten positive results, indeed striking confirmation."

"The first was an experiment conducted at the U.S. Naval Medical Research Institute involving the behavior of rats. By cyclotron resonance tuning to the lithium ion, we apparently affected the lithium balance in rats and significantly affected the rats merely by changing the magnetic field." (Lithium is used to treat manic depressives.)

"The second case examined the mobility of single-celled creatures called diatoms; it was discovered we could control their movement by tuning the magnetic fields to calcium ions in these cells."

"Most recently we have looked at human lymphocytes, and have determined that there is a very large effect on calcium transport into such lymphocytes under cyclotron resonance conditions."

Liboff says this experiment also showed that applying certain small magnetic fields can mediate the effect of blood pressure drugs.

"There is the interesting possibility," he says, "that a person could take a prescription drug to produce one effect and have it altered by the right combination of magnetic fields."

Liboff says the medical possibilities are fascinating. They include noninvasive means of aiding drug addicts, treatment for manic-depressives, altering behavior patterns, a cure for jet-lag — all by affecting subtle changes in the Earth's magnetic field or the other fields we are exposed to in our daily lives. There is also a downside, he admits, saying that among these effects it is "likely, although by no means proven, that cancer may result."

The scientist cites two recent epidemiological surveys relating cancer deaths in children to high voltage power lines, 60 hertz (60 cycles per second) power lines.

"The first was done by Nancy Wertheimer and Ed Leeper in Colorado. They came up with a positive result, indicating that, indeed, the cancer incidence in children increased when their homes were closer to high-current-capacity power lines and, therefore, were exposed to higher magnetic fields. The

magnetic field generated by power lines is proportional to the current that the line carries. So the higher the current, the higher the magnetic field."

Liboff pointed out that a second independent study by scientists at the University of Colorado and the University of North Carolina indicated that Wertheimer and Leeper were correct.

Continuing, Liboff says the New York State Power Commission conducted a multimillion dollar, five-year effort to study physiological effects and hazards from power lines.

"That study was concluded several months ago," Liboff says, "and one of the remarkable conclusions of the final report claims that 10 percent to 15 percent of all childhood cancers are caused by power lines."

The researcher details his participation in a November national conference sponsored by the Department of Energy. "At this meeting, people from Southern California Edison, Florida Power and Light, and Houston utilities were in attendance. The questions that they asked indicated how disturbed they are by these reports. They have no rational way of dealing with this burgeoning problem, since there is no comprehension of the underlying mechanism."

As such, Liboff stresses the need for extensive basic research: "The scientific community has chosen, for the most part, to ignore this question, which makes it even more confusing to the electric power industry."

"There is no way of telling whether a person's house is safe or not from a power line, or even if an individual will be affected by ordinary household appliances," Liboff says. "There are tremendous economic implications; although it doesn't pay to cast blame, there is no question that our scientific establishment, and particularly the National Academy of Sciences, have been overly negative in assessing the experimental evidence."

Liboff says the "worst problem is for the consumer." He asks, "What does an average person do? This is unlike chemical carcinogens. You can avoid working with benzene or asbestos or PCBs, but in this area, the effects from power lines or perhaps household wiring are impossible to predict; no one even knows what the threshold levels are. There's no such thing as an informed consumer because there is no information available to the consumer."

Nevertheless, scientists are becoming more and more aware of the interplay between magnetic fields and living systems, which some experts are describing as "the biology of the 21st century." Liboff says researchers in this area are now working in this country, in Europe, the Soviet Union and Japan.

"There seems to be at least partial recognition of the experimental evidence that weak magnetic fields somehow interact with living systems. The most important thing that I and my colleagues have found is that the cyclotron resonance mechanism seems to be the way in which these fields make themselves felt."

He speculates that perturbations in the Earth's magnetic field may eventually be implicated in a whole range of fascinating biological problems.

Liboff says, "There has been a recognition of the striking correlation between various species extinctions in the Earth's history and reversals of the Earth's magnetic field. For the most part, these correlated events have been regarded as having a common origin, such as meteoritic impact, rather than as one event directly causing another. I think it just as likely that species such as the dinosaurs could have been grossly affected, even perhaps to the point of extinction, by worldwide exposures to specific field levels and changes."

Liboff concludes, "We have found that there is conclusive evidence for resonance effects in rats' brains, in human lymphocytes and in single-celled creatures. The range of living systems that seem to be affected by this type of magnetic effect is immense."

He says, "We have here the possibility of a totally new way of doing biology because no one ever realized before that you can affect cells with these weak fields. There is no heating, what you are doing is just tingling the cell in a resonant way. One has to find the right frequency that the cell can respond to for a given ion. It's a neat, fascinating concept that appears to be in agreement with a great deal of experimental evidence."

