Financial stress: A way of life since 1855

Where will we get the money?

Through the years that question has probably been voiced more frequently than any other around the nation's campuses. Repeatedly it has been posed amid great perplexity by the trustees, presidents and other top administrators of MSU during its 117 years.

A review of the University's historical documents can only lead to the conclusion that being short of funds for educational necessities has virtually been a way of life from the day MSU came into being.

First in a series of three stories.

Two faculty organizations are in a race to get 30 percent for bargaining petition

It is now, apparently, a race for first. Two organizations say they are close to receiving enough signatures from faculty authorizing a collective bargaining unit to call for a unionization election.

But the number of signatures required (30 percent of a defined unit) varies with the two organizations, because their defined units vary.

The MSU chapter of the American Association of University Professors (AAUP) claims to be about 50 or more consecutive terms; plus affiliate of the Michigan Education Association (MEA) claims to be about 50 percent of a unit which includes all full, part, and half-time teaching and research faculty from defined units.

If the AAUP should obtain enough signatures, the question of unit definition would again have to go into hearing stages - first informally, and then, if agreement is not reached, into formal hearings; if both groups receive 30 percent signatures of their own defined units, it would become a matter of two contesting petitions being presented to MERC, and the unit would have to be defined before validity of the "30 percent" could be determined.

At any rate, if either group should get 30 percent of whatever unit is determined, it appears that there will be at least three choices on a unionization ballot - AAUP, MEA and no unit.

Position on the ballot is drawn by lot, and...

(Continued on page 4)

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(Continued on page 4)
Sigma Xi research award to Purchase

A scientist who helped develop the first vaccine that controls a form of cancer has won the University's 1972 Junior Sigma Xi Award for Meritorious Research.

Harry Graham Purchase received his award last week in recognition of his comprehensive study of a form of leukemia known as Marek's disease—a cancer of chickens.

Purchase also recently won the Arthur S. Fleming Award as one of 10 outstanding men and women in the U.S. government during 1971. Purchase is an assistant professor of microbiology and public health, and a veterinary medical officer for the U.S. Department of Agriculture's Regional Poultry Research Laboratory on the campus.

His research has led to a safe and effective vaccine to control the disease that has been costing U.S. poultrymen more than $200 million a year, and it has sparked new efforts in the study of human cancer.

Science notes

China: The emphasis is on applied research

China favors research that has applications in sight rather than pure research with applications distant and hidden.

This was the observation of Chen Ning Yang who visited with physicists on the campus last week. The Nobel Laureate (physics, 1957) spent four weeks in China previous to President Nixon's visit.

"I think I enjoyed an advantage, compared with many recent visitors of China," he said, "since these are people I knew intimately before I left China."

Yang lived the first 23 years of his life in China.

"China today, undoubtedly in a very thorough way, is giving more emphasis to practical research than pure research," he said.

"Many of the research efforts in the Institute of Physiology have been redirected," Yang said. "They are more intimately amalgamated with the problems of Chinese society... (and) many of these problems become related to medical research.

"Purely theoretical work is not completely stopped, but there is no doubt that preference is given to those aspects of science which are more related to Chinese society."

The general Chinese attitude toward science, he said, is that it is good for mankind, and should be fostered.

ONE CONTRADICTION the Chinese recognize about their society is that, contrary to their spirit of egalitarianism, a specialism fosters a kind of elitism.

"There are sophisticated sciences that require early training of brilliant young people," Yang said, "and China is afraid that if it trains a tremendous number of these people without simultaneously injecting into them the idea of the prevailing Chinese social value judgments, there indeed will be an elite class."

He noted that China regards the suppression of leaders as "the most important effort at this moment. But, of course, we also know that China is busily trying to make computers and 'busily developing all kinds of industries which are very much does a professor earn?"

DURING A VISIT with Premier Chou En-lai, Yang was asked questions also common in America:

"What is it like to work as a professor?"

"How much does a professor earn?"

"What is the situation of the blacks?"

The Nobel Laureate answered that the Chinese are very well informed about America, and that the Premier's questions were more for verification than for information.

One paper printed in China, with a circulation of five million, carries only one question: "What is it like to work as a professor?"

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Board to get procedures

The proposed interim grievance procedures will be presented to the Board of Trustees at its April 4 meeting, President Wharton said after Tuesday's Academic Council meeting.

