

Space News Roundup

Vol. 24 No. 4

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National Aeronautics and Space Administration

News Briefs

Grumman signs MOU

The Grumman Corp. will develop a materials processing in space research program under terms of a Memorandum of Understanding signed with NASA recently. Grumman will pursue a process known as directional solidification, in an effort to produce semiconductor materials such as gallium arsenide and to produce various metals and alloys. The process is applicable to the production of semiconductor crystals and magnets for electrical motors. Directional solidification uses precisely controlled temperatures to melt and then solidify a material. During the process, the material's crystalline structure or molecular arrangement is realigned such that most if not all imperfections in the compound are removed. One implication of the technology is that high quality semiconductor crystals would yield a greater quantity and quality of microchips, leading to higher speed electronic devices that consume less power. Further discussions between NASA and Grumman should lead to an agreement later this year on specific Shuttle flights for the processing experiments.

Intelsat launch set

An Atlas Centaur is scheduled to launch the eighth in a series of ten Intelsat V-type international telecommunications satellites from Cape Canaveral Air Force Station no earlier than March 7. The Atlas Centaur, AC-63, is the second of the new stretched versions of the launch vehicle, able to lift 350 to 500 pounds more than the previous design. The Intelsat to be launched, designated VA-F10, is similar to the V series, but incorporates changes which will boost its capacity by 25 percent, from 12,000 to 15,000 simultaneous telephone calls, plus two television broadcasts. The satellite will be located at geosynchronous orbit over the Atlantic Ocean. It is owned and operated by the 108 member nation International Telecommunications Satellite Organization.

10,690 teachers apply

Some 10,690 teachers have applied for a flight on the Space Shuttle — 413 from the state of Texas — NASA and the council of Chief State School Officers announced last week. The application period for NASA's Teacher in Space Project closed Feb. 1. The Council is in charge of the application and screening process. The greatest number of applicants generally came from the most populous states: California led with 926, New York had 707 applicants, Ohio had 616, Pennsylvania had 573, and Illinois sent in 519 applications. By May 1, 118 nominees will be selected, all of whom will attend a workshop in Washington, D.C. in June. Ten semifinalists will be named in June, and NASA hopes to fly the finalist late this year.

About submissions ...

Civil Service and contractor employees interested in advertising in the Roundup Swap Shop are reminded that submissions must be placed on a JSC Form 1452, available from the Forms Office, Distribution Operations. The one group excepted from this rule is NASA retirees, who may submit the ads as always, preferably on an 8 1/2 x 11 sheet of paper. For all other advertisers, a Form 1452 is necessary, and can be obtained through normal requisition procedures. The cooperation of our advertisers in following these guidelines is greatly appreciated.



Astronaut candidates Lacey Veatch (top) and John Casper practice underwater rescues as part of their scuba training in the Weightless Environment Training Facility recently. The training is a precursor to more advanced exercises with spacesuits. (Photo by Otis Imboden)

Two DoD flight crews announced

NASA last week named two flight crews for upcoming Department of Defense Space Shuttle missions, including the first flight from the Vandenberg Air Force Base launch facility next year.

Veteran Space Shuttle Commander Robert L. Crippen, will head the crew for the first Vandenberg mission, STS 62-A. The launch is scheduled for no earlier than Jan. 29, 1986.

Other crew members named include Pilot Guy S. Gardner and Mission Specialists Dale A. Gardner, Jerry L. Ross and R. Michael Mullane.

Crippen will be making his fifth Shuttle flight, the fourth as commander. He flew with Astronaut John Young on the maiden flight of the Orbiter *Columbia* in April 1981, and was commander on STS-7, 41-C and 41-G. Dale Gardner will be making his third trip into space, having previously served as a mission specialist on STS-8 and 51-A. Mullane flew previously as a mission specialist on STS 41-D. Guy Gardner and Ross will be making their first trips into space.

Also announced was the crew for Mission 51-J, a Department of Defense dedicated mission scheduled for launch from the Kennedy Space Center in September 1985. Karol J. Bobko, who flies this month as Commander of STS 51-E, will return as commander for 51-J.

Other crew members include Pilot Ronald J. Grabe, and Mission Specialists David C. Hilmers and Robert L. Stewart. It will be Bobko's third Shuttle mission. He was pilot on STS-6. Stewart flew as a mission specialist on STS 41-B and was the second person to fly the Manned Maneuvering Unit on that flight. Grabe and Hilmers will be making their first space flights.

Lunar Science Conference set for March 11-16

An evening program on future planetary exploration will be among three special sessions highlighting the 16th Lunar and Planetary Science Conference to be held March 11-16.

Speakers at the special evening session will outline the planned exploration programs of the United States and the Soviet Union, and will also discuss some of the major trends in space science and the possible role of the Space Station in planetary exploration. Two other highlights of the conference will be the Florensky Memorial Symposium on the study of Venus and a session called the Shergotty Consortium, devoted to a discussion of shergottite meteorites.

All three special sessions will be held Monday, March 11 at the Gilruth Recreation Center. The Florensky Memorial Symposium will begin at 8 a.m. in Room 104. The Shergotty Consortium will meet at 1:30 p.m. in the Gilruth Gym and the evening session on future planetary program will begin at 8 p.m. in Room 104. Daytime sessions, on topics ranging from the study of meteorites to the evolution of the Solar System, will take place each day beginning at 8:30 a.m. Speakers at the Monday evening

program will include Dr. Geoffrey Briggs, Director of the Solar System Exploration Division, NASA Headquarters, who will discuss NASA's planetary program; Dr. V.L. Barsukov of the Vernadsky Institute of Geochemical and Analytical Chemistry, USSR Academy of Sciences, who will discuss the Soviet planetary program; Dr. Eugene Levey, Chairman of the Planetary Sciences Department, University of Arizona, who will discuss major directions in space science; and Dr. Ronald Greeley, a planetary scientist from Arizona State University, who will discuss the possibilities for a planetary simulation laboratory aboard a space station.

