

SPACEPORT

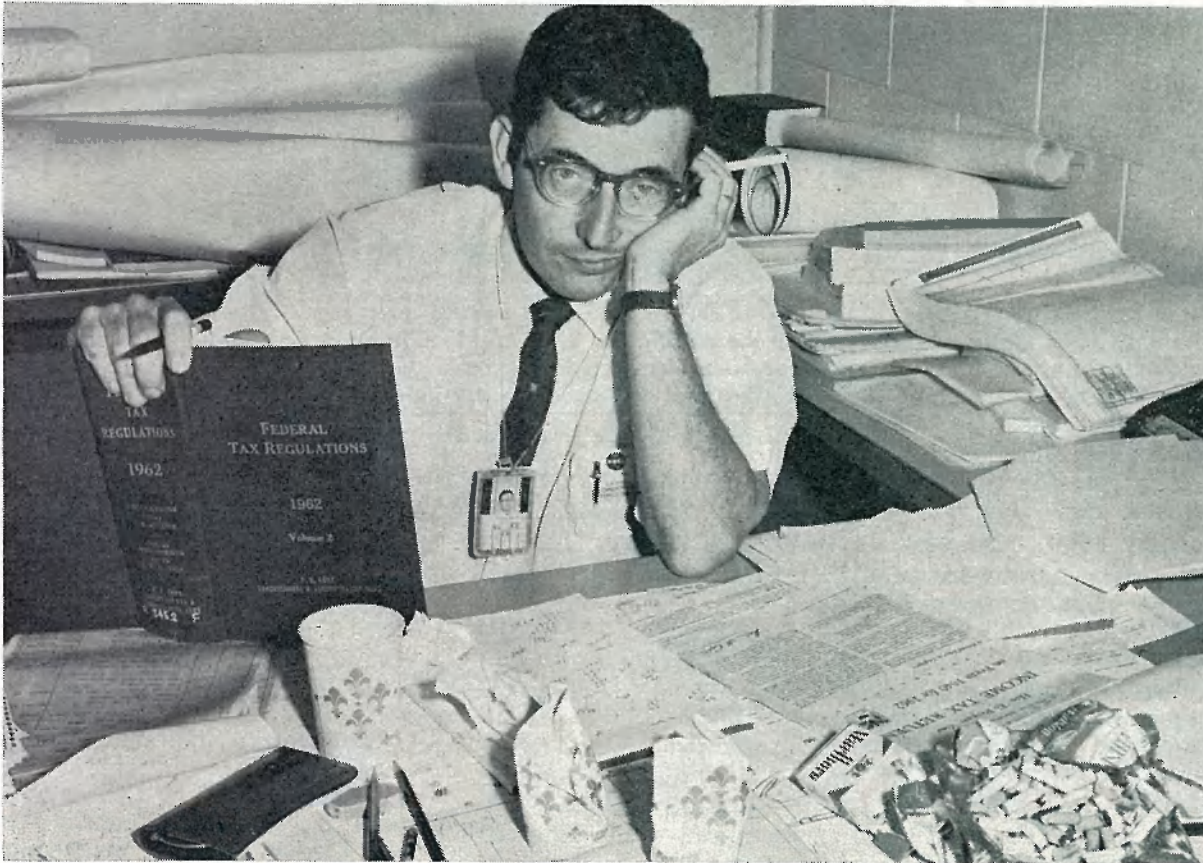


NEWS

Volume 2, Number 15

NASA Launch Operations Center, Cape Canaveral, Florida

April 11, 1963



NORMAN P. GERSTENZANG of LOC's Facilities Engineering Branch expresses a feeling familiar to us all. The income tax deadline is Monday.
News Photo by Anton Vestby

LOC's Barney To Get Year's Study At MIT

Walter F. Barney, Chief of LOC's Program Coordination and Management Office, has been awarded an Alfred P. Sloan Fellowship for a year's study at the Massachusetts Institute of Technology.

Barney is one of 45 recipients from this country and abroad. He'll begin his studies in management in June.

Sloan Fellowships for participation in the study program are considered among the highest honors which can come to young men during their business careers.

Barney, 37, is a native of Washington, D. C. He was graduated from Georgia Institute of Technology in 1948 with a bachelor's degree in Mechanical Engineering and in 1949 with a Master of Science in Industrial Engineering.