With the ad hoc grievance debate, the Council approved Tuesday the interim grievance procedures proposed by the Ad Hoc Committee to Study Faculty Rights, Responsibilities and Grievance Procedures. The procedures were approved by the elected Faculty Council last month.

The Council also accepted several amendments offered by Lawrence L. Boeger, dean of agriculture, representing a subcommittee of the Administrative Group, which has been studying grievance procedures for several months. Boeger, an associate professor of English and chairman of the ad hoc committee, said the Boger amendments were intended to clarify and strengthen the procedures and would not alter the intent of the EFC-approved procedures.

One Boger amendment broadened the list of eligible grievants to include lecturers, assistant instructors, specialists and librarians. A further amendment by graduate student Jo Lynn Cunningham included research assistants.

Other amendments from Boeger's group: Defined grievances more clearly, gave equal status to the Coalition of Faculty Grievance Officials; removed specification that the FGO must be a faculty member, and shortened time limits on the procedures.

In OTHER ACTION, the Council approved in concept meeting concerning future mootings of censure or reprimands. The new policy states that such a motion could only be introduced on any subsequent part of the Council agenda, not upon the agenda of the ensuing meeting, and "as soon as practicable" after introduction of such a motion, the secretary of the faculty's would notify the individual named and invite him to present a statement in person at the next regularly scheduled Council session.

The motion was debated considerably, with several substitute motions defeated, including one from Mark Rilling, associate professor of psychology, who asked that criteria for censure be studied by the Ad Hoc Committee to Study Faculty Rights, Responsibilities and Grievance Procedures.

A motion from Frederick Williams, professor of history, asking the University Committee on Academic Governance to study and report on legislation and structures for adjudication of alleged violations of all campus regulations and policies — was tabled.

A motion from Elmar Hardin, professor of labor and industrial relations to restrict censure motions to gross violations of decorum at Council meetings was also defeated.

A more by Rilling early in the meeting to place on the agenda a move to amend the Nov. 30 censure of Professor Bob Repain and Trustee Clark White was narrowly defeated, 40-37 with 4 abstentions.

A debate on a motion to postpone the election for student members-at-large of the Council was postponed until the May 2 Council meeting.

Game times moved up

Michigan State's three November home football games next fall will start at 1 p.m., EST, rather than the usual 1:30 p.m. The games affected are those of Nov. 4 with Purdue, Nov. 11 with Ohio State and Nov. 25 with Northwestern.

"The idea," said Acting Athletic Director Burt Smith, "was to assure better daylight conditions on those late fall Saturdays, both for the games themselves and for fans leaving homewards afterwards. Some long drawn out games can run almost to darkness when the starting time is 1:30.

Several Big Ten schools already have the same policy of starting November games earlier.

Dorm options expanded

MSU will offer a wider range of living options next fall, including a substantial increase in the limited visitation houses, President Eldon R. Nommaker said at Tuesday's Academic Council meeting. Nommaker has received a report from a special housing options committee of students, residence hall staff and management. The changes are based on plans approved last year by the Board of Trustees.

The committee recommended that while the number of quiet houses remains the same, the number of limited visitation houses (where guests of the opposite sex are allowed in the hall living areas) be increased. So far, 20 percent of the incoming freshmen women and 19 percent of the men have asked for limited visitation.

More limited visitation houses will be set up in South Complex, Brody Complex, East Campus and in Cedar Woods and West Circle halls.

The committee also recommended extending a modified version of the alternate floor option (now in several halls) to four more halls. Under the plan, students in Wilson and Akers halls could designate two floors in which men will live in one wing and women in the other wing, separated by a lobby. Adjoining doors are locked. A similar plan is set for the Brody Complex.

It is expected that the group will recommend greater student choice in living arrangements which will also be random. And appropriate measures have been established to insure internal security in the halls.

Nommaker said that a full review and evaluation of the living options program will be made next spring.

Agreement on athletics

Representatives of the University and the Coalition of Black Athletes jointly announced a agreement on a series of "understandings and affirmative moves" for all athletes.

Jack Breslin, executive vice president, and Allen Smith of the coalition announced:

A black academic adviser will be appointed in the athletic department.

"Athletes planning to return to the campus in the fall following the end of their eligibility may qualify for assistance under all financial aid programs, based on need, as would any other student. (Under Big Ten and NCAA rules, no athlete can have released aid after his eligibility is used, and only recently has the Big Ten permitted athletes to qualify for any kind of aid after eligibility.)