Reports at the Florensky Memorial Symposium will include some of the latest results from the Soviet probes of Venus, geology of the northern latitudes of Venus as revealed by the Venera 15 and 16 spacecraft, recent high resolution images of the surface of Venus from the Arecibo Observatory and an update on results from the U.S. Pioneer Venus probe. The symposium will also include a panel discussion on the characteristics and evolution of Venus.

The Shergotty Consortium will focus on a subject which has

been debated intensely within the planetary science community since the 1970s. The properties of shergottite meteorites, a class of four extraterrestrial igneous rocks named after a meteorite which was found at Shergotty, India in 1865, suggest to many scientists the serious possibility of having come from the surface of Mars. Other scientists doubt that contention, and many agree that the debate will be over only when robots or manned missions return samples from Mars in the future. Some of the latest findings on shergottites will be given in 15 presentations during the special symposium.

Another offering during the conference will be the opportunity for a limited number of planetary scientists to view lunar samples. Typically, scientists will perform research on slices or sections of lunar samples without ever having an opportunity to see the actual "mother rock" from which the samples came, said Dr. Douglas P. Blanchard, the JSC Lunar Sample Curator and Chief of the Planetary Materials Branch. Blanchard and his staff will offer field trips to the Lunar Sample Processing Laboratory for a limited number of scientists. On display will be

breccia samples from Apollo Missions 14, 16, and 17, as well as various soil samples from the Apollo expeditions.

The 27 regular sessions scheduled throughout the conference will involve 315 oral presentations taken from the 497 abstracts that have been accepted for publication in "Lunar and Planetary Science XVI," the official proceedings of the conference. The sessions have been constructed along 15 broad topics: regolith studies, lunar petrology, planetary physics, meteorite studies, cratering and shock studies, Venus, asteroids and comets, remote sensing approaches, crustal genesis, lunar geology, isotopic studies, major planet satellites, Mars, Solar System evolution and cosmic dust.

In addition, the Lunar and Planetary Science Institute's Image Processing Facility will conduct an open house throughout the conference in McGetchin Hall at the LPI. For additional information on the open house, call Kin Leung at 486-2165 or Rebecca McAllister at 486-2181. Also, the on-line and remote access capabilities of the LPI Geophysical Data Facility will be demonstrated in the coffee area at the Gilruth Center during the regular conference hours.

Bulletin Board

BAPCO meeting scheduled

The next meeting of the Bay Area PC Organization, BAPCO, will be held beginning at 7:30 p.m. March 19 at the Sheraton Kings Inn on NASA Road 1. BAPCO meets regularly on the third Tuesday of each month. For more information, call Earl Rubenstein, x3501, or Hattie Thurlow, x2213.

Womens' workshop planned

The Clear Lake Family Service Center will present a workshop entitled "On Being Woman," from 9:30 a.m. to 4:30 p.m. Saturday, March 9 at 16811 El Camino Real. The seven-hour workshop will be led by Phyllis Rundhaug, M.A., a psychotherapist at the Center. The workshop will emphasize self-awareness, self-respect, spontaneity, creativity and the mobilization of inner resources. Tuition is \$35 and pre-registration is requested. For more information call 486-9682.

AIAA issues call for papers

"Space Shuttle — Space Station — Operations and Technology" is the theme for the tenth Annual Technical Symposium to be held May 10 at the University of Houston Clear Lake. The Symposium is being sponsored by the Houston Section of the American Institute of Aeronautics and Astronautics. Due to the special nature of this local program, there will be no need for formal publication of papers and only a written abstract will be required. Presentations should be planned to be about 10 to 15 minutes long. The abstract should be no longer than 250 words and no less than 100. For more information, call Mr. Carl Huss at 488-5660, x267.

Clear Lake Symphony to hold concert

The Clear Lake Symphony will celebrate the 300th birthdays of composers Bach and Handel in a concert to be at 8 p.m. Saturday, March 30, in the University of Houston — Clear Lake Auditorium. Ticket prices are \$4 or \$2 for senior citizens/students. For ticket information call, 488-1754. Anyone interested in assisting with concert production may call Camille Glazer at 488-3154.

Burke Baker presents 'Planet Odyssey'

"Planet Odyssey", a film voyage through outer space and the planets, will be presented at the Burke Baker Planetarium from March 10 to May 26. The film, written by Frank Cooper, Director of the Burke Baker Planetarium, includes a discussion on the possibility of other solar systems surrounding stars. For more information call, 526-4273.

Federal tax information available

An abundance of federal tax information awaits taxpayers within the Internal Revenue Service's Publication 910, "Taxpayer's Guide to IRS Information, Assistance and Publications." This guide lists IRS telephone numbers, explanations of how to resolve questions on bills, letters and notices from the IRS, how the Problem Resolution Program works and how to file an amended return. Publication 910 is available free from the IRS by calling 965-0440.

Blood drive scheduled for March 7

The first JSC blood drive for 1985 will be held from 8:30 a.m. to 4:30 p.m. March 7 at the Gilruth Recreation Center. For an appointment, call Jim McBride, x6226; Helon Crawford, x5238; or Bob Jones, x6251.

Credit Union election is March 7

The JSC Federal Credit Union will hold elections from 10 a.m. to 5 p.m. March 7 for three positions on the Board of Directors. The election will be held in the Credit Union lobby. Results will be announced at the Credit Union's annual meeting, which begins later that evening at 7:30 p.m.

Executive writing course offered

An executive writing course being offered by the Air Force contingent at JSC has had seating capacity problems resolved, and organizers encourage all interested persons to sign up. The class, called the U.S. Air Force Academy Executive Writing Course, is being sponsored by the Manned Space Flight Support Group, and will meet from 8 a.m. to noon March 5 at the Gilruth Recreation Center Banquet Room. For more information, call Capt. Roger J. VanEpps, x2051.