A Navy veteran of World War II, Barney entered Federal service in 1950 at the Anniston, Ala., Army Ordnance Depot. In 1956 he transferred to the Army Ballistic Missile Agency at Redstone Arsenal, Ala. He joined the National Aeronautics and Space Administration in 1960.



Walt Barney

First Tiros Meteorological Satellite Began Successful Watch Three Years Ago

TIROS, NASA's first meteorological satellite, was launched from Canaveral three years ago this month to begin an unbroken series of successes unmatched by any other U. S. spacecraft system.

The accomplishments of TIROS, six launches out of six, with the last two, TIROS V and VI, still in operation after more than nine and six months in orbit respectively, have earned America a firm place in scientific space and meteorological research and development.

Original life expectation of the TIROS spacecraft was for from three to four months. TIROS I lasted 78 days and transmitted almost 23,000

cloud cover photographs of which more than 19,000 were usable for weather analysis and forecasting around the world.

To date, all six spacecraft have sent back to earth more than 222,000 cloud cover pictures.

As the pioneer spacecraft in the meteorological satellite program, TIROS I opened a new era in weather observation by providing data cover-

ing vast areas of the earth's cloud cover which previously could not be observed for weather research and analysis purposes.

As a result of the early work with the first satellite and knowledge gained as a result of later launchings, procedures for interpreting, depicting, and disseminating weather information have been developed.

TIROS V has sent back more than 50,000 cloud cover pictures and observed all tropical storms — both hurricanes and typhoons — that occurred in the 1962 season. It gave first warning on half of the world's ten most serious storms last August.

THE INSIDE STORY

Prehistoric BonesPage 4
Operation: RatsPage 6
Easter BunnyPage 8



CO-EXISTENCE IN SPACE

The U.S.-Russian agreement made in Rome for a joint weather satellite program could have far reaching implications — in the right direction.

The two nations also agreed to launch NASA's Echo II satellite in joint communications tests, and called for broader American-Russian cooperation to include probes to other planets.

Dr. Hugh L. Dryden, Deputy Director of NASA, and Anatoly A. Blagonravov of the Soviet Academy of Sciences represented their respective countries.

Under the weather satellite program, each country will launch a satellite on a different orbit to take cloud and other weather pictures and collect meteorological data. Each country will launch as many satellites as necessary to keep the program going on a more or less permanent basis.

A 24-hour cable and radio communications network will be established between the two countries for the exchange of weather information and pictures.

The first launchings will probably begin next year.

Echo II will be used in a separate program for experiments that might eventually lead to a global communications network, including the exchange of radio and television programs.

Dryden and Blagonravov expressed hope the accords will open the way for broader agreements. The Russian said exact data on space conditions must be collected to assure that man reaches other planets safely.

"If we collaborate in the future we will reach the goal more quickly," he added.

This certainly seems a sure and solid step toward peaceful co-existence in space.

FLARE FOR THE FOURTH

If two electronic engineers have their way, America's astronauts will signal their arrival on the moon by firing an oversized flare.

The engineers, William T. Powers and Richard S. Aikens of Northwestern University, have discovered a way to boost the power of a telescope 100 times — by attaching a tv-camera tube to it.

The tube — an image orthicon — could track astronauts all the way to the moon and even pick up a strong flare on the lunar surface.

Such a sight would be invisible to the naked eye and even to most powerful telescopes, but it could be seen through a tv scope.

Now, if the spaceman could just time their flare arrival announcement for the Fourth of July.

ARE YOU A LUCKY PEOPLE?

If you're one of those lucky people expecting an income tax refund this year, here's something you should know about. You can take your refund in United States Savings Bonds. The new tax forms provide a space for you to indicate your preference. With Savings Bonds your refund will be safe — even from you — and will earn a good return at a guaranteed rate. Take your tax refund in safe, sure U. S. Savings Bonds.



LATTICE-WORK of steel beams changes daily as construction work on the addition to the E and L building nears completion. Scheduled for occupancy early next month, the new wing will provide 13,760 square feet of space for engineering offices.

SPACE ALMANAC

A CHRONOLOGY OF
EVENTS IN SPACE
EXPLORATION AND
RESEARCH.

Five Years Ago

April 13, 1958 — Sputnik 2 reentered after 162 days in earth orbit.

April 14, 1958 — Bureau of the Budget's proposal for a National Aeronautics and Space Administration was submitted to Congress by the President.