A seven-member grievance board — of black athletes, coaches and members of the black faculty — will be formed immediately tohear verbal or written grievances. The ombudsman will chair the group.

Current tenders to black soccer players will be renewed and honored through their normal period of eligibility.

No further tenders will be offered in soccer after the 1972 season.

"No University-provided medical care for injuries to athletes injured or suffering illness during regular practice or the contest itself. It is not yet determined whether coverage for injuries or illnesses unrelated to an individual's sport or presence at the University is merited or financially feasible.

"Two student athletes will be named to the steering committee for the new athletic director.

"MSU has already urged the use of more black athletics to officiate Big Ten contests, and will recommend names of black basketball officials to be added to the conference roster (there is now one black basketball official).

Where to plug in

Where can women most effectively plug into the administration in order to insure equal treatment?

This was the big question asked at an open session of the steering committee for women Tuesday (April 8) morning. The 17 women comprising the steering committee were appointed by President Nonnamaker to design and recommend a permanent structure which would address itself to the needs and concerns of women at MSU.

Women from the University at large participating in the session charged the steering committee members with drafting several proposals which could serve as focal points for discussion.

Mary Kay Scullion, graduate student and chairman of the steering committee, explained that the group will be addressing itself to: Women-oriented fields and areas; minority concerns; student concerns; and employment practices.

These topics are scheduled for discussion under rotating chairmen on alternate Wednesdays and Thursdays at 6:30 p.m. in the Kellogg Center. The next meeting will be Wednesday (April 19).

Once a month starting at 3 p.m. Sunday (April 30) in the Kellogg Center, the steering committee will also meet with women from throughout the University community.

Ag lecturer is named

Joseph L. Sax, University of Michigan professor of law and author of the Michigan Environmental Protection Act, will present MSU's Distinguished Lecture in Agriculture and Natural Resources on Tuesday (April 9).

Sax will give a seminar on the "Cost of Environmental Litigation," May 4, 2 to 3:30 p.m. in Room 158 Natural Resources.

At 8 that evening, he will present a public lecture on "Michigan's Environmental Protection Act" in Fairchild Hall.

Friday (May 5) morning he will hold a press conference in Room 132, Hubbard Hall, to release his study of the Environmental Protection Act, the "so-called citizens' suit law and the first law of its kind in the U.S. Then, at 10 a.m., he will hold a seminar on "Environmental Regulations" in the same room.
Students who earn really high grades early get into Honors College and don't have to declare a major and can take whatever courses they want—true?

Not true. At first place, a grade average is not the sole requirement for Honors College membership. Students do have majors; they must fulfill the University's general requirements, as for general education; and they receive close advice from Honors College (HC) personnel. But there is flexibility. For example, under a new experimental program, students, after consulting with HC advisors, have been able to take American or European intellectual history in place of American thought and language or humanities—but the general education requirement is still met.

FRESHMEN are normally admitted to Honors College as "designates" on the basis of SAT scores, high school grade - point averages and standings in National Merit Scholarship competition. But the HC is now in its second year of the experimental freshman program whereby freshmen for the first time are being directly taken into College membership. Students do have majors; they must fulfill the University's general requirements, as for general education; and they receive close advice from Honors College (HC) personnel. But there is flexibility. For example, under a new experimental program, students, after consulting with HC advisors, have been able to take American or European intellectual history in place of American thought and language or humanities—but the general education requirement is still met.

MEANWHILE, WAYNE STATE University is in the midst of balloting on a bargaining race. The MEA's definition of a unit is not indicated on the ballot. "Intervenor," says Vaughn, assistant director of Honors College, describing the advising function. Students have no idea what they are advising on, having the academic advisor serve as an "allocator" of courses. Students may set their own criteria on what kind of program they desire, although sometimes HC staff find students who know their fields well but have paid little attention to the University as a whole. HC staff "try to fill in the gaps," Vaughn says. All student programs are reviewed annually.

The students do experiment. A senior HC member interested in experimental psychology, for example, was allowed to bypass the basics and enter into senior and even graduate level courses, where he could be more challenged, more mentored.

That becomes a major thrust—the challenge rather than grade-point possibility, because in the process the student is gambling his grade-point. By taking a more difficult course he may get a lower grade than he might have received in a lower level, more basic course.