Gilruth Center News

Call x3594 for more information

Beginning computing — This six-week course will enable the student to understand the role and use of computers in our society. The class meets Wednesday nights from 6 to 8 p.m. beginning March 20. The cost is \$30 per person.

Beginning French — Learn basic words and phrases by the audio visual method. The vocabulary will include numbers, days of the week, months, seasons, weather and basic verbs and adjectives. The class meets Mondays from 7:30 to 9:30 p.m. for six weeks beginning March 18. The cost is \$30 per person.

Spanish lessons — Get to know Spanish through conversation in a relaxed atmosphere in this class, which introduces the beginning student to basic pronunciation and grammar. The class meets Wednesdays from 7:30 to 9:30 p.m. beginning March 20. The cost is \$30 per person.

Word processing — Work with IBMs, Apples and other machines in this course covering legal letters, resumes and other documents, all using Wordstar software. The six-week course meets from 5:30 to 8 p.m. beginning March 27. The cost is \$30 per person.

Karate — This four-week class begins March 5 and runs from 6:30 to 8 p.m. at a cost of \$30 per person.

Yoga — Learn better control of your body through the use of classic yoga exercises. The class meets Tuesdays from 5:30 to 6:30 p.m. beginning March 5. The cost is \$25 per person.

Bicycle repair — Get a basic overview of bicycle repair in this two-week course which meets Thursdays from 7:30 to 9:30 p.m. beginning March 21. The cost is \$6 per person.

Typing — Learn to type anywhere from 15 to 70 words per minute in this class which meets Mondays from 5:30 to 8 p.m. beginning March 4. The six-week course costs \$85 per person.

SCUBA — This NAUI-certified basic scuba course begins March 25, meeting Mondays from 6:30 to 9 p.m. for six weeks. Pool sessions meet on Wednesdays beginning at 7 p.m. The cost for the class is \$45 per person, and no equipment is necessary prior to the first meeting. Enrollment is limited.



Members of the JSC Picnic Committee posed recently for a group portrait as their efforts continue to organize another of the annual employee gatherings. The picnic is in May at the Gilruth Center.

Scholarship forms due March 29

Application forms are due March 29 for two \$1,500 scholarships to be awarded for the 1985-86 school year to dependents of NASA employees.

The scholarships — offered Agency-wide — are administered by the NASA College Scholarship Fund, Inc., a nonprofit Texas corporation, and were established from funds donated by author James Michener.

Those eligible for the scholarships must be college students who are dependents of current or retired employees of NASA or dependents of current reimbursable detailees to NASA. In addition, the scholarships may be awarded to students who are dependents of former NASA employees or former reimbursable detailees to NASA who have died.

Under the rules of the scholarship, dependents are defined as students who are lawfully claimed as dependents on income tax returns by current NASA employees or by retired NASA employees.

Applicants must be pursuing a course of study in the science or engineering fields, and that course of study must lead to a recognized undergraduate degree at an accredited college or university in the United States. The scholarship cannot exceed \$1,500 per dependent per academic year, to a maximum of \$6,000 over six calendar years.

In addition to the dependency requirements, all applicants must be graduated from an accredited public, private or parochial high school, and must currently be enrolled in college with a good academic standing. An applicant must have a combined high school GPA and college GPA of 2.5 on a 4.0 scale, or the equivalent.

After meeting the minimum requirements, applicants will be ranked based on six standards.

Those standards are:

- Academic preparation, including all high school grades, any college grades, high school grad-

uating class rank and pattern of courses;

- School activities;
- Community activities;
- Performance on recognized tests designed to measure ability and aptitude for higher education, such as the SAT or ACT;

- Written recommendations from instructors or other individuals not related to the applicant (limit of three);

- A one page statement of academic purpose by the applicant.

Application forms are available in Bldg. 1, Room 840. All completed forms and other materials must be received by the scholarship committee no later than March 29, 1985. The applications should be sent to NASA Johnson Space Center, NASA College Scholarship Fund, Inc., Code BY5/Scholarship Committee, Houston, TX 77058.

For additional information, call Susan Starkweather, x5410, or see JSC Announcement 85-17.

NMA seeks new members

The JSC Chapter of the National Management Association (NMA) is conducting a membership drive during the month of March. NMA is a professional society whose members are dedicated to the development and recognition of management as a profession and promotion of the American enterprise system.

The JSC Chapter helps its members to enhance their management skills, prepare for increased leadership responsibilities, keep current on new techniques and developments, exchange information with other managers, accelerate open and direct communications, and develop unity of the management team.

Each member of NMA receives a number of benefits. In addition to the monthly chapter meetings (most

of which are dinner meetings) paid for by the dues, members receive the *Manage* magazine and have the opportunity to participate in fellowship with other JSC employees active in different levels of management, excellent training programs, one-day seminars, and management conferences. They also have access to NMA's film library of management subjects.

Speakers addressing JSC Chapter NMA members at monthly dinners the first year included, among others, Chief Lee Brown of the Houston Police Department; Coach Lannie Lantrop of Clear Lake High School, who teaches Positive Mental Attitude; and Ms. Emyre B. Robinson, President of Barrios Technology, Inc. The Chapter offered a training course on "Introduction to Supervision." The second in the series,

"Management Principles," is scheduled to begin in late March. A seminar to be offered in the future will focus on management problem areas facing senior management today.

Membership is open to JSC civil service employees. Interested persons are invited to attend the next meeting on Wednesday, March 27, 1985, at the Gilruth Recreation Center. The Social Hour begins at 5 p.m., with the dinner meeting beginning at 6 p.m. The program will include a panel comprised of three JSC senior managers who will address JSC Management Perspectives with a question and answer session following the program.