Three Years Ago

April 12, 1960 — The first production model of the Mercury spacecraft was delivered to NASA.

April 13, 1960 — Transit I-B was launched from Cape Canaveral. The flight demonstrated the first engine restart in space and the feasibility of using satellites as navigational aides.

April 15 — Discoverer 11 was launched from Vandenberg AFB.

April 17 — Pioneer 5 transmitted telemetry data a dis-

Sites Still Studied For Boston Center

NASA is considering alternatives for facilities for the proposed Electronics Research Center in the greater Boston area.

In January, NASA requested that Congress authorize the Center and estimated that some 1,000 acres of land would be needed for the Center and its research equipment.

The Agency is considering the possibility of building one or more larger, multi-story structures on a smaller area if a feasible site could be found in close proximity to the Boston education and electronics industry complex.

NASA originally proposed the Center be located in the greater Boston area to be as near as possible to Harvard University, MIT and close to New England's vast research-orientated electronics industrial complex.

tance of 5 million miles from the earth.

One Year Ago

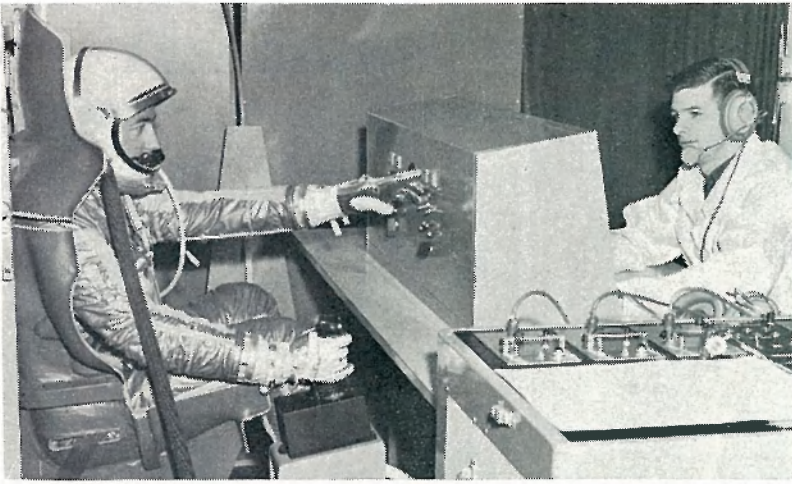
April 15 — The U. S. Weather Bureau began worldwide transmission of cloud maps based on photographs taken by Tiros IV.

SPACEPORT



NEWS

Published every Thursday by the National Aeronautics and Space Administration's Launch Operations Center, Cape Canaveral, Florida.



SPACE-SUITED Joseph Kosmo of the Manned Spacecraft Center's Crew Systems Division at Houston responds to "cockpit inputs" from Richard Sandridge in one of a series of tests to help evaluate the suit for mobility under operating conditions. The specially-built testing and evaluating device consists of an operator's console, a physiograph and a molded couch facing a subject's testing board. It will be used to set standards for MSC space suits.



NEW DEVICE EVALUATES SPACE SUIT DESIGNS

A new space suit performance device, built and designed under contract to the Manned Spacecraft Center, will be used to help evaluate space suit and spacecraft cockpit design.

A test operator's console, a physiograph and a molded couch assembly facing a subject's testing board, comprise the equipment built by the Applied Psychological Services of Wayne, Pennsylvania, under a NASA contract.

The testing equipment will also be used by crew performance engineers for evaluating and setting standards on manually operated spacecraft cockpit equipment, design of actuating switches, knobs and dials, lay-out of instruments and equipment display, and other aspects of the spacecraft interior.

The Crew Systems Division of MSC intends to perform a battery of tests to establish a set of normative standards to aid in the development of space suits.

Bent Joints

A device called a flexometer will measure the extent an astronaut can bend his wrists, elbows, knees and other joints while wearing a space suit.

Steel arcs over the subject's chair will measure the suit-clad astronaut's reach within his immediate area. Cards, mounted on the arcs, will reveal how far he can turn his head to read an instrument placard. A form board with

forms and sockets will measure his finger dexterity, palm movement and wrist action in a glove-encased hand, and will also measure "success" of a particular shape design of the "form".