SO DESPERATE WAS the financial situation that the basic economic philosophy of the institution was changed. Today's concept of an education made available to any capable young person regardless of his economic status is in no way a contemporary innovation. This was the basic philosophy of the nation's first agricultural college. The only cost to students initially was modest payment for meals in the preceding house. Education was free so that even the poorest could attend. But in 1859 the board of governors abandoned this practice because of financial distress. Reluctantly, they levied a charge of 2 cents a day for "attendance" and 3 cents a day for the use of room and furniture.

This imposition of its own economic measure because of the meager appropriation in 1859 triggered a backlash that was almost disastrous for the next few years. So tight were the college purses that at the close of 1860 one-fourth of the appropriation remained unspent. This did not go unnoticed by the legislators as the Orison of students at orientation raise substantive questions about the University—especially those who are not committed to broad education. Some students at orientation raise substantive questions about the University and society; some are survival oriented and need to be reoriented, according to Vaughn. The orientation/advising function was furthered by implementing a special freshman course, offered through Justin Morrill College, whose purpose was to develop general awareness and perspectives of life-style and career alternatives.

BLACKINGTON EXPRESSES "deep concern for broad undergraduate education. He finds educating "the persistent myth that the Honors College operation is "do your own thing, with regard to any of the defining characteristics of an undergraduate education.'"

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FRESHMEN HAVE LITTLE knowledge about the Honors College, Blackington says, so we can give some clear attention to helping them clarify their own aspirations, and to put them into work at levels that tend to fit them better than the more standard curricular arrangements.

After the first year of the experiment, it was found that freshman membership appeared to help hold students in the University that first year. This was probably because of the closer identification with a relatively small advising and referral program "that tends to get at problems more rapidly than we were able to do before," Blackington says, and because the freshmen had programs especially designed for them. Some freshmen have so many talents that they are not ready to focus on one major, Blackington says. So closer advising may result, even if one group is an "intervenor," giving supplemental mental advising to students who return for it.

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Financial stress...

(Concluded from page 1)

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Taking the University to the problems

The new director of public safety for the nearby City of Jackson has a plan to have a permanent office staff.

Instead, William G. Hegarty says, "We'll have a permanent office staff this week by the National Science Foundation," he says. "That will make us better prepared for the future of criminal justice here during the spring term."

Hegarty says, "As a member of a university faculty, I envision only part of my responsibility as an educator to be involved in the university's administrative efficiency of both organizations."

"Depending upon the nature of the research project or management problem," Hegarty says, "the team that is involved will have expertise in the areas of psychology, sociology, business, management, criminal justice, public administration and the Center for Urban Affairs.

The task of making the most effective use of limited resources in the area of public safety is common to many small - to medium - sized cities, says Hegarty.

FLOYD G. PARKER, professor of continuing education and education, was a member of the jury for the 1972 American Association of School Administrators Exhibition of School Architecture. The jury will select entries for an exhibit during the group's spring meeting in Atlantic City.

RICHARD G. PFISTER, associate professor of agricultural engineering, has been appointed by Gov. Milton to a four-year term on the State Board of Safety Compliance and Appeals. Pfister will be chairman of the board.

CARL H. GROSS, professor and chairman of secondary education and curriculum, has been elected vice president and president-elect of the Society of Professors of Education, now in its 70th anniversary.

WILLIAM LAZER, professor of marketing and transportation at the Illinois Institute of Technology, has been named a member of the National Science Foundation Visiting Scientist at Transylvania College, Lexington, Ky. He discussed future economic trends.

JANET A. WESSEL, professor of health, physical education and recreation, has been appointed to the National Science Foundation Visiting Scientist at Transylvania College, Lexington, Ky. He discussed future economic trends.

The Chicano Renaissance is topic

Tomas Rivera, professor of romance languages at the University of Texas, will speak on "The Chicano Renaissance and the Humanization of the Southwest" tonight (April 13) at a p.m. in the Natural Resources Building.

Rivera, who is a poet and a prize-winning writer, is being sponsored by the Department of Romance Languages, the College of Arts and Letters and the Chicago office of the Center for Urban Affairs.

NSF grant to emphasize ecology research

It's called Ecosystem Design and Management, but don't be misled by the title. It's much more complicated and much more important to world ecology than its name implies. A grant of $900,000 was announced in Washington this week by the National Science Foundation (NSF) for a two-year extension of MSU research into ecosystem design management.