Cost for guests is \$6.50. For guest reservations, please contact Don Netzband, x4136, no later than March 20.

Orroral Valley antenna donated

NASA is donating a 26-meter antenna located at the Orroral Valley Tracking Station in Australia to the Australian University of Tasmania. The Orroral Valley Station ceased operations in December 1984.

The antenna had been used in a variety of NASA and international programs including the Skylab Program, the Apollo Soyuz Test Project and the Space Shuttle Program.

NASA has offered to provide assistance for the dismantling and transfer of the antenna to Hobart, Tasmania, Australia.

The University of Tasmania's physics department, one of Australia's major centers for astronomy and astrophysics, will use the antenna as part of its teaching and research activities. One of the planned uses for the antenna is in operation with the Australian Telescope presently under construction in New South Wales. This application

will dramatically improve the telescope's performance.

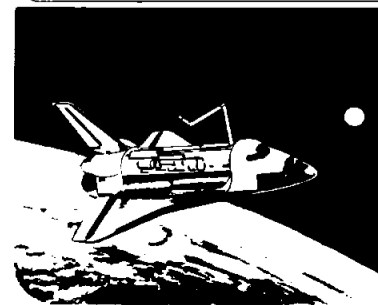
The antenna also will be available for very long baseline interferometry in conjunction with other instruments. This is a system which uses a number of separate antennas to construct a radio telescope with a high resolution capability. Using

the antenna for interferometry will assist geodynamics and geophysical research by obtaining more accurate measurements of the Earth's surface and will contribute to the data base on the Australian continent.

NASA may use the antenna for its geodesy, geodynamics and astronomy projects in the future.

NASA
Lyndon B. Johnson Space Center

Space News Roundup



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Sabine



Next week during the 16th Lunar and Planetary Science Conference, a small group of scientists will be given a rare opportunity. They will be escorted to the repository here at JSC which houses much of the material returned from the Moon. It will be a special moment for the scientists because many of them have written papers, put forth theories, spoken at symposiums—about Moon rocks and regoliths, petrology and lunar geology in all its forms—often without ever having seen the actual source of the small samples they have studied. The slices and chips they see in their own labs often come from much larger rocks, and these larger samples have been carefully stored in a pristine environment since the first Apollo expedition 15 years and 7 months ago.

As meaningful as the sight of a moon rock can be for a professional, it can also be a source of wonderment and inspiration for the average person. The following story illustrates in very personal terms the impact a small, traveling lunar sample had when it was taken to West Germany last year. The story was written and sent to us by William J. O'Dwyer, a retired U.S. Air Force Major who decided "it was time to put something back in the pot." His idea was to take a lunar sample overseas, to a place where U.S. troops are stationed, and provide the local people with a different perspective on Americans. O'Dwyer calls it "lunar rock diplomacy." The small exhibit he helped set up and run in the town of Leutershausen, West Germany was a huge success, drawing persons from all over the Federal Republic.

Later in his travels, O'Dwyer exhibited the lunar sample at the Hermann Oberth Museum in Feucht. Oberth, now 90, is known as the Father of Modern Rocketry and is credited with influencing many of the 20th century's most important rocket engineers, including Wernher Von Braun. Despite his contributions to space flight, Oberth had never actually seen a lunar sample until O'Dwyer placed one—encased in a lucite pyramid—in his hands in December 1984. Oberth's eyes welled up at the sight, O'Dwyer said, and for a moment the old scientist was too moved to speak. What follows is a story from the other end of the spectrum—a very young girl's first encounter with a piece of the Moon.

The story of a traveling Moon rock and some of the people it met

by William J. O'Dwyer
Major, USAF Res. (Ret)

Sabine, not yet two, walked hesitantly into the room through the large pair of heavy oak doors. She had just finished completing her difficult climb up the winding marble staircase that led from the ground floor entry, struggling to keep up with her mother and grandmother, and bubbling with excited chatter in her native German language in anticipation of seeing the lunar rock NASA had sent to her ancient walled-in Bavarian town of Leutershausen. The aerospace education exhibit was sponsored by the 501st ABC "Load Hackers" (helicopter) Squadron based at Katterbach. It was my great fortune to have been the NASA Liaison/ Courier for the lunar rock display.

Leutershausen, founded in the year 1000, would fit comfortably within the open central lawn and pond region located behind Bldg. 1 at JSC. Outside the wall and two gate towers that lead in and out of the tightly knit cluster of masonry houses and steep sloping red-tiled roofs, Sabine's world reaches up and engulfs the rolling hillside adjacent to the valley, a valley fed by a winding river once used to fill the moat surrounding the medieval wall. It was from her home outside that ancient wall and comely rural Bavarian setting her mother had excited Sabine's imagination while she was dressing Sabine in her dark blue jumper and favorite blouse. "Today we will go to our City Hall and see a rock from the moon."

The clock atop the gate tower and old ramparts of the wall had just struck half-past ten, echoing its song across the city and out into the quiet country valley. I was standing in the far corner of the room next to the narrow doors that lead out onto the second floor iron-rail balconies laden with boxes of red geraniums. I'd just finished rearranging the extensive numbers of excellent NASA booklets, charts and descriptive materials placed on the tables to show school-teachers and visitors what was provided to schools. An American and German flag hung side-by-side on the front wall, and a variety of NASA photos hung between the two national banners.

I'd worked closely with this town since 1966, during the time when our Air Force Reserve Squadron in Connecticut took on an extra-curricular activity to help Leutershausen create a small museum covering early aviation history. In those many visits, before I'd retired, I'd noted their rural lifestyle seldom left them able to find the time to travel very distant from their farms and busy local industries or shops. It was obvious few might journey to large cities, like Munich, to see the lunar rock displayed at the Deutsches Museum, let alone travel to the USA to visit our museums or the exhibits at places like JSC.