The astronaut's freedom of movement in a space suit will be recorded through reaction time to operate typical controls. Along a display of rotary switches, toggle switches, and push-button switches, lights will stimulate a response and will remain lighted until the proper action is activated.

A control stick, adapted from a helicopter control design, will be used to measure the subject's coordination. He will be required to center cross-hairs and to head the aligned position as long as he can.

NASA Wives Meet

The NASA Wives Club met last Wednesday at the Patrick Officer's Club.

Hostesses were Mrs. J. O. Schmyser and Mrs. A. H. Knothe.

Bridge winners: Mrs. R. F. Heiser and Mrs. R. C. Hock.

Door prizes were won by Mrs. J. S. Loy, Mrs. W. R. Quinn and Mrs. J. M. Bobik.

SLOW SCAN CAMERA MAY TRANSMIT MA-9 TELEVISION PHOTOS

Delivery of a slow scan TV camera system and receiving equipment, intended for use during the May flight of Astronaut Gordon Cooper, has been made to NASA.

The system may be used to transmit the first TV photos of an American space flight.

A rugged eight-pound camera, similar to the one that transmitted the spectacular photos of the Echo balloon last year, may be installed in the MA-9 spacecraft.

The camera would normally be focused on the astronaut, but could be hand held and focused on other objects, or to pick up the view outside the spacecraft.

The ground support equipment, which will be installed here at the Cape and at two other locations, will receive the slow scan TV pictures. It will operate one picture every two seconds which will be transmitted to the ground station on an RF communications link.

The camera and ground support equipment were produced by NASA under contracts awarded to Lear Siegler, Inc., of Anaheim, Calif.

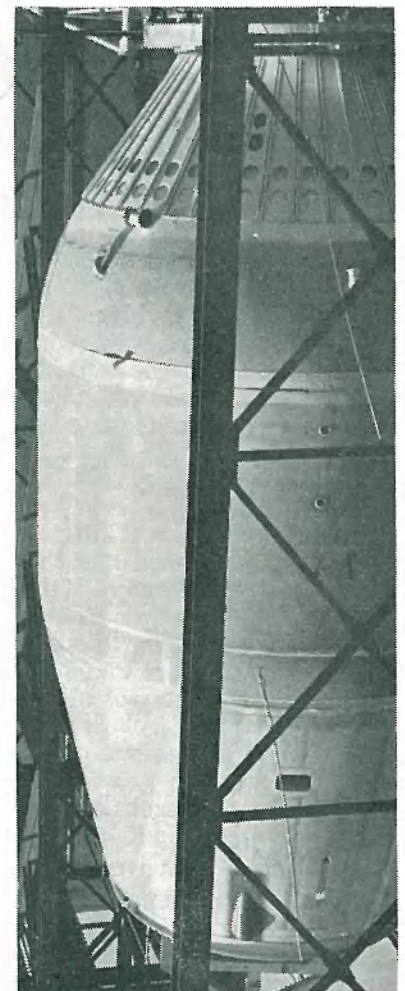
Tking You Can Spll? Trie These For Sise

With school children throughout the county boning up for annual spelling bees, tricky words are being tested in many NASA households these days.

Here's a list of 10 often-misspelled words. If you get seven right, you'd pass the first couple rounds in an average bee. Answers on page 6.

A dash may mean that no letters are required, that one letter is needed, or that more than one letter is required:

1.benefit — ed
2.as — as — inated
3.Chang — able
4.guer — i — la
5.mischie — ous
6.Phar — h
7.Premier K — — v
8.question — aire
9.str — t — laced
10.veng — ce



PLUMP, PEAR - SHAPED S-IV stage, the first large space vehicle to be assembled in a vertical position, emerges from 71-foot-high tower at Douglas Missile and Space Division, Santa Monica, Calif. A cluster of six liquid hydrogen-liquid oxygen engines will propel the S-IV on its maiden flight later this year.

Saturn V To Travel Heavy Duty Roads

Ashburn & Gray, Inc., of Huntsville, has received a \$267,730 contract for the construction of a heavy duty road and two short vehicular roads at the NASA-Marshall Space Flight Center.

The firm will construct a two-mile transporter road especially designed to accommodate the large size and weight of the Saturn V booster.

The road will be used for transporting the Saturn V booster and components from the manufacturing and assembly area to the static test area. Later, the road will be extended to the loading dock on the Tennessee River, a distance of about four miles.