The grant will be presented to the Board of Trustees for approval at its next meeting. This project began two years ago under a $650,000 NSF grant.

"We're developing a new understanding of the field of ecology, and it's much deeper than the American public things," says Herman E. Koenig, project director and chairman of the ecological engineering and systems science.

IT'S NOT AS simple as picking up buzzwords and newspapers for recycling, adds Koenig. "Living within the constraints of the earth's ecological systems is going to mean a major social, economic and political readjustment for man. It's part of becoming a mature industrial nation."

Project codirector William E. Cooper, an associate professor of zoology, explains that the research is designed to come up with techniques for dealing with environmental problems.

"We spent six months discussing and identifying the scope of the problem," he says. "The first year under the next program was spent getting scientists together to learn to talk to each other and understand how their own areas of scientific expertise relate to the problem.

Research directions for the future were also defined during this period," Cooper adds. "Now we will begin to expand our conceptual models of ecology to include the impact of man," he says.

Some 45 scientists in electrical engineering, systems science, zoology, chemical engineering, botany, microbiology, soil science, agricultural economics, communications, resource development, economy and mathematics are involved.

"We are, in fact, developing a new science through our research," reports Cooper.

Koenig explains that the basis of the research concept is that all materials for human existence come from the rural landscape.

"In the long run, rural land must produce, for ourselves and absorb all waste," he says.

Presently the material flow is all around the area, without how their own areas of scientific expertise relate to the problem.

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For this reason, Cooper says, society is materially unstable, and he calls cities "paradises on the rural landscape in a mental sense.

"What we are trying to do is identify the limits of our use of the environment and then learn what constructive courses of action are available to us," says Koenig.

He and Cooper caution that there is no single model which will provide all the answers for man's use of the environment.

Instead, many models will be developed by many scientists within the framework of the basic material and ecological and social alternatives. The models will be used as tools for decision makers - legislators, planners, developers, etc., to determine man's use of his environment.

Both Koenig and Cooper recognize that educating decision makers and the general public to the concept that they are developing will be a major, yet vital, task.

THEY SEE MSU AS a logical center of the early phases of this research because of its resources and orientation in agriculture. This, they say, is a logical extension of the land - grant philosophy.

Future research into ecosystem design management is too big for any one university, says Cooper. It will expand as understanding of the concept expands, and the science of design and management of ecosystems grows, he adds.

The next two years of NSF-funded research at MSU will see scientists examining some working ecosystems.

Koenig says research will include a study of high - density beef feedlots and their effect on the environment with subsequent development of a computer-based simulation model. A study of power plant site design will be made with the cooperation of Consumers Power Company, Koenig adds. This will include studies of plant size and location, heat output and waste disposal.

In addition, the problem of insect pest control in agriculture will be studied with focus on the cereal leaf beetle and apple mealy in Michigan.

The methods and effects of spreading waste products on agricultural land will be studied using the MSU waste disposal system as a research tool.

Finally, there will be a study of freshwater lakes and streams to determine the long - and short - term impact of thermal and material inputs.

"The entire ecosystem is a complex of ecological factors which are all coupled together," says Cooper.

"All of the various processes of man are coupled by a flow of materials. That is the common denominator we are working with." - BILL BETTS

Page 5, MSU News-Bulletin, April 13, 1972
Hiring procedures become more complex

When the University needs to fill a nonacademic job vacancy, there’s much more to it than hanging out a “Help Wanted” sign. New and tighter laws and regulations — designed in part to assure affirmative action as a means of erasing inequities — have meant that this and other initiatives to meet affirmative action need to justify their hiring procedures.

And while MSU is made up of many separate employers across the campus, a single agency — the Personnel Center — is held accountable for every employment act that takes place.

This accountability, plus the growing complexities of hiring, underscores the need for a single set of procedures administered by a central hiring facility, says Gerald F. O’Connor, associate dean of personnel.

The University’s Personnel Center is more than a clearing house for job seekers, O’Connor notes. It maintains contact with some 20 agencies and organizations engaged in the job hunt, and it seeks to become more involved in employment counseling, notes Leonard Bates, an assistant director. Efforts in the latter area are for both prospective and present employees.

On the campus itself, personnel has begun posting openings in the administration — profit- and technical and hourly jobs for employees interested in upgrading their classifications. Response to the posting has been heavy, O’Connor says.