Liboff says some of his scientific colleagues have embraced his ideas while others are frankly skeptical. Many agree there is no other explanation at hand for the wide range of magnetic effects that are observed, whether involving bird migration, jet-lag or the induction of cancer that seems to be associated with powerlines.

—By Jim Llewellyn

Eye Researcher Gets \$400,000 Grant

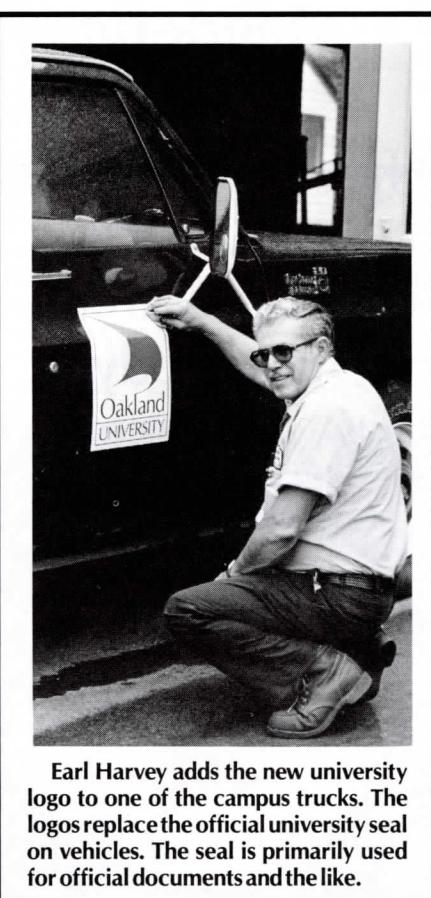
Barkur Shastry, molecular biologist in the Eye Research Institute, has won a three-year grant of nearly \$400,000 from the National Institutes of Health.

Shastry will clone genes and use other molecular biology techniques to study gene expression during normal development and differentiation of the ocular lens.

The researcher came to OU in 1986 from Rockefeller University. He says scientists need to understand the normal development and expression of genes so they can spot abnormalities as they develop and understand why genes may become defective and cause cancers and other problems.

Shastry has also received funding from the Michigan Eye Bank, but he says the current award is of such a magnitude that he will be able to employ post-doctoral fellows and make significant advances in his research.

Venkat N. Reddy, institute director, says that with Shastry's award, every scientist in the institute is conducting funded research. He says this is a situation almost unheard of in a major eye research institute. In almost every case there are investigators whose work is not being federally funded, Reddy says, while at OU, all eight researchers have federally funded research support.



Earl Harvey adds the new university logo to one of the campus trucks. The logos replace the official university seal on vehicles. The seal is primarily used for official documents and the like.

Summer Events Going Full Tilt at Center for the Arts

Another busy summer is scheduled at the Center for the Arts.

Arts camps, dance and piano workshops and special classes for talented children have been planned.

Arts-for-Youth Camps — The sixth annual Arts-for-Youth Camps will be held July 5-16 and 18-29 at Varner Hall. Children ages 7-12 will participate in art, dance and movement, music, music theatre, and theatre sessions taught by faculty members from OU and area

schools and art centers. Children will be grouped by age level.

Camps are limited to 36 participants for each session, and registration is on a first-come, first-served basis. Deadline for registration is June 24. Arts-for-Youth Camps are cosponsored by Oakland Schools.

Special Classes in the Arts — From July 5-30, the CFA and the Academy for the Gifted and Talented of Michigan will present special classes in the arts for talented young people.

Employee Award Cites Pearce

Judith Pearce, office assistant II in the School of Human and Educational Services, received the Employee Recognition Award for May.

Pearce has been an OU employee since March 1984 and with SHES since September 1984. The review committee which chose her for the award based its selection on testimonials, which included:

Meadow Brook Offers Children's Concerts

Sharon, Lois & Bram and Sesame Street's Bob McGrath headline Meadow Brook Music Festival's Saturday concerts for children this summer.

Kicking off the four-performance Hudson's Children's Concert Series at the outdoor pavilion June 18 will be Canadian singers Sharon, Lois & Bram. Pavilion seats are \$8, lawn \$5.

On June 25 the Hudson Vagabond Puppets will feature life-size characters in its dinosaur musical, *Mammoth Follies*. Pavilion seats are \$4, lawn \$3.

Little Red Riding Hood will come to life with the Piccolo Opera Company on July 23. Pavilion seats are \$4, lawn \$3.

Sesame Street fans will see Bob McGrath sing in person at Meadow Brook on August 6. Pavilion seats are \$8, lawn \$5.

All children's concerts will start at 11 a.m. Gates will open at 10.