Quite frankly, I'd felt extremely lucky to have had the great opportunities for education and travel our nation provided me through the Air Force. Retired, it was time to put something back into the pot and return to the spot in this world I love to roam best. When asked by the staff at JSC's Aerospace Education Office how they might help me with our projects for that area of Germany, I asked if we could borrow the lunar rock displays for an exhibit.

To do it we needed an American organization to sponsor our efforts. Having assisted in building the bettering of relations between the local military and Leutershausen, the 501st ABC helicopter Squadron joined this volunteer, extra-

curricular effort. What made this exhibit unique was where the exhibit would be held—in a small town. Normally, a Moon rock might be expected to tour large cities, large museums, great universities or laboratories. Yet here it was, on display in a small Bavarian town whose identity was overshadowed by larger cities such as the county seat of Ansbach and the larger regional city of Nuremberg. For centuries, tiny Leutershausen had commonly been known as "Leutershausen-bie-Ansbach," Ansbach being the larger, more well known city a few miles away. During the time that the Moon rock was on display at Leutershausen, a local man came up to me and told about a trip he had taken to Nuremberg. Someone asked him where he was from. He told them Ansbach, much as one might say Houston when in fact hailing from Clear Lake or League City. The questioner responded, "Oh, that's near Leutershausen where they have the Moon rock, isn't it?" There was such joy in the man as he told this story, and it illustrates what an impression that one small rock made on so many thousands of Germans. These kinds of thoughts went through my mind as I watched the small little girl enter the exhibit room in Leutershausen. I wondered, in turn, what thoughts were in her mind as she stuck her head into the room, peered around, and asked in her small child voice, "Mondstein?... Mondstein?" (Moon stone?... Moon stone?)

Not knowing where to go, she sought a helping hand from her mother and grandmother, hoping they could direct her to where she'd find the rock they had described.



Visitors tour the exhibit at Leutershausen.

The lunar rock, in its crystal clear lucite pyramid prism was in a special display case located centrally in the opening of the City Council Chamber's tables. A raised square carpeted base for visitors, like Sabine, to step upon surrounded the wooden base of the pedestal holding the lunar rock, which itself was covered by a box of clear-lucite secured by locks and an alarm for security. It dominated the spectacular exhibits NASA furnished, by way of the illumination from the internal fluorescent light below the pyramid. The warm glow flooded upwards and in that artificial aurora it appeared as if it was a box of captured moonlight from an evening sky, and lent the illusion the rock was floating inside the pyramid. It illuminated the faces of each visitor who stared down into the box while pondering the tiny craters on the surface of the rock caused by micro-meteorites.

Sabine pointed toward that glow

above her head and again asked her mother and grandmother, repeating her earlier question, — "Mondstein?...Mondstein?"

Her grandmother leaned over toward Sabine, her eyes sparkling with delight. Her arms remained folded across her waist as she bent low to whisper softly into the child's ear. "Ja! Das ist der Mondstein!", she told Sabine, and then wrinkling her nose above a happy smile she watched as her grandchild stood on tip-toe to look into the lighted box to stare at the 128-gram piece of charcoal-colored breccia John Young had brought back to Earth from where it rested for so many millions of years on the Moon.

Neither the mother, the grandmother or child had yet noted my presence in the far corner of the great room. While this blond-haired, blue-eyed young fraulein stood mesmerized by the lighted box containing the stone, she'd been told she'd see, the Bürgermeister (Lord Mayor) of the city walked in and stood behind the mother and the grandmother by the table. After greeting them, he asked the mother to sign her name in the guest book that rested at the edge of the table. The grandmother had signed it earlier when the exhibit first opened the previous week. "And have your daughter sign it too," he chortled, as he grinned and gained laughter from what was an intended joke.

From where I stood over in the corner of the room by the open balcony doorway, I quickly added in German, "Yes. Please have your daughter sign the book. Everyone who visits the NASA exhibit must sign the book." —Again they all laughed.

I repeated my request, which

drew an inquisitive look from the Burgermeister. This time I spoke in English, as all of them spoke English very well.

As I walked up near where they stood the Burgermeisters said, "Surely you are joking; she cannot yet hold the pen or possibly sign her name."

"Yes, she can sign the book," I said. "Ask her mother to take off the little girl's shoe and sock and we'll get an ink pad from the desk in the other room. Then they can have Sabine press her foot against the ink pad and make a footprint 'signature' on the page, below where her mother signed."

They wanted to make certain I was serious. "Warum?" (Why?), they asked. I pointed to a photograph made during Apollo 11 of a footprint on the Moon, Neil Armstrong's footprint. To me it seemed as if that footprint symbolized the fulfillment of a dream held by

(Continued on page 4)

Cookin' in the Cafeteria

Week of March 4—8, 1985

Monday Cream of Chicken Soup; Beef Burgundy over Noodles, Fried Chicken, BBQ Sausage Link, Hamburger Steak (Special); Buttered Corn, Carrots, Green Beans. Standard Daily Items: Roast Beef, Baked Ham, Fried Chicken, Fried Fish, Chopped Sirloin. Selection of Salads, Sandwiches and Pies.

Tuesday — Beef Noodle Soup; Baked Meatloaf, Liver & Onions, BBQ Spare Ribs, Turkey & Dressing (Special); Spanish Rice, Broccoli, Buttered Squash.

Wednesday — Seafood Gumbo; Broiled Fish, Tamales w/Chili, Spanish Macaroni (Special); Ranch Beans, Beets, Parsley Potatoes.

Thursday: Navy Bean Soup; Beef Pot Roast, Shrimp Chop Suey, Pork Chops, Chicken Fried Steak (Special); Carrots, Cabbage, Green Beans.