Bates notes that employees are now able to contact personnel directly — without having to go through their supervisors — and express interest in transfer. The Personnel Center, he says, will help accommodate those interested in advancement or in changing jobs.

O’CONNOR AND BATES point out while the final hiring decision rests with each department and unit, several steps need to be followed in the hiring process:

* Personnel Center must be notified of openings so that they can be posted and so that they can begin screening and referring candidates.

* Hiring units should make sure that applicants are considered fairly, and that equal opportunity guidelines are followed.

* Employers should not make a commitment to hire before checking with the Personnel Center. For example, a new employee needs to pass a physical before officially starting work.

* To make sure that equal opportunity guidelines are observed, individual departments should not offer employment without going through the Personnel Center.

— GENE RIEFTORS

Benita Valente to perform

The internationally acclaimed soprano, Benita Valente, will be heard in recital as part of the Chamber Music Series at 8:15 p.m. Friday (April 18) in Fairchild Theatre. Advance tickets are at the Union Ticket Office.

Miss Valente will be assisted by pianist Thomas Grubb as well as two soloists from the MSU music faculty. Douglas Campbell will be heard on French horn in Schubert’s “Auf dem Strom” for soprano, horn and piano. Erik Ludwig-Verderie, clarinetist, will assist Miss Valente in “Der Hort auf dem Felson” (“Shepherd on the Rock”), a narrative story based on a poem by Wilhelm Mueller.

Miss Valente will also perform songs by Claude Debussy, including his “Clair de Lune,” as well as works by Gabriel Faure, Joseph Haydn and Fernando Obradors.

U-Club opens its doors

All University employees are now eligible for membership in the University Club, reminds H. John Carew, club membership chairman. The expanded eligibility resulted from a change in bylaws of the former Faculty Club.

Current dues are $25 a month, plus a $5 monthly minimum food and beverage charge. The initial deposit is $225. Persons below the rank of associate professor or A-5 can defer the payment for five years or until they reach those ranks. Anyone is eligible to pay the deposit and to make it monthly basis. Persons who leave the club can get their deposit refunded in June following their resignation.

Carew, professor and chairman of horticulture, reports that club membership has not yet been exhausted. He says that a limited number of associate memberships — for persons not connected directly with MSU — is available.

Full details are available from Carew at 351-5191 or from the club manager at 351-4644.
STEERING COMM.  There will be a meeting of the Steering Committee of the Faculty at 3 p.m., Wednesday, April 19, in 443A Administration Building to set the agenda for the Academic Council meeting of May 2.

BOTANICAL CLUB  The Michigan Botanical Club will hold its annual state meeting from 1:30 to 3 p.m., Sunday, April 16, in Room 35 of the Union. Fred Case will speak on "Michigan Orchids."

EXHIBITIONS

Kresge Art Center
Entrance Gallery, North Gallery (through April 23): Faculty Exhibition of works in various media by staff artists.

Beal Garden
Early spring bulbs have started to bloom in several sunny locations.

CONFERENCES

April 17-20 24th Annual Course in Housekeeping Mgmt.
May 24
April 18-19 28th Annual Dairy Fieldmen's Conference
April 19-20 Michigan Chapter American Academy of Family Physicians
April 19-23 National Forum of Chairmen of Parks & Recreation Deps.
April 20 Seminar for Large Animal Practitioners—Equine Reproduction, Vet. Clinic
April 20-21 Building Officials Conference
April 20-22 Workshop in Advanced Salesmanship

SEMINARS

THURSDAY, APRIL 13, 1972
Structure studies in tin and antimony. Elizabeth Baranger, M.I.T., 8 p.m.
Cyclotron Seminar Room (Physics)

FRIDAY, APRIL 14, 1972

MONDAY, APRIL 17, 1972
Gel electrophoresis of high molecular weight DNA. Dennis Flit, 4:10 p.m., 101 Biochemistry (AEC Plant Research Lab).
Biological problems of aging. Bernard Strehler, U. of Southern California, 4:10 p.m., 136 Chemistry (Biophysics).
The projected wondrous properties of ghiral grown compounds. Donald J. Cram, 4 p.m., 138 Chemistry (Chemistry).
Toward high levels of performance in problem solving programs: A case study. Edward A. Felgenbaum, Stanford U., 8 p.m., Chrysler Auditorium, North Campus, U. of Michigan, Ann Arbor (MSU-UM Computer Science).
The animal industry in Ecuador. Kim Wilson, 12:30 p.m., 126 Anthony (Dairy Science).
Recent economic development in Cuba. Carmelo Mesa-Lago, U. of Pittsburgh, 7:30 p.m., 1 Marshall (Economic Development).
Electrophysiological responses to taste stimuli in the mud puppy (Necturus). David Samanen, 4 p.m., 216 Giltner (Physiology).

