

Weather

Clear to partly cloudy Wednesday; partly cloudy Thursday. High both days mid-90's. Low tonight 74.

The Battalion

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Wednesday, July 9, 1975

Campus briefs

Degree deadline set

Degree application deadline for the second summer session is Friday, July 18.

Students who expect to be graduated this summer must file for the degree by the deadline. Registrar Robert Lacey said applications must be made by graduate and undergraduate students.

He noted that the application is the responsibility of the graduating student.

Applications are taken in the Richard Coke Building, after payment of an \$8 graduation fee in the Fiscal Office. Undergraduates make formal application by presenting fee receipts in Room 7.

Graduate student applications are taken in the office of the Graduate College, Room 209.

Summer commencement, with Speaker of the Texas House of Representatives Bill Clayton as speaker, will be Aug. 15.

Funds total reported

New research funds for TAMU totaled \$1,856,802 during June, bringing the cumulative total for fiscal year 1974-75 up to \$32,984,054.

The College of Science had the largest influx of funds last month, \$808,060, most of which came in the form of grants from the Welch Foundation to 38 professors for chemistry projects. The College of Engineering was second in the Office of University Research's monthly tabulations, with \$610,342, followed by Agriculture, \$306,447; Geosciences, \$78,532, and Liberal Arts, \$53,421.

TAMU ranks 18th on the National Science Foundation's list of the leading universities in research and development expenditures.

Pool to open soon

Wofford Cain Olympic Pool should be back in operation in about two weeks, Dr. C. W. Landiss, head of the Health and Physical Education Department, announced Tuesday.

The swimming pool has been closed because of clouded water.

Landiss said Dr. William L. Hoover, state chemist who is based on campus, analyzed the water and determined the problem was the result of a chemical reaction between lime that blew over from the adjacent parking lot construction and the paint applied to the pool earlier in the season.

The manufacturer of the paint has agreed to prepare a special mixture and apply it at no cost to the university, Landiss noted.

He said the July 24 target date is dependent on favorable weather conditions.

Color film movie

"The Imperfect Miracle," a film about custom still color photography, will be shown by the MSC Camera Committee on July 14 at 7:30 p.m. in the Rudder Center Forum. The film features Ulric Meisel of Dallas, and will be followed by a discussion of the new darkroom facilities in the MSC. Interested persons are invited to attend.

Refrigerators due

Students may turn in their refrigerators in the basement of the old hospital from 3 p.m. to 5 p.m. until this Friday. Refrigerators will also be available for rent at \$6 for the second summer term, with a \$10 deposit.

Registration set

Registration for the second summer term will be held tomorrow in Duncan Dining Hall. Students whose last name begin with "H" through "O" will register from 8 to 9:15 a.m., "P" through "Z" from 9:15 to 10:45, and "A" through "C" from 10:45 to 12:00. After enrolling for classes, students will turn in fee assessments and assignment-class cards in G. Rollie White Coliseum. Classes will begin Friday after fees are paid in the coliseum.

Piano rooms open

Four piano practice rooms are now open for student use in the Memorial Student Center basement. One room will be available strictly on a reservation basis (Call 845-6942). The other three rooms will be on a first come, first served basis. A student needs to show his or her ID card of a current fee slip to use these facilities.

Auditions scheduled

Auditions for "You're a Good Man, Charlie Brown," the second dinner theater production this summer, will be held Thursday and Friday in the MSC ballroom. Players are needed to fill three male and two female parts. The part of Snoopy will be chosen on ability alone, regardless of gender. Rehearsals will start Friday, with the play being staged July 31 and August 1, 7, and 8. Tickets are now on sale in the Rudder Center Box Office.

"Bus" tickets on sale

Tickets are available in the Rudder Center Box Office for the presentation of "Bus Stop" by the Premier Players. They play will be performed at 8 p.m. on July 10-12 in the Rudder Center Forum, and all seats will cost \$1.00.

Grove opens Friday

Friday night will see "Bonnie and Clyde" return to the A&M campus, as the Grove reopens its movie series after a break for the holidays and first term exams. Saturday night's film will be "The Owl and the Pussycat." "Zachariah" will be shown Sunday.

Mart seeks books

The Student Government Book Mart is seeking used books. It will be open every day this week. Students should go to the second floor of the MSC, in rooms 216 A, B, and E, to either sell or to buy used books. The Book Mart will be open from 9 a.m. to 4 p.m. daily.