Friday — Seafood Gumbo; Broiled Halibut, Fried Shrimp, Baked Ham, Tuna & Noodle Casserole (Special); Corn, Turnip Greens, Stewed Tomatoes.

Week of March 11—15, 1985

Monday — Chicken Noodle Soup; Wieners & Beans, Round Steak w/Hash Browns, Meatballs & Spaghetti (Special); Okra & Tomatoes, Carrots, Whipped Potatoes. Standard Daily Items: Roast Beef, Baked Ham, Fried Chicken, Fried Fish, Chopped Sirloin. Selection of Salads, Sandwiches and Pies.

Tuesday — Beef and Barley Soup; Beef Stew, Shrimp Creole, Fried Chicken (Special); Stewed Tomatoes, Mixed Vegetables, Broccoli.

Wednesday — Seafood Gumbo; Fried Perch, New England Dinner, Swiss Steak (Special); Italian Green Beans, Cabbage, Carrots.

Thursday — Cream of Chicken Soup; Turkey & Dressing, Enchiladas w/Chili, Wieners & Macaroni, Stuffed Bell Pepper (Special); Zucchini Squash, English Peas, Rice.

Friday — Seafood Gumbo; Baked Cod, 1/4 Broiled Chicken w/Peach Half, Salisbury Steak (Special); Cauliflower au Gratin, Mixed Vegetables, Buttered Cabbage, Whipped Potatoes.



O'Dwyer lecturing students from the American Department of Defense School at Crailsheim.

Sabine

(Continued from page 3)

thousands of people. It summed up an incredible adventure. For all of the people who worked on Apollo, at least one dream in their life had come true. Sabine's life, I said, was just beginning, and so were her dreams.

So the mother and grandmother held Sabine up and pressed her tiny foot to the page of the guest book, and that moment has stood

out for me above all the others.

Beyond where we stood and drank in that delicious moment, local shepherds watched over sheep on the plush grasses that tumble across the rolling hillsides of Bavaria. Small European deer browsed at the edge of a thick green forest, and over the rise from Leutershausen a castle stood, monitoring the valley scene below. The young storks usually gathered in those places had flown toward a winter gathering on the plains of Africa. I drove out into this superb

region of Bavaria that day, so as not to forget Sabine's world. That night as the crescent of a new Moon appeared over the ancient city, I stared at its surface and knew it would never really be full again, at least not in the sense of being pristine, undisturbed and unexplored. I marveled at my good fortune, to have been able to show a little piece of that body to people who otherwise would not have been able to see it, and especially to a little girl, not yet two, named Sabine.

Roundup Swap Shop

All Swap Shop ads must be submitted on a JSC Form 1452. The forms may be obtained from the Forms Office. Deadline for submitting ads is 5 p.m. the first Wednesday after the date of publication. Send ads to Roundup, AP3, or deliver them to the Newsroom, Bldg. 2 Annex, Room 147. No phone in ads will be taken.

Property & Rentals

For sale: Brookforest, 4-2-2, 2,200 sq. ft. cathedral ceilings, atrium, garden bath, formal dining, \$128,000. Call 480-5394.

For lease: 1 BR condo, W/D, FPL, miniblinds, huge closet, free hot water, all appliances incl., \$325/mo. Call Karen, 280-7272 or 554-2538 evenings.

For sale: Waco area, 100 acres, old home, buildings, tractor, equipment, fruit, pecan, oak trees, bass ponds, road frontage, \$825/acre. Call Don, 488-8105 after 5 p.m.

For sale/lease: Pasadena, 4-3 townhouse, 10 acres, close in, fenced, lease \$600, sell \$54,000. Call Damewood, 482-5572.

For sale: Lakeway on Lake Travis, 3-2.5 townhouse, 2,000 sq. ft., all appliances, by golf course, excellent condition. Call 334-2461.

For sale: Hyatt Lake Property, 17 miles from Ashland, Oregon, 6.3 acres, 3K down/balance 27K, assumable 10%, \$387.27/mo. Call Albert, (503) 479-0218.

For lease: Woodmeadow cul-de-sac, 3-2-2, covered carport/patio, ceiling fan, no pets, \$550/mo. Call Victor, 481-9335.

For sale: League City, 3-2-2, corner lot, 1,580 sq. ft., \$5,000 equity, buyer pays all closing, 11.5% VA, \$732/mo. Call 538-4206.

For lease: University Trace, 2-2-2, dishwasher, garbage disp., W/D, ceiling fans, fresh paint, pool, club house, excellent security. Call 334-3337 after 6 p.m.

For lease: League City, 3-2-2, enclosed patio, storage building, available April 1, \$550/mo. Call 554-4133 after 5 p.m.

For sale: 1975 Checkmate mobile home, 2-1, 12' x 65', new AC unit, \$6,000 OBO. Call Tim, 484-6229.

For lease: Clear Lake City, 3-2.5-2 (carport), close to JSC, new paint, carpet, tile, will consider purchase option, \$650/mo. Call Ed, x5489 or 480-0273.

For lease: 56' x 14' mobile home, 2-1.5, central air/heat, ceiling fan, W/D, two yrs. old, \$500/equity, \$228.34/mo. Call David, x4710.

For lease: Deer Park, 3-2-2, custom built brick, fenced, boat access, wet bar, FPL, cathedral ceiling, storage building, small shop area, covered patio, two walk-in closets, \$650/mo. Call Haines, x3851 or 941-2495.

For sale: Forest Bend, 4 or 3-2.5-2, pool, six ceiling fans, formals, game room, wet bar, trees, no flooding, \$76,500. Call 482-4145.

For sale: Pt. Lookout west on Lake Livingston, 75 x 137, wooded water view lot, \$3,500, (assessed value \$5,800). Call 946-7587.

For sale: University Green, 2-2-2, patio home, split BR design, detached garage, cathedral ceiling, FPL, microwave, pool access. Call 488-0500 or 480-6516 evenings.