The children's concert series is cosponsored by radio station WOMC and the *Observer & Eccentric* newspapers.

Tickets and brochures are available from the festival box office by calling 370-2010.

• "Despite increasing responsibilities, Judi maintains positive and helpful relationships with other staff members. She is an acknowledged leader among secretarial personnel and is frequently consulted for information and guidelines."

• "Judi maintains good working relationships with all departments on campus, especially those that deal directly with students. Students who can't be reached during the work day are frequently called after hours from her home. Judi Pearce is one of Oakland University's best public relations representatives."

• "Judi Pearce's loyalty to the university and to the Office of School Services is such that she does whatever is necessary to guarantee success of tasks undertaken."

• "Judi Pearce has consistently demonstrated a willingness to take on challenging tasks, to extend herself in serving the university, and to grow and learn far beyond the expectations of her position. Her tact, poise and interpersonal skills have won many friends for Oakland University. She is a self-starter who bears her responsibilities with grace and humor. In terms of her style, efficiency, productivity and quality of her work, she exemplifies outstanding employee performance."

For more information regarding the Employee Recognition Award Program, contact Larry Sanders at 370-3480.



Pearce

Savings Bond Interest Set at 6.9 Percent

The Department of Treasury has set the initial semiannual market-based interest rate for Series EE savings bonds at 6.9 percent.

The interest rate is in effect for bonds issued between May 1 and October 31. The current minimum rate is 6 percent for bonds held at least five years.

Semiannual interest rates change each May and November and are based on market averages during the preceding six months.

Series EE bonds issued before November 1982, and all Series E bonds and savings notes still earning interest, are now receiving market-based rates. These rates are used to calculate the redemption values of eligible bonds for interest accrual dates occurring between May and October 1988. Future rates at redemption will reflect changes in the cumulative rate.

Series EE savings bonds purchased since November 1, 1982, and held five years or longer, earn the average of semiannual market-based rates during the holding period (rounded to the nearest quarter percent) or the minimum rate in effect at the time of purchase, whichever is higher. The minimum rate is subject to change for future issues if market conditions warrant. Bonds outstanding at the time of any change retain their previous guarantees to original, or next extended, maturity.

Faculty members from OU, the University of Michigan-Flint, the Paint Creek Center for the Arts in Rochester will lead the classes.

This second annual program offers instruction in creative writing, music composition, theatre arts and visual arts. Enrollment is open to persons ages 12-17. Applicants must be recommended by a coordinator of gifted and talented children or other school official familiar with the applicant's abilities. Each class is limited to 15 students. Registration deadline is June 17.

Duo-Piano Workshop — From July 12-28, a Duo Piano Workshop will be offered for pianists who wish to become familiar with repertoire of abundant variety and versatility. Participants may either bring a partner or be matched with other pianists.

The workshop will cover literature for one piano, four hands; two pianos, four hands; two pianos, eight hands; and piano with other instruments.

Joyce Adelson of the Department of Music, Theatre and Dance will teach the workshop. The registration deadline is July 8.

Dance Workshops — Three dance workshops are planned for persons at the beginning, intermediate and advanced levels.

From July 18-29, Mari Winsor will teach a Special Jazz Dance Workshop. She is a featured dancer in the new movie, *Salsa*. She also appeared in the Michael Jackson video, *Smooth Criminal*.

From August 1-12, Laurie Eisenhower will teach ballet and Dina McDermott will give classes in modern dance. Eisenhower is a member of the Department of Music, Theatre and Dance faculty. McDermott teaches at Arizona State University.

Iacob Lascu will conduct ballet classes and Roxanne Williams will teach modern dance from August 15-26. Lascu is a Marygrove College faculty member and has his own studio. Williams choreographs and performs with her own company, Mixed Media Dance Works in Dallas, Texas.

For registration details for all classes except the Dance Workshops, call the Center for the Arts at 370-3018. Information about the Dance Workshops is available by calling the Department of Music, Theatre and Dance at 370-2030.

ATHLETICS

The Summer Tea Room at Meadow Brook Hall opens in July. Hours will be 11:30 a.m.-3 p.m. Monday-Friday. Tours are given 1-4 p.m. Sundays, no reservations needed. Tours will be 10 a.m.-4 p.m. Monday-Saturday and 1-4 p.m. Sunday in July and August. Call 370-3140.

TOURS

The Center for the Arts offers summer workshops in dance and piano, plus Arts-for-Youth Camps and special programs for academically talented children. Call 370-3018.

The Continuum Center has workshops and seminars. Call 370-3033.

The Ken Morris Center for the Study of Labor and Work has released its spring schedule. Visit 270 SFH or call 370-3124.

