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National Aeronautics and  
Space Administration

Washington, D C  
20546



# NASA SYMPOSIUM 76

## final report

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# NASA SYMPOSIUM 76

## final report

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## I. INTRODUCTION

On April 21-23, 1976, New Mexico State University and the National Aeronautics and Space Administration (NASA) hosted a symposium on New Mexico State University's campus in Las Cruces, New Mexico. The purpose was to create an awareness of the opportunities available to minorities and women in space-related industries. This "Symposium on Aeronautics and Space Technology" was funded by NASA under a pre-negotiated contract.

The theme explored the question, "How can aerospace technology careers and aerospace activities be made more relevant to minorities and women?" The Symposium focused on the aeronautic and space industries in the Las Cruces/El Paso area and throughout the nation. The main objective was to motivate a greater number to select science and engineering as viable career choices; in essence, to promote NASA's efforts to increase the available pool of minority and women scientists and engineers to meet affirmative hiring goals.

The Symposium also provided an opportunity for key NASA officials to meet with appropriate officials of participating institutions to stimulate greater academic interest (among professors and students) in NASA's research and development programs.

Minority aerospace scientists and engineers had opportunity to interact with the minority community, particularly with young people at the junior high, high school, and college levels. One aim was to raise minority community's level of understanding regarding NASA's Regional Distribution System for storage and retrieval of scientific and technical information.

Other sessions were geared to provide opportunity for the exchange of curricular information in requirements of the engineering and science tracts.

## II. IMPLEMENTATION

### A. Initial Organization

As a result of a January meeting, New Mexico State University submitted a proposal to NASA and was funded for the contract of a three-day Symposium on Aeronautics and Space to be held April 21-23, 1976. On March 23, 1976, the Director of the Placement and Career Services Office hired Mrs. Elcid Mancini as Project Assistant to help with the coordination of the Symposium. On March 30, 1976, Jerean Camunez, a student at New Mexico State University, was hired as a temporary clerical assistant.

### B. Physical Facilities

The Pan American Center and Corbett Center on the campus of New Mexico State University were chosen for Symposium events.

The north entrance of the Pan American Center was used for registration purposes on April 21 and 22.

The main floor of the Pan American Center was divided into three general areas. The north end was equipped with the speaker's stage and the seating area for the participants (approximately 1,500 capacity). This seating area consisted of chairs placed on the floor as well as the semi-circular sections in front of the stage.

The middle portion of the main floor was set up with the NASA exhibits and complimentary NASA pamphlets were displayed on an information table for interested students.

The main floor's south end was arranged with NASA contractor's booths as well as booths from departments on campus.

A smaller conference room was available for workshop sessions.

Participants were served lunch in the south lobby on April 21 and 22. The lunch was prepared by the University Food Services and the students were served in about 15 minutes.

On April 23, activities of the Symposium were moved to Corbett Center because of the need for smaller areas for the workshops and the luncheon. The three Corbett Center ballrooms were each utilized for a portion of the Friday morning sessions.

Floor plans are included in Appendix A to show the facilities.

### C. Program Content

The program was organized with six major workshops following themes related to space, research, careers, the role of minorities and women in the space age, and what NASA will be doing in the next decade. The titles of the workshops were as follows:

1. Toward a Better Tomorrow with Aeronautics and Space Technology
2. The Space Shuttle
3. Aeronautics and Space Technology--A Look at NASA's Past, Present, and Future
4. What a Parent Needs to Know--An Overview of NASA
5. Women in Aeronautics and Space Technology
6. Curriculum Workshop/Special Programs Workshop

The first and second days of the program included special career information sessions planned for counselors/teachers chaired by Bob Finnell from the National Academy of Engineering with NASA resource people.

See Appendix B for planning process and scope of work.

#### D. Participation

Participation was offered to students from junior high schools, high schools, and colleges and their staffs throughout the Southern New Mexico/El Paso area (more than a 100-mile radius) and to reach one portion of the target minority, to the Northern New Mexico schools with high Native American population. Maps included in Appendix C indicate the Hispanic and Native American population in the target area as well as the location of area colleges and universities.

Of the 16 colleges and universities invited to participate, there was representation from all but three. A total of 40 university personnel attended.