For lease: 3-2-2 house in Bay Ridge section of League City, cathedral ceiling, FPL, new paint, \$495/mo. Call Walt, 488-6309.

For lease: Baywind II condo, 1 BR, downstairs end unit w/patio, clubhouse, swimming pools, near JSC, \$295/mo. Call Mason, x5457 or 333-4144.

For sale or lease: Lake shore condo, water view, 2-2-2, W/D, refrig., split BR plan, two storage areas, pier, pool, clubhouse, \$450/mo. plus deposit or \$57,700, available now. Call Regelbrugge, 280-3655 or 484-3318.

For rent: Galveston/Tiki Island near 3 BR home on canal, furnished, dock your boat, fish, swim, master bath spa, TV, weekend, weekly and monthly rates. Call 486-9335.

For lease: Friendswood/Wedgewood 3-2-2, very nice, FPL, carpeted, built-ins, fenced, \$550. Call 481-3012.

For rent: Galveston Gulf front condo, treat yourself to a 2 day to 1 month vacation, completely furnished, low rates. Call Nussman, 488-7762.

For sale: CLC 2-2-CP condo in Kings Village, renovated, one story, fenced yard, covered patio, many extras, library/rec center w/in 1/2 block, \$45,000. Call Joyce, 488-0577.

Cars & Trucks

1972 Plymouth Duster, slant 6, new tires, complete new brakes and system, excellent cond., \$900 OBO. Call 332-7015 after 5 p.m.

1975 Ford Ranchero, 351 rebuilt eng., rebuilt transmission, good cond., \$1,800. Call Cal, x2495 or 470-9938.

1979 Mercury Capri, 68K miles, V8, auto, sunroof, runs, body damage, \$650. Call 474-3507.

1984 Ford Tempo "GL", AC, AM/FM/cass., excellent cond., \$400/dn, \$200/mo. Call 486-9281 after 5 p.m.

1979 Pontiac station wagon, loaded, excellent cond., \$2,450. Call 482-1820.

1982 Toyota pickup 4 x 4, black/gold pin stripes, 5 spd., PS, PB, AC, AM/FM/cassette w/Kenwood equal., new tires, excellent cond., \$6,800. Call Ronald Arthur, x5271 or 332-1289.

1984 Ford pickup F150 longbed, AC, AM/FM, PS. Call Larry, 333-6429.

1983 Mustang conv., red/white/white, 6 cyl., PS, PB, Jensen stereo, 22K miles, \$11,000 OBO. Call 488-1511.

1981 Olds Cutlass Supreme Brougham, AM/FM/cass., loaded, 66,000K, \$3,500 OBO. Call Rick Heitmann, x5341 or 480-8223.

1974 Buick Century, reasonable transportation, AM/FM, AC, \$500. Call Jayne, x3459 or 280-9791.

1973 Pontiac station wagon, new interior, good tires, original owner, \$650. Call 482-1385.

1981 Datsun 310-GX, 34K miles, 32 mpg, AC, AM/FM/cass., good cond., \$3,900. Call Marie, x3905 or 338-2336.

1969 Silver Streak travel trailer model 3200, awning, AC, small generator, loaded, clean, good tires, \$6,950. Call, 477-0136.

1976 Dodge Dart, 80K miles, auto, AC, AM/FM/cassette, good running condition, \$950. Call Steve, x4545.

Two 1971 Toyota Corollas, one body in good shape, other stripped, engines need rebuild, will sell parts. Call Ray,

x6327 or 996-1966.

1980 Chevette, 2 dr., 4 spd., AC, AM/FM/cassette, clean, runs well, \$1,950. Call Bov, x6327 or 333-4269.

1980 Datsun pickup, 5 spd., AC, new tires, low miles, camper top, \$3,300. Call 554-6506 anytime during day.

1980 Cadillac Coupe de Ville d'Elegance, fully equipped, 56K miles excellent condition. Call 334-3370.

1976 VW Rabbit, 4 spd., current license/inspection, \$450; 1973 Toyota Corona SW, \$175; Goodyear Viva glass radial, FR78x15, never used, \$35. Call Kilbourn, x4545 or 482-7879.

1977 Chevy Monza, auto, PS, PB, yellow 2 door, body good, current license/inspection, engine old but runs, \$450; 1977 Chevy Vega, not running, \$195. Call Kilbourn, x4545 or 482-7879.

1977 Buick Regal S/R, full power, new tires, new dual exhaust, 350 cu. in., \$1,950. Call Horton, x4084 or 486-1837.

1983 Chevy Chevette, 2 dr., AC, AM/FM, 4 spd., 21,600 miles, excellent condition, \$3,900 OBO. Call Mike Sadowski, x4027 or 486-4545.

1980 Chevy Citation, 4 cyl., 4 spd., 4 dr., AC, PS, PB, AM/FM, good condition, \$2,300. Call 331-3062 after 5 p.m.

1979 Chevy Monte Carlo Landau, loaded, \$2,450. Call 487-2232 or 861-2555.

1983 Chevy Caprice Classic, grey, 4 dr., loaded, 20K miles, \$9,100. Call 480-7590 after 5 p.m.

1979 Subaru GF, 5 spd., AC, \$2,200. Call 488-4915.

1979 Subaru GF, 5 spd., AC, \$2,200. Call 488-4915.

Boats & Planes

Piper Lance aircraft, 6-place club seating, \$85/hr. wet. Call Damewood, 482-5572.

C-150, \$32/hr. wet. \$300/10 hrs., instructor \$15/hr., private pilot. Call 333-6857 or 482-4430.

Bass boat, 16' Falcon competition Tiger, 85 HP Evinrude, power tilt, McClain trailer, troll motor, bait wells, bilge pump, 18 gal. tank, depth finder, good condition, \$3,295. Call Stan, x3155 or 482-1425 after 5 p.m.