TUESDAY, APRIL 18, 1972
Zwitterious vs. radical pairs in the opening of T4 phage tail fibers. Robert C. Dickson, California Institute of Technology, 4 p.m., 138 Chemistry (Biophysics).
Virescence of gonococci. W.D. Sawyer, Rockefeller Foundation, Bangkok, Thailand, 4:10 p.m., 146 Giltnner (Microbiology & Public Health).
Random effect model; non-parametric case II. Z. Govindaraju, U. of Kentucky and U. of Michigan, 4:10 p.m., 405 Wells (Statistics & Probability).

WEDNESDAY, APRIL 19, 1972
Orthomolecular medicine. Linus Pauling, Nobel laureate, 4 p.m., 108B Wells (MSU Section of the American Chemical & the Renaud Foundation).
The function of structural and non-structural proteins in the assembly of T4 phage tail fibers. Robert C. Dickson, California Institute of Technology, 4 p.m., 138 Chemistry (Biophysics).
Generalized Laprange multipliers in dynamic programming. Kamelesh Banerjee, 2 p.m., 106 Eppley (Management).
Platelet adhesiveness. Lillian Abadeer, 4:10 p.m., 346 Giltner (Pathology).

THURSDAY, APRIL 20, 1972
Polyphosphonuronic description of atomic nuclei. Linus Pauling, Nobel laureate, 1:30 p.m., 138 Chemistry (MSU Section of the American Chemical & the Renaud Foundation).
Population studies of ring-necked pheasants yielding evidences of genetic changes in wariness behavior. George Petrides, 3:30 p.m., 221 Natural Resources (Fisheries & Wildlife).
Characterizing simple groups. Warren Wong, Notre Dame U., 4:10 p.m., 304A Wells (Mathematics).
Preview of the Washington APS meeting. Cyclotron Laboratory Staff, 3:30 p.m., Cyclotron Seminar Room (Physics).
(pyr) Reactions with polarized protons. S.S. Hanna, Stanford U., 8 p.m., Cyclotron Seminar Room (Physics).

FRIDAY, APRIL 21, 1972
Abnormal hemoglobin molecules in relation to disease. Linus Pauling, Nobel laureate, 4 p.m., 108B Wells (MSU Section of the American Chemical & the Renaud Foundation).
Comparative electrophysiological studies of vertebrate hearts. Ralph A. Pas, 3 p.m., 204 Natural Science (Zoology).
Lewis Carroll on collective decision-making. Duncan Black, 3:30 p.m., 301 Agriculture (Agricultural Economics).

For general information about MSU, call 335-8700
Calendar of Events

Friday, April 14, 1972
8 p.m. World Travel Series—Don Cooper explores the “Mountain West.” Auditorium.

Saturday, April 15, 1972
1 p.m. Baseball—Doubleheader with Purdue. John Kobs Field.
8 p.m. World Travel Series—Don Cooper explores the “Mountain West.” Auditorium.
8:15 p.m. Graduate recital—Violinist Louise Hohmeyer will perform works by Beethoven, J.S. Bach, Chausson and Sinding. Music Auditorium.
8:30 p.m. “The Search: Still It Moves” (see April 14), Abrams Planetarium.

Sunday, April 16, 1972
4 p.m. “The Search: Still It Moves” (see April 14), Abrams Planetarium.
8:15 p.m. Music—The MSU Chorus and Orchestra, conducted by Gomer Ll. Jones, will perform Mozart’s “Mass in C Minor.” The concert by the 300-member chorus and orchestra is open to the public without charge. Auditorium.
8:30 p.m. “The Search: Still It Moves” (see April 14), Abrams Planetarium.

Monday, April 17, 1972
8:15 p.m. Graduate recital—Gertrude Huismen, mezzo-soprano, will perform. Music Auditorium.
8:15 p.m. Lecture-Concert Series—Subscription Series “B” presents “An Entertainment for Elizabeth.” Produced by the New York Pro Musica, the cast of 24 presents the poetry, songs, music and dance which made the Elizabethan court the wonder of its age. Richly designed costumes and authentic renaissance choreography add to the spectacle. Auditorium.