A portion of the road extending from the Saturn assembly area to the test support shop will be 60 feet wide and the remaining section will be 46 feet.

Prehistoric Graveyard On Merritt Island . . .

SABER-TOOTHED TIGERS, POLAR BEARS ONCE ROAMED FLORIDA, SAYS EXPERT

Dredges, their pipes spewing marle and sand for NASA's new launch area on Merritt Island, recently exposed some of Mother Nature's well-hidden history when fossilized bones of great prehistoric animals that roamed the Cape area were sucked up from the Banana Creek.

Modern man, working in Florida's sunshine, finds that he is a "Johnny Come Lately" and that the area was used as an "Ice-Age Winter Resort" by his predecessors 20,000 to 50,000 years ago to escape from the deadly cold of the mid and upper regions of the continent caused by the one-mile-thick "Wisconsin Ice Cap".

Swampy Graveyards

Here on the peninsula, the last warm region of escape for these prehistoric nightmares, Mother Nature created and carved out huge bogs, and swamps that were to become graveyards, not to be touched or unearthed until thousands of years later.

Recently, two huge fossilized bones, one 27 and the other 34 inches in circumference, were sucked up by the dredge "Overland" of the Gahagan Dredging Company, working in the new Merritt Island Launch Area.

Workmen had been dredging up ancient artifacts since early December. Unfortunately, some were covered again but a few of the more obvious fossils, such as teeth, ended up in private collections.

It wasn't until the two fossilized bones clogged up the dredge pumps in a four hour shut down that the workmen decided that they had come upon something unusual. Edward R. Bramlitt, Assistant Area Engineer, and Andrew H. Branch, Chief of Construction of the Corps of Engineers at PAFB, were notified.

Realized Importance

Both men were quick to realize the importance of the objects and called on local experts, Cliffort Mattox, past president of the Florida Anthropological Society, and Dr. Elan Y. Gurnsey, former Curator of the Los Angeles Museum.

They tentatively identified the bones as those of a mammoth or a mastodon. However, positive identification could not be made without additional fossils such as teeth, which are used primarily to identify prehistoric elephants.

The experts, noting the excellent state of bone preservation, theorized the animal fell into an area where the water was fresh and had little movement.

The dredge since has moved 300 yards further out in the Banana Creek and apparently has now passed the graveyard.

During the investigation one of the workers at the dredge produced a fossil that looked like a tooth but later was identified as the ear bone of a grouper, a type of fish.

Mattox says the area is rich in the antiquities of man and the evolution of life. "In Europe there are about five people for each square mile of land, but here in Florida there are thousands of miles



CLIFF MATTOX, Past President of the Florida Anthropological Society, explains to 7-year-old Jackie Hanks how fossilized bones are made by Mother Nature. Mattox believes saber tooth tigers, rhinoceros, camels, three-toed horses, tapirs and even polar bears once roamed Florida.

of land remaining untouched.

"It is only now that man is beginning to tear away the first layers of soil to expose fossilized remains of prehistoric animals, who bathed in the Florida Sunshine."

Mattox says Florida once was the playground of the saber tooth tiger, rhinos, camels, three-toed horses, tapirs, and even a species of polar bear. The big question facing geologists and archeologists is



AFTER BONES were found from a now extinct species of elephant, the U. S. Corps of Engineers requested the Gahagan Dredging Company to post a workman at the end of the pipe from the dredge Overland — to spot any additional fossils that might be pumped out.

... Yields Treasure Trove Of Fossilized Bones



DID MAN, THE HUNTER, cause the extinction of Florida's Ice Age winter residents — as depicted above by Graphics' Artist Fred Bauer? Some scientists blame man; others blame over-crowding, the "Wisconsin Ice Cap," and other reasons.

what caused the huge beasts to vanish.

At one time scientists were inclined to credit the "Wisconsin Ice Cap" for the destruction of the animals. They argued that the frigid cold drove the beasts into this area where they suffered from over crowding, and from diseases.

But other scientists put the finger on man as the prime cause of extinction. Earliest man is believed to have arrived in Florida at least 20,000 years ago. Graves have been uncovered along with such artifacts as spearheads imbedded in mammoth bones. A now extinct species of bear and a completely fossilized man were found near Vero Beach.

The 10,000 to 20,000-year-old bones of a young girl were discovered near Melbourne a few years ago and were donated to a college for study.