1984 Invader 171 I/O 125 Volvo boat comes with trailer, cover, ski tow bar and two props, \$6,300. Call Bob Mueller, x4031 or 486-1766.

Cycles

Super Mongoose 20" boy's racing and jumping bicycle, chrome plated moly steel, like new, cost \$320, great buy at \$195. Call McNeely, x6347 or 482-5837.

Audiovisual & Computers

PC-3A pocket computer (4K ram), printer/cassette interface, carrying case, extra manual, \$90. Call Tom Clarke, x7445.

Apple II plus 48K, disk drive, printer, rom programmer, rom reader, parallel port, software and programming library, \$1,150. Call 333-6857 or 482-4430.

Sylvania Console Stereo, 100 watts, 10-inch air suspension speakers, AM/FM stereo and turntable, dark oak finish, \$150. Call Chuck Knarr, x4555 or 554-7504 after 6 p.m.

Ward's 9" color TV, three yrs. old, portable, \$175; TI-58C calculator, new battery pack, \$75. Call Paul, x3653.

Sony 5" portable TV and accessories, including battery, AC/DC adaptor, external antenna adaptor, etc., vertical hold needs repair, all for \$30. Call Jim, x4949 or 726-0653.

Motorola AM/FM/8-track stereo car radio from 1981 Firebird, two 6" x 9" speakers, great buy for \$50. Call McNeely, x6347 or 482-5837.

TI-55-II programmable calculator, 55 steps with constant memory of program and data, like new condition, with manuals, 3 months old, \$20. Call Frank, 481-5541.

Household

Rosewood China cabinet, lighted glass door and glass shelves, could be used as display case, \$600. Call 339-1452 after 6 p.m.

Beautiful six ft. bar w/two bar stools, light tan, dismantles for easy transporting. Call Linda Milonas, x2464.

19.2 cu. ft. Sears refrigerator, \$300; 21 cu. ft. upright freezer, Imperial, \$350. Call Rick, x6196 or 488-2802 after 6 p.m.

30 in. width gas oven, small oven above and large below, almond, \$200 OBO. Call 943-1790 or 480-8800 x74.

GE Potscrubber dishwasher, built-in, four slide-in color panels, includes complete control panel, \$100. Call Laraine, 474-3500, after 2 p.m.

Kitchen table, 42" round plus 18" leaf, chairs, brass legs and trim, ivory top w/2" mocha border and edge, \$110. Call Laraine, 474-3500 after 2 p.m.

18.5 cu. ft. chest freezer, white, good condition, \$150. Call Carolena Wilson, x5303.

Kenmore sewing machine w/cabinet, \$50. Call Janet, x5111.

Deluxe Whirlpool stacked washer/dryer, new, never been used, thin-twin LT5000, will sacrifice below wholesale cost at \$650 OBO. Call Bill, x4027 or 280-8094.

Westinghouse refrigerator/freezer, approx. 17 cu. ft., white, 3 yrs. old, excellent condition, \$250. Call Cindy, x7236 or 554-4133 after 5 p.m.

Wanted

Want fourth carpool member from Fondren Southwest-Missouri City-Meyerland-Westbury area, non-smoker, 7:30 a.m. to 4 p.m. shift Call Jim, x4949.

Miscellaneous

1,300 sq. ft. used carpet, will sell very cheap, 3 different colors. Call Ray, x6327 or 996-1966.

1979 edition of World Book Encyclopedia plus yearbooks in classic binding, \$195. Call 331-1136.

DP Gympac 1000 weight bench, fixed weights and cables, 2 years old, used very little, \$180 OBO. Call Stan, x3155 or 482-1425 after 5 p.m.

Color darkroom, Philips PCS 130 enlarger, PCS 150 control Schneider lens, motor base and tubes, timer exposure monitor, granular scope and more, \$1,200. Call Clifford Westfeld, x5431.

AC compressor, 3.5 ton, still has plug in it, \$300. Call Tim, 484-6229.

Gun cabinet, holds six guns, 23" x 10.5" x 61", like new, \$100 OBO. Call 538-4219.

Roommate to share large waterfront home, prefer non-smoker, \$250/mo., includes utilities plus deposit. Call 538-4219.

Six HP British Seagull long shaft outboard motor, recently overhauled, \$275; main and 120 jib for Gulf Coast 20 sailboat. Call Jones, x5879.

Tennis Club membership for sale. Call Roy Magin, x6267 or 996-9867.

16' 4-ton flatbed trailer w/drive on ramps, elec. brakes w/new treated lumber deck, stainless bolts, \$1,000 OBO. Call Mike, 333-0787 or 332-3644 after 6 p.m.

Wanted: Commodore 1702 color monitor. Call Paul, x3653.

"Bugspray" Holley carburetor, w/intake manifold, set up for VW 1600cc dual port engine, just rebuilt. Call Chris, x6158.

Ross woman's 3-speed, 26", coaster brakes, good cond., \$75. Call 482-4576 evenings.

Save wear and tear on both you and your car, vanpool from Meyerland Plaza to NASA area, \$49.95/mo. Call Richard Heetderks, x3583.

Gympac 1000 exercise machine, \$125. Call Rick, x6169 or 488-2802 after 6 p.m.

Lost and Found

The JSC Security Branch reports the following property has been found on site. The items can be claimed by the owner appearing in person at Security, Bldg. 45, Room 210. Owners must be able to adequately describe the property before it will be released. A receipt for the items will be obtained, and the articles will be disposed of if not claimed within two weeks from the publication date of this issue of the Space News Roundup. The property includes: several sets of keys; several pairs of eyeglasses; one ring; one glove; one ladies watch; one cigarette case; one calculator; one eyeglass case; one umbrella; one earring; one coin purse; one brown envelope; and a substantial amount of cash.