There was representation from 11 of the 14 junior high schools and 26 of the 56 high schools invited. The total number of junior high school students who participated in the Symposium was 751 (47% women, 42% Hispanic, 8% Black). High school students who participated totaled 395 (50% women, 51% Hispanic, 26% Native American, 8% Black). During the two days of junior high and high school student involvement, 70 counselors/teachers were present. A list of invitees and copies of correspondence are included in Appendix D.

The eight high schools and three junior high schools comprising the El Paso Public School District were unable to attend because of testing schedules.

At the university level, letters of invitation were sent to all NMSU campus women's organizations and all ethnic organizations. A total of 20 (60% women, 70% Hispanic, 2% Black) college students participated.

SEX, RACE OR ETHNIC BACKGROUND  
OF STUDENT PARTICIPANTS

Junior High Students--751	High School Students--395
<u>Sex</u>	<u>Sex</u>
398 male (53%)	198 male (50%)
353 female (47%)	197 female (50%)
<u>Race or Ethnic Group</u>	<u>Race or Ethnic Group</u>
315 Hispanic (42%)	201 Hispanic (51%)
60 Black (8%)	102 Native American (26%)
376 Other (50%)	32 Black (8%)
	60 Other (15%)

Total Junior High and High  
School Students--1146\*

<u>Sex</u>	
596 male	(52%)
550 female	(48%)

<u>Race or Ethnic Group</u>	
516 Hispanic	(45%)
102 Native American	(9%)
92 Black	(8%)
436 Other	(38%)

\*Contract requirements specified that a minimum 700 students would be in attendance during the two-day period.

E. Publicity

In planning publicity for the Symposium, Information Services on campus worked very closely with the Placement and Career Services Office. Their cooperation in sending out several news releases for area publicity was a

strong factor in a successful program. The news releases and copies of actual clippings are included in Appendix E.

### III. EVALUATION

#### A. Preface

There is a need for additional career counseling of women and minorities at all educational levels and for all students to acquire more up-to-date career information. NASA's current effort to serve employers, educators, students, and community through an aeronautical and space symposium has been an effective means of communicating information.

While career conferences can serve a variety of objectives, they should also be viewed as a catalyst and an instructional tool that can benefit the campus community. Thus, in addition to student contacts with potential employers, the exposure to current career information involving faculty, counselors, and administrators was a valuable influence in the hosting of the Symposium by New Mexico State University.

It is hoped that the following subjective evaluation of the Symposium will aid NASA and other institutions in preparing and hosting a similar activity. The information described is not intended to be a format for other symposia, but rather a series of considerations, alternatives, ideas, and suggested techniques that may be adapted at any host institution.

#### B. Considerations

Detailed planning of a similar symposium should proceed at least six months in advance of its scheduled date. At New Mexico State University, notification of a potential conference was made in late January, 1976, with the

conference scheduled for April, 1976. Persons who were to execute various phases of the program (NMSU and NASA personnel) were not appointed early enough for proper preparation. As a result, some personnel were unaware of their responsibilities.

Also, at the earliest possible date, it is essential that NASA inform the host institution of the amount of monies available to conduct the activity. The officials sponsoring the programs should be extremely sensitive to this funding as the program content is involved in the ability to finance.

The program should be scheduled so as not to conflict with primary activities of the college but to complement these activities as was the case at New Mexico State. The Symposium was purposely scheduled the week of April 19 because of two previously scheduled activities, i.e., Native American Week and Open House for the College of Engineering.

Native American students from the northern part of the state were interested in participating in both activities which further encouraged their attendance. Also, publicity for Open House at the College of Engineering and the NASA Symposium was a natural combination of interest to the university community.

Another item of consideration for scheduling this type of event is to investigate prior activity with similar audiences and objectives. Saturation points are met quickly and a loss of effectiveness realized when like or similar programs are presented concurrently. At New Mexico State and in the Las Cruces area, in February, 1976, there had been a conference for women and minorities and it was most difficult to convince the Las Cruces high school administration that the students should be released from school time for

this additional subsequent activity. Consequently, the Las Cruces high school students were allowed to attend the activity, but it was counted as an absence for the student. A NASA Symposium scheduled for fall, 1976, rather than spring, would have alleviated this situation.

The Symposium planning emphasized large meetings because the facility used was not conducive to small group interaction. New Mexico State has various facilities that would have allowed this type of programming, but these facilities were previously committed to other activities. In some cases students expressed dissatisfaction with the traditional program format utilized because it was impossible to answer personal questions in such a structured situation. Perhaps a more successful information exchange would have occurred in small sessions designed for special career interest groups.