But Mattox believes as do many other scientists, that the ice cap has been the primary cause of the animals' extinction.



MRS. K. L. McLAREN, left, and Mrs. Robert V. Dillard compare a femur and a tooth — fossilized bones from a prehistoric elephant found near MILA. Both are members of the Florida Anthropological Society, and recently exhibited displays of fossils and artifacts at the Cocoa Beach Library.

NASA NEWCOMERS

Seventeen new employees have joined the local NASA team during the past week. They are:

Virginia Coutinho, Howard Waag, Marion Barnes, William Knerr, George McGuire, Israel Waxman, Robert Creed, William Schell and Robert Haber, all of LOC's Facilities Office.

Wade S. Stevens and Irwin Swichkow, Management Analysis Office; James S. Moore and Fleming Law, MSC-AMR Operations.

James Sexton, Financial Management Office; Linda Lyle, Procurement and Contracts Office; Sarah Faucette, Support Services Office; and Arthur Gerstenfeld, Heavy Space Vehicles Systems Office.

FIRST ROCKET

Robert H. Goddard, American rocket pioneer, launched the first liquid fuel rocket at Auburn, Mass., March 16, 1926.

STUDY SEEKS ANSWERS ABOUT KIDNEYS

Employee's Daughter Operates On Wild Rats To Complete Project For Local Science Fair

Ever wonder about rats' kidneys? Subject sound appalling? Not so to petite Catherine Stone, who, through the searching, 17-year-old mind of an aspiring research biologist, found the subject fascinating and fruitful. Cathy, daughter of LOC Technical Writer Courtney Stone, recently completed a project titled "A Study of Kidney Increase," for the Melbourne High School Science Fair.

She won unanimous respect from Fair observers and the awe of fellow classmates.

She became interested in the subject several months ago when biology teacher Oscar Hollister said he would give an "A" to anyone who could determine if one kidney increased in size or number of its nephrons (working units), after the other kidney had been removed.

Cathy accepted the challenge and raised seven wild rats as subjects for the experiment. She then operated, under hospital conditions, on the anesthetized rodents, removed one kidney, sewed them up and revived them.



Catherine Stone

Examined Growth

After periods up to 88 days, she removed each rat's remaining kidney to examine any growth or change.

Her findings? She has conclusively proven the nephrons in the second kidney increase in number but not size.

Why did she select rats for such a study? "They are very hardy and a good size to operate on," she says calmly.

She became so attached to one rat, "Fiat," she saved him at a pet — even though he now has only one kidney and a long scar.

Her mother says Cathy has always been interested in animals. "She used to bring home hamsters, rabbits and once even took care of an alligator," Mrs. Stone recalls.

"But this last project, well, she really had me going. She was raising the rats in a shoe box and one day they got loose and ran all over the house. I was scared to death."

Each time Cathy operated on the rodents, boys in the class would stop work to observe — at a safe distance — and other students would crowd around laboratory windows.

"Oh, they won't hurt you,"

Cathy assured the skeptical onlookers. "Fiat does nibble at my fingers now and then, but he's just hungry."

She hopes to gain a doctorate in biological research, and, as might be guessed, study animal behavior.

What good could come of her kidney experiment?

"We now know," she replies enthusiastically, "that if the number of nephrons increase, there must be embryonic tissue. And, someday perhaps, under man-made conditions, we might be able to transplant kidneys the same as they do now with eyes."

A more immediate result of her work was an "A" in Biology.

Cloudy Exhibit

John C. Ault, son of John W. Ault, Chief of Facilities' Mechanical Engineering Unit, won third place recently in the Edgewater (Merritt Island) Junior High School Science Fair.

His exhibit, A Diffusion Cloud Chamber, contained a subcool vapor to ionize air droplets and trace the path atomic particles take.



IN THE MANNER of TV's Ben Casey, 17-year-old Catherine Stone operates on a wild rat to remove its kidney. She picked rodents for her experiment because "they're a good size to work with."

Siebeneichen, Kerns To Address Jaycees

Paul Siebeneichen and Wright Kerns of LOC's Community Development Office will give a double-barrelled presentation to the Eau Gallie Junior Chamber of Commerce tonight on NASA's past, present and future in Brevard.

Kerns, who has extensive experience in industrial development, will explain to the Jaycees how Brevard areas can help bring new space-related business into the county.