Meadow Brook Health Enhancement Institute offers an exercise-education program for adults with insulin- and noninsulin-dependent diabetes. The program focuses on strategies for life enhancement. Interested persons will learn about exercise, nutrition and self-care measures, and may participate in three medically supervised exercise sessions per week. Call Terri Darrenkamp, RN, at 370-3198.

CONFERENCES

Information below has been prepared by the Oakland Center Conferences office.

June 19-24 — Swimming, golf and basketball summer camps.

June 26-July 2 — Swimming.

June 26-29 — Journalism.

June 27-30 — NCA Cheerleading.

Events

VIRGIL THOMSON RESIDENCY

June 12 — Inaugural Chamber Concert and reception, 7 p.m., Varner Recital Hall. Admission. Call 370-3013.

June 13 — Open rehearsal for June 18 orchestral concert for *Virgil Thomson in Time* residency, 7:30 p.m. Free. Varner Recital Hall.

June 14 — Lecture, *Words and Music* by Virgil Thomson at Meadow Brook Hall, 8 p.m. Reception follows. Free. Reservations required. Call 370-3013.

June 16 — Composers Forum, 2 p.m., 134 Varner Hall. Virgil Thomson will comment on compositions by young composers. Apply in advance. Call 370-3013.

June 17 — 1939 film, *The River*, 7 p.m., Varner Recital Hall. Free. Virgil Thomson received a Pulitzer Prize for the music and was the only person ever to win for a film score. Program is a prelude to the *Virgil Thomson in Context* program at 8 p.m.

June 17 — *Virgil Thomson in Context*, 8 p.m., Varner Recital Hall. Free. Music and words.

June 18 — Lecture, *The Music Critic and His Assignment* by Virgil Thomson, 11 a.m., Sunset Terrace. Free. Reservations required. Call 370-3013.

June 18 — Music critics symposium with Virgil Thomson, 2 p.m., Sunset Terrace. Free. Reservations required. Call 370-3013.

June 18 — Orchestral Concert with music by Virgil Thomson and others, 8 p.m., Varner Recital Hall. Admission. Call 370-3013.

CULTURAL

June 16, 19, 23, 26 and 30 — Detroit Symphony Orchestra at Meadow Brook Music Festival, 8 p.m. Admission. Call 370-2010.

Pop concerts at Meadow Brook Music Festival — June 17-18, Johnny Mathis; Harry Belafonte, June 20; Steven Wright and Buster Poindexter, June 22; Detroit Symphony Pops, June 25; and the Irish Rovers, Limelighters and Schooner Fare, July 1. Call 370-2010.

ETCETERA

June 3 — Labor-Management Forum with Vicki Saporta of the International Brotherhood of Teamsters will speak on *Organizing Issues for a New Workforce* at Meadow Brook Hall. Call the Ken Morris Center for the Study of Labor and Work for after-lunch program tickets.

June 7 — Person to Person lecture series with David Eisenhower speaking on *Eisenhower: At War, 1943-1945*, 11 a.m., Varner Recital Hall. Tickets are available by calling 375-0489, 651-3554, 375-0828 or 375-0505. Series benefits the Center for the Arts.

June 7 — Academic Edge (Toastmasters) meeting, noon-1:30 p.m., 126-127 Oakland Center. Guests welcome.

June 7, 14, 21 and 28 — *Careers in Transition* for persons considering a career change but don't know how to begin. Admission. Sponsored by the Continuum Center. Call 370-3033.

June 7, 14, 21 and 28 — *More for Singles* continues the single series sponsored by the Continuum Center. Admission. Call 370-3033.

June 8 — OU Board of Trustees, 5 p.m., Oakland Center Lounge II.

June 13 — Video, *If Looks Could Kill*, about the power of behavior, 10-11 a.m. or noon-1 p.m. in the Instructional Technology Center, 112 Varner Hall. Sponsored by the Employee Relations Department and the ITC in cooperation with the Intergovernmental Cable Communications Authority. Registration not necessary.

June 16 — Introductory class for Breathe-Free stop-smoking clinic, 7:30 p.m., Meadow Brook Health Enhancement Institute. Limited registration. Regular classes will be held June 20-24 and 27. Call Stacy Potthoff at 370-3198.

June 16 — AP Assembly/Association general meeting, 11:30 a.m.-1 p.m., Oakland Center Gold Rooms.

June 21 and July 5 — Academic Edge (Toastmasters) meeting, noon-1:30 p.m., 126-127 Oakland Center. Guests welcome.

ATHLETICS

June 6-7 — Gehring-Kaline Golf Classic at Katke-Cousins Golf Course. Proceeds benefit Meadow Brook Hall preservation and the Department of Athletics. Reservations required. Call 370-3140.

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