Utilities compromise likely

Councils to vote on proposal

By JERRY NEEDHAM
City Editor

A College Station subcommittee on electrical utilities met with a Bryan subcommittee last Wednesday to try to iron out disagreements over the utilities rate increase.

Lloyd Joyce, Bryan mayor, said, "We came out of the meeting with the understanding that they (the College Station City Council) would come back with some type of new proposal."

Councilman Jim Dozier, of College Station, yesterday said, "I will make a motion presenting a counter-proposal to the city of Bryan at the Thursday night (College Station City Council) meeting. We think we have an agreement that this particular subcommittee can live with."

None of the subcommittee members would reveal what figures the new proposal might offer but there were indications the figure will be a

compromise between the two cities offers.

"If we have room to give in working with them it's probably in the water rather than the electricity," said Joyce.

Dozier said, "The whole controversy arises over the cost of supplying electricity to the city of College Station."

If a new proposal is submitted, Joyce said the Bryan Council will meet on Saturday or early next week

to act on it.

According to Dozier and Joyce, if either council does not approve a new proposal the matter will end up in court.

"I think the future of the two cities lies together," said Dozier. "I think if College Station went to other sources it would drive a wedge between the two cities which would be impossible to remove in the future. We could go to court and have a great deal of difficulty and

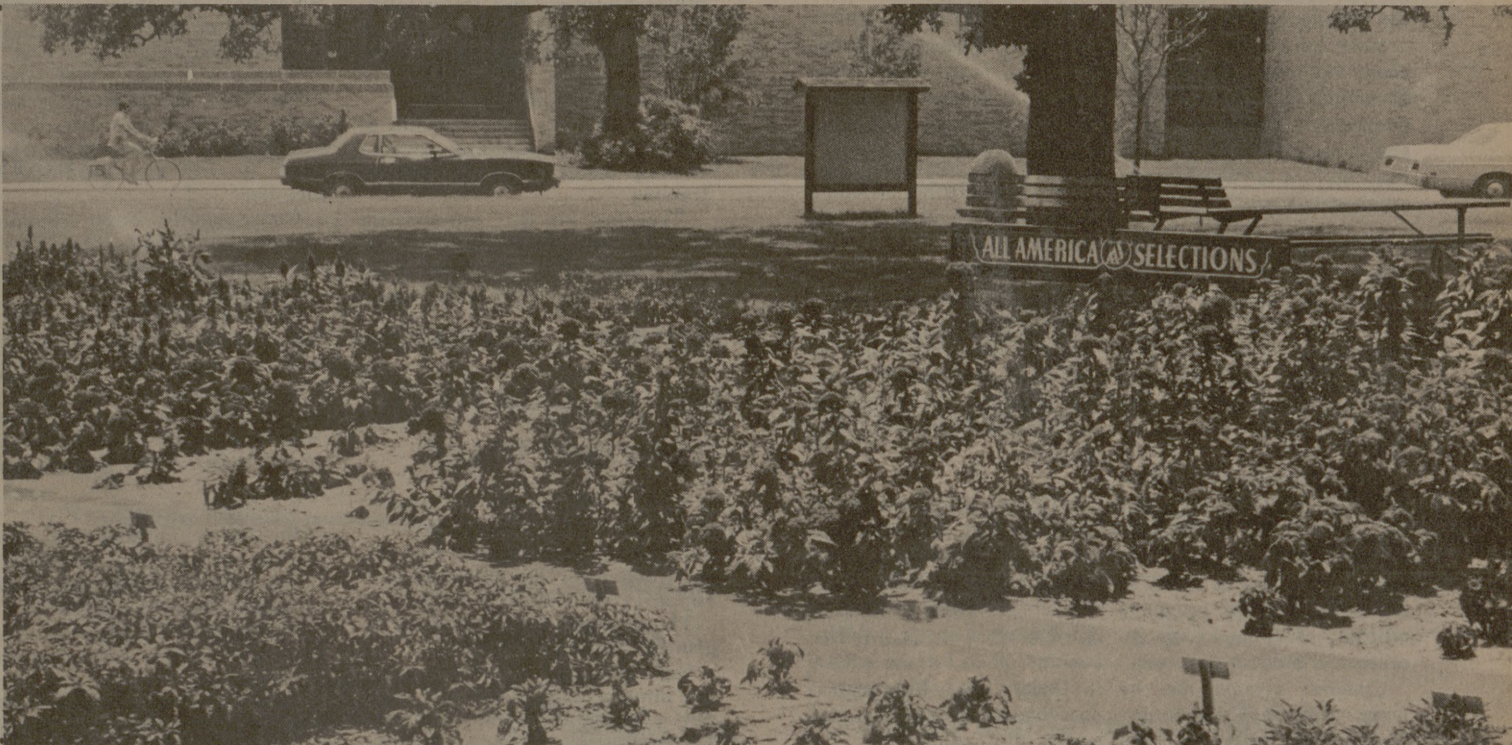
would still not have a working arrangement with Bryan when the contract expires."