Tuesday, April 18, 1972
12 p.m. University Club luncheon—American Universities Field Staff lecturer Louis Dupree will speak on “Afghanistan Today.”
1 p.m. Golf—MSU vs. Ferris State. Forest Akers Course.
3 p.m. Tennis—MSU vs. Wayne State. Varsity Tennis Courts.
8:15 p.m. Chamber Music Series—Soprano Benita Valentino will appear in concert with pianist Thomas Grubb and two soloists from the MSU music faculty. Since her European debut in 1962, she has appeared as soloist with that continent’s top orchestras, opera companies and festivals. Fairchild Theatre.

Wednesday, April 19, 1972
1 p.m. Golf—MSU vs. Central Michigan. Forest Akers Course.

Friday, April 21, 1972
10 a.m. Board of Trustees meeting.
8 p.m. “The Last Question”—This new science fiction spectacular in the sky theatre was written and narrated by Isaac Asimov. Abrams Planetarium.
8:15 p.m. Graduate recital—Anita Hopkins, clarinetist, will perform. Music Auditorium.
10 p.m. “The Last Question” (see above), Abrams Planetarium.

Saturday, April 22, 1972
2:30 p.m. “The Last Question” (see April 21), Abrams Planetarium.
8 p.m. World Travel Series—Walter Dodson leads travelers through Israel. Auditorium.
8 p.m. “The Last Question” (see April 21), Abrams Planetarium.
10 p.m. “The Last Question” (see April 21), Abrams Planetarium.

BULLETINS

FACULTY FOLK
Faculty Folk will meet on Friday, April 14 at 12:45 at Abrams Planetarium for “A Journey Through the Universe.” The program will be followed by a reception given by Mrs. Clifton R. Wharton, Jr. at Cowles House.

SOVIET FILM
The color film “Sadko,” with Russian dialogue and English subtitles, will be shown at 7:30 p.m., Monday, April 17, in 1048 Wells. There is no charge for admission. The film is sponsored by the Russian and East European Studies Program.

LINUS PAULING
Linus Pauling, the only winner of two Nobel prizes, will speak on “Vitamin C and the Common Cold” at 8 p.m., Thursday, April 20, in the Auditorium. Sponsered on campus by the MSU Section of the American Chemical Society and the Renaud Foundation, Pauling won the 1954 Nobel prize in chemistry and the 1962 Nobel peace prize.

TOMAS RIVERA
Tomas Rivera, professor of romance languages at the U. of Texas will speak on “The Chicano Renaissance and the Humanization of the Southwest” at 8 p.m., Thursday, April 13 in 158 Natural Resources. A poet and a prize-winning novelist, Rivera is being sponsored by the Department of Romance Languages, the College of Arts and Letters and the Center for Urban Affairs.

EXTENSION WIVES
The April 21 Extension Wives tour of the Beaumont Center has been postponed until 9:30 a.m., Thursday, April 27. Phone Mrs. Robert L. Maddex, 339-8112 for reservations or information.

HAFT TEPE
The Central Michigan Archaeological Society will present an illustrated public lecture at 8 p.m., Monday, April 17 in the Main Gallery of Krueger Art Center.  The speaker will discuss “Afghanistan Today.”

PUBLIC WORKERS
Sam Zagoria, director of the Labor Relations Service of the U.S. Conference of Mayors, National League of Cities, and National Association of Counties, will speak on “Public Workers and Public Unions” at 8 p.m., Tuesday, April 18, in Union Parlor C. His talk is sponsored by the Industrial Relations Research Association.

GRAD WRITING
An advanced writing course designed specifically for doctoral candidates is being offered this term by the School for Advanced Graduate Studies. The course, which carries no credit and requires no fee, will be taught by Herman Struck. Beginning April 20, classes will meet each Thursday from 7 to 9 p.m. for six weeks. Interested students may obtain application forms from Mrs. Wickham in 143 Snyder or by calling 3-3853. Deadline for submitting forms is April 17. For information call 307-8 or 3-3853.

Information on MSU events may be submitted, for possible inclusion in the bulletin, to Patricia Grauer, Dent. of Information Services, 109 Agriculture Hall, (517) 353-8849. Deadline for submitting information is noon Tuesday preceding the Thursday publication. The calendar of events will cover an 8-day period. Friday through Saturday.