Slides will supplement briefings by Siebeneichen and Kerns on the background of NASA's space programs, the use of lands on the Cape and new Merritt Island area, and the layout and physical aspects of launch complex 39.

They will also outline, statistically, the space impact on the county and give projected figures on the future Brevard population, working force and capital investment.



Dear Sir:

"I would like to visit Cape Canaveral. Could you please send me a passport?"

Victor A.
St. Petersburg, Fla.

Spelling Bee Answers

(from page 3)

1.benefited
2.assassinated
3.changeable
4.guerrilla
5.mischievous
6.Pharaoh
7.Khrushchev
8.questionnaire
9.strait laced
10.vengeance

NEW ENGLAND FIRM MILA LOW BIDDER FOR TEST BUILDINGS

Franchi Construction Co. Inc., Newton, Mass., has submitted an apparent low bid of \$2,736,328 to build several test buildings in NASA's Merritt Island Launch Area.

The Franchi bid was the lowest of six submitted to the Corps of Engineers which will administer the construction contract for NASA.

The test buildings will be used in both the Gemini and Apollo spacecraft programs. To be constructed are a two-story environmental control building where spacecraft will be checked out before being put into orbit; a two-story hypergolic (fueling) test building; a one-story cryogenic (low temperature research) test building; and a one-story administrative support building.

The cryogenic test building will contain a single 40 by 40 foot-square test chamber, a monorail hoist and all utilities. The hypergolic test building will contain two 40 by 40 foot-square test chambers. The environmental control systems building will contain two test cells, each 60 feet high.

Blast walls of 18-inch reinforced concrete between the spacecraft test chambers and control panels are included in the specifications for the hypergolic test building to protect personnel from explosion hazards.

All the structures will be built in a remote section of the Merritt Island Launch Area.

The successful bidder will be required to complete the construction of the buildings by March 1, 1964.

Delegate Selected

Ann Lavender, daughter of Al Lavender of LOC's Technical Information Office, has been selected the American Legion Post 81 Auxiliary delegate to Girl's State, June 21-28 at Florida State University in Tallahassee.

A junior at Melbourne High School, she is a member of the honor society, the student council, assistant editor of the annual and vice president of the Tri-Hi-Y Club.



Orton Duggan, Jr.



Barbara Greiner



Anton Lohner

Capeside Inquirer

Opinions Differ On Two-lane Bridges; Proposals Offered To Speed Traffic

A few weeks ago SPACEPORT NEWS asked employees how they thought the two-lane bridges on the 520 Causeway would effect the traffic flow when four-laning was completed.

The majority felt conditions would improve, but the bridges might prove a problem.

With the system in effect, the Inquiring Photographer asked another group of employees what they now thought about the traffic situation.

Anton Lohner, Audio-Visual: "It has affected the situation tremendously. Now you can speed across the causeway at 50 or 60 mph, and then

wait 20 minutes to get through Merritt Island."

Barbara Greiner, McDonnell: "Due to the slow progress made in getting off the Cape, and the two main bridges remaining two lanes, there has been only a slight change in the time saved traveling to and from work."

Orton Duggan, Jr., MSC: "Traffic has been running a lot faster and smoother since the traffic control has been established. If the slower moving vehicles would bear to the right, progress would be even greater, thus eliminating lane-switching."

Al Norman, JPL: If they would replace the policemen with efficient traffic control-

lers, eliminate the three-lane system at 520-A1A, and replace the two-lane bridges with ferry boats, then we might have decent traffic conditions."

Mary Thornton, Facilities: "Barring an accident on the causeway, the traffic situation has been greatly improved. The heavy traffic "stop and go" conditions have almost been eliminated."

Robert Kremer, McDonnell: "I find that in the morning, the traffic moves freely, but becomes congested at the Cape where the two-lanes become a single lane. In the afternoon, the traffic becomes hopelessly congested by the Indian River Bridge."



Al Norman



Mary Thornton



Robert Kremer

CONTRACTS AWARDED FOR NASA-APOLLO FUEL COMPONENTS

Two companies, one in Midwest and the other on the West Coast, have been selected to build fuel propellant components for NASA's Apollo spacecraft. Amount of the contract is being negotiated.

General Motors Corporation's Allison Division, Indianapolis, Ind., was named to build the service module's fuel and oxidizer tanks.