Gary Halter, College Station councilman, who was not at the meeting and was unaware of any agreements reached at the meeting said, "I think the offer we made was more than fair. Their demands for an increase are vague and unsatisfactory, and I will vote against any increase other than what we have offered."

All America selections in full bloom

Flowers in the TAMU Floral Test Garden remain fresh even in July heat. The test garden is located on the southern edge of the campus near the Educational Television Building.

Photo by Tom Kayser



TAMU to train utility workers as U.S. accepts nuclear power

The United States is on the threshold of a nuclear power-production age. TAMU's Nuclear Science Center, with its research reactor, is expected to be a major facility for training people to work in the field.

Non-nuclear engineers from various Texas utilities already have received a firmer grasp of many fundamental principles following training on the research reactor.

The TAMU reactor can also simultaneously accommodate a large number of experiments. As a result, irradiation services are provided to other colleges and universities, hospitals and research centers, governmental agencies and commercial and private organizations.

"Since the reactor has been in operation, it has provided services to 24 university departments, 92 other colleges and universities, eight governmental agencies and 45 commercial organizations. Last year a total of 6,166 samples were irradiated for all users," said Dr. John Randall, director of the Nuclear Science Center.

"The reactor core, which isn't much bigger than a breadbox is suspended from a movable bridge in a water-filled, 150,000-gallon pool," Randall said. "The reactor can be moved next to a window in the large end of the pool to provide radiation to a large exposure room. The room can be used to irradiate large animals, a group of small animals or complete engineering systems to study the effect of mixed radiation on their performance."

Radiations provided by the reactor can be classified as fast neutrons,

thermal neutrons and gamma rays. Fast neutrons are produced directly by fission. After undergoing a number of collisions, the fission neutrons lose energy until they are

in thermal equilibrium with the pool water. These are called thermal neutrons. Gamma rays are produced directly by fission and by the radioactive decay of the fission products in the fuel elements.

"Isotopes produced at the center are used in many ways," Randall said. "Many of the isotopes are used in tracer experiments."

"A classic example of this is the irradiation of a piston ring," he said. "When this radioactive piston ring is placed in an operating engine, the radioactivity picked up in the oil can be used to determine the amount of wear on the ring with great accuracy."

"Another more recent application is putting radioactive tracers in oil-well piping to measure the corrosion rate of pipe that is imbedded as much as three miles below the earth's surface in an acidic environment of high temperature and pressure," Randall said.

"Neutron radiography is also done here at TAMU," he said. "It is very sensitive to the lighter elements like hydrogen. Neutron radiography is so sensitive that it can detect a tiny drop of water through several inches of lead."

"An example of an important use today is to insure that plastic items are properly located inside metal devices after manufacture," Randall said. "An example is the inspection of explosive bolts such as those used to close hatch covers on spacecraft to insure the plastic explosive is indeed in the device and in proper contact with the fuse."

"These examples show that the research reactor at TAMU has a wide variety of uses in research, development, and routine quality control and inspection," he said. "There are undoubtedly many other problems that could be solved by the nuclear facilities. It only requires that someone with an inquiring mind ask, 'Is it possible that nuclear technology could solve this problem?'"

Spectrometer may be used as cancer detector

The assault on cancer and heart attacks is being aided by a one-of-a-kind device at TAMU.

The world's largest Mass Spectrometer, called "Maggie" (Mass Analyzer of Gossamer Groups of Ionized Entities), may hold the secret to detecting many diseases even before symptoms appear to the victim.

"Maggie," according to head of the research group, Dr. R. D. MacFarlane, can take a blood sample and simultaneously analyze it for 1,000 different chemicals.

"Currently, we are studying various biological molecules that have potential use for cancer therapy," MacFarlane said. "We're analyzing samples of anti-tumor drugs from all over the world."

"As scientists develop and refine new drugs, they inject them into mice and look for anti-tumor activity," he said. "If it is spotted they ship the drug to us to analyze so they will know exactly what they've got."

"This research group is also studying a class of neuro-toxins found in a species of frogs in Central America that has medical applica-

tions," MacFarlane said. "This toxin will be used in the study of heart disease. With it at any time a researcher can stimulate a heart attack in an animal so the heart attack can be studied."

"This is the only spectroscope in the world that can study these compounds, so right now we have a unique capability," he said.

The 30-foot-long machine of aluminum and steel has been in operation about a year and a half. Monday the Energy Research and Development Administration notified TAMU that the project had been funded an additional \$38,000.

With "Maggie," a routine blood test can be turned into a complete analysis that can be compared with known disease patterns. Early identification of the chemicals associated with a disease, can lead to earlier treatment.

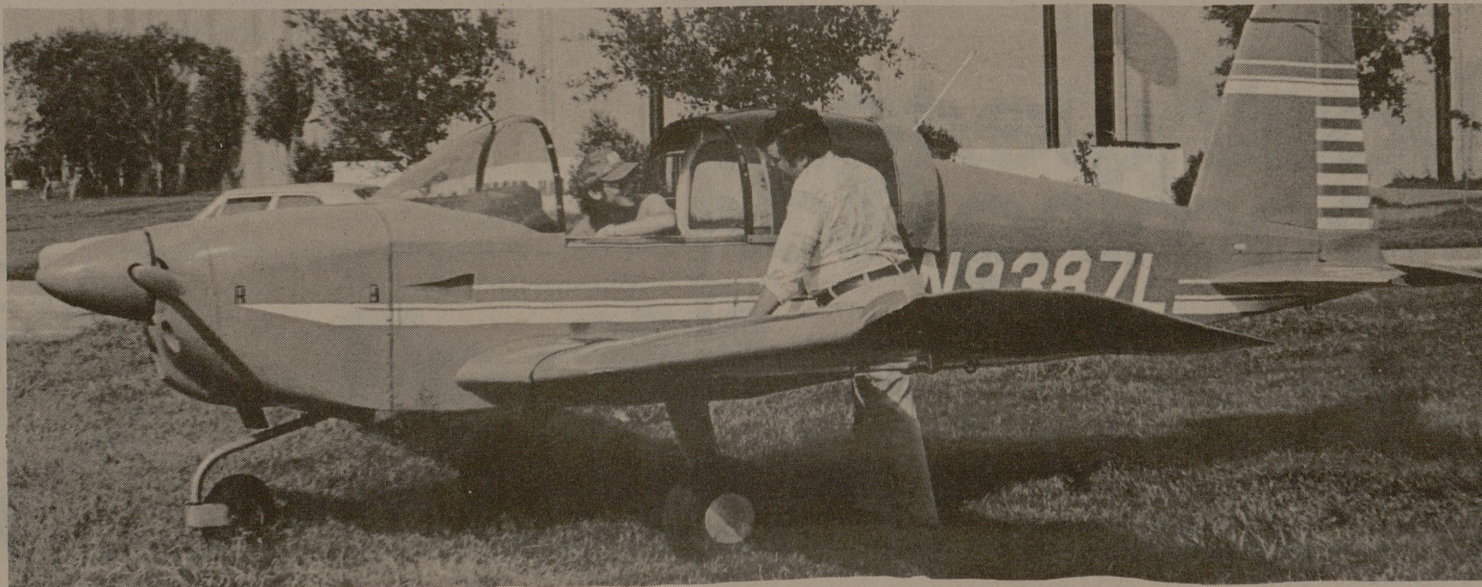
The device uses irradiation for identifying chemical molecules and biological compounds. The time of flight of the resulting ion down the 30-foot tube allows measurements as fine as one-tenth of one-billionth

of a second. This in turn, allows accurate identification of molecules.

The device is so sensitive that local radio station interference had to be shielded from the wiring on the instrument. The magnetic pull of the earth carried the ion completely out of the tube and necessitated the use of an anti-magnetic shield. Finally, an energized wire was run the length of "Maggie" to induce a spiral orbit of the ion around the wire to get it to the end of the tube.

"We have developed a new approach which solves the problems of isolation of individual molecules that are fragile and break easily when exposed to heat. We have obtained data on well-known molecules such as cholesterol, vitamins, and various amino acids to demonstrate that this technique is indeed one which can be used to obtain structure information on biologically important molecules," MacFarlane said.

Project members include MacFarlane, Dr. David Torgerson, Dr. Kunja Chung and Raymond Skoronski.



Plane lands on campus polo field

The TAMU Flying Club brought one of its planes to campus to advertise a membership drive. The plane was landed Monday on the Polo field and pushed in front of Krueger-Dunn Dormitory by club members.

Photo by Tom Kayser