Airite Products, Inc., Los Angeles, a division of the Electrada Corp., will build the tanks to contain helium needed to pressurize the fuel and oxidizer tanks.

The two companies will do the work for North American Aviation's Space and Information Systems Division, principal contractor on the Apollo spacecraft for NASA's Manned Spacecraft Center.

The Apollo service module engine will provide thrust for mid-course correction enroute to the moon and during lunar rendezvous.

With the addition of the latest firms, major contracts totaling more than \$150 million have been awarded 20 companies in 12 states by North American Aviation's Space Division.

NASA, AEC Will Use Miniaturized Forms

NASA and the Atomic Energy Commission have taken steps to improve the availability and usability of scientific and technical report information generated by programs in the two agencies.

They have agreed to a standard reduction ratio and size for microcopy of miniaturized forms of the reports.

This pioneering agreement between two of the largest governmental producers of scientific text in microcopy form will allow users of the information to view and reproduce AEC and NASA material with the same equipment.

Use of the microcopy with reading and reproducing equipment makes information available in the shortest possible time, eliminating delays inherent in the process of obtaining reproduction from original documents at some remote location.



PUCKERING UP to smooch the Easter Bunny is cute, two-year-old Pamela, daughter of Steve Pantano (Audio-Visual). Sunday will be a big day for the little tykes.

"Anti-Social" Researcher Still Isolated

Remember Whilden Breen?

He's the research assistant sealed in a 12-foot-square chamber at the University of Maryland to test his reaction to prolonged isolation in a controlled environment. He's now in his fifth month of confinement. In fact, observers say he's thriving on his durance.

The experiment is to help NASA learn how to plan future space flights for prolonged periods of time. The results could be of vital importance to astronauts of the future.

Breen has not had even the slightest glimpse of the outside world or any other human being since November 17.

His bride of 11 months has talked to him only three or four times since the experiment began. Research psychologists don't want him to be disturbed.

A NASA spokesman said Breen appears willing to keep living in isolation for several more months. "He's one of the most highly motivated persons I've ever heard of," the official said.

Reliability Analysis Scheduled For Saturn

LOC's Reliability Office has announced that NASA has signed a contract with the Arinc Research Corp., of Washington, D.C., to perform a reliability analysis of the Saturn SA-5 vehicle.

Arinc has previously performed similar analyses for NASA on the SA-2 and SA-3 flight vehicles at MSFC and LOC.

The contract includes reliability assessment of the SA-5

first stage booster at MSFC and the corresponding second stage at the Douglas Aircraft Company, Sacramento, California, the S-IV contractor.

Arinc will also perform reliability analysis of the pre-launch test and checkout activities at LOC.

A. P. Dinsmore, Arinc Reliability Engineer, will arrive at the Cape next week to review local operations of both Douglas and LOC/LVOD.

Non-Flying Saturn Stage Enroute Here

A Saturn booster which will be used to check out NASA's Launch Complex 37 is enroute to Cape Canaveral today, on an 11-day journey by barge from North Alabama.

The booster — designated SA-5D — is being shipped to Canaveral from the Marshall Space Flight Center at Huntsville, where it has undergone dynamic tests. The booster is aboard the barge Promise.

Actual rocket propellants—RP-1, liquid oxygen and liquid hydrogen—will be used in a check of propellant loading equipment on Launch Complex 37.

Simulated manual and remote loading methods will be checked first. Then, NASA personnel will push a button and stand by to watch the entire loading sequence being performed automatically.

The dynamic test booster will be erected on Pad B of Launch Complex 37 as soon as it arrives at Canaveral about April 16. Initial tests are expected to begin April 22.

A Saturn second stage, shipped to Canaveral from California several weeks ago, also will be used in the "wet tests."

Neither of the stages will be flown.

Personnel Conducting Recruiting Drive

The Personnel Office of the Launch Operations Center is conducting an extensive college recruiting program in an effort to attract 1963 engineering and science graduates to the NASA elements at Cape Canaveral.

Colleges recently visited by Sid Harbin are Louisiana State University, Louisiana Polytechnic Institute, Tulane, Auburn, University of Mississippi and Georgia Tech.

B. W. Hursey and Harry W. Smith recently visited the Bethune-Cookman College in Daytona Beach. The Edward Waters College at Jacksonville and Florida A & M at Tallahassee are on schedule for a visit later this month.