The space of the facility did lend itself to facilitate the convenient placement of information booths and other NASA displays. This arrangement elicited an excellent evaluation from the participants. NASA, NASA contractors, and university personnel were available to visit with students.

The recruitment of conference participants were selected from five major groups. It was decided by NMSU officials, in conjunction with NASA officials, that the information to be presented would be of interest to junior high, high school and college students; also, school personnel (counselors, faculty, administrators) and the local community (parents). The selection of junior high and high school students was difficult as most area students wanted to take part in the activity. A delicate situation was created in excluding students from the activity rather than including them. In some cases at area secondary schools, administrators made it very obvious that they would

not exclude non-minority males from the activity. The suggestion from the Placement and Career Services Office to school administrators was to be sensitive to the target population (minorities/women) but include other students who wanted to participate. Public school officials selected all conference participants.

Publicity for the Symposium was handled through the campus information office. Three sessions were held to outline the pre-symposium publicity by the Placement and Career Services Office personnel and a staff writer at Information Services. It is advisable for future sponsors to utilize a comparable facility for publicity because of its specialization and media contacts. Publicity for the Symposium was excellent.

Sponsorship of the Symposium was the responsibility of the Placement and Career Services Office with close coordination with the College of Engineering and the ethnic directors. The coordination with the College of Engineering was beneficial in the area of recruitment because of the relationship with high school counselors, companies, and government agencies. The ethnic directors helped in the recruitment of students in their respective minority areas.

The Director of the Placement and Career Services Office employed one full-time conference assistant and one part-time (20 hours per week) clerical typist to aid with the logistics. It was found to be most beneficial to employ two individuals with excellent clerical and communicative skills as much of the pre-conference preparation is spent communicating with potential participants. Seven student ambassadors were also employed to help with the activities of the conference. These students were utilized as ushers,

tour guides and receptionists. Campus police were hired to help with parking and maintain security of displays.

The length of the program was five hours per day which created a necessity for luncheon arrangements. The campus food services prepared a chicken box lunch and students were served in about fifteen minutes. Also, a strong portion of the noon hour activity was the music (concert) which was provided for the students.

Because of the lateness in selection of speakers there was some confusion on the program content. Some speakers were unsure of the length of time allowed for each presentation; therefore, coordination of panels was difficult and some presentations had to be deleted from the program. Perhaps a consideration for future symposia of this nature would be for the NASA staff to pre-select models/speakers, involving student (co-op) models as much as possible, with themes that would most interest individual groups.

The master of ceremonies should/could be local, but the moderator for each panel presentation should be a NASA representative. If possible, a list of available topics should be presented to the host institution for selection, then one coordinator for NASA could organize the speakers for the conference.

As basic information, a historical overview of NASA should be incorporated into the program. The information presented should be directed to the level of the audience. Depending on the age level of the audience, audio/visual aids should be considered as effective tools for presentations. Also, the attention span of different age groups should be considered when the length of sessions is planned.

Small group sessions allowing the students to choose the topics which most interest them would possibly be better received than the formal lecture sessions. This would enable the audience to become more involved, especially with question/answer periods. NASA brochures, pamphlets, and posters were an outstanding element of interest to the students. The displays and exhibits most enjoyed by the students were those involving their interaction or activity.

A very successful portion of the conference was the workshop for the NASA personnel and the university and secondary school personnel. This type of workshop provides NASA representatives an opportunity to inform universities and colleges of NASA's potential for assisting in different areas, such as its co-op programs for students. Another item which would be recommended for future symposia is the "job fair" portion of the program which allows NASA contractors and NASA centers opportunity to explain potential for summer, co-op, and permanent employment. Because of the time element involved and prior commitments, only five of the 65 NASA contractor invitees were able to participate in this area. It is felt that this portion of the program was one that would have attracted more university level students to the Symposium had there been more participation.

A scheduled social event is recommended. Experience dictates that such activity creates an atmosphere conducive to a relaxing interchange of amenities, conversations and ideas between NASA representatives and university/school participants.

A disappointing part of NMSU's Symposium was the lack of community response for the evening session. Though adequate publicity was given to the program,

community receptivity was poor. Of the more than 100 who did attend, many complimented and applauded a very worthwhile event.

Evaluation form comments and ratings from all levels of participants are included in Appendix F.

#### IV. SCHEDULE OF EVENTS

##### A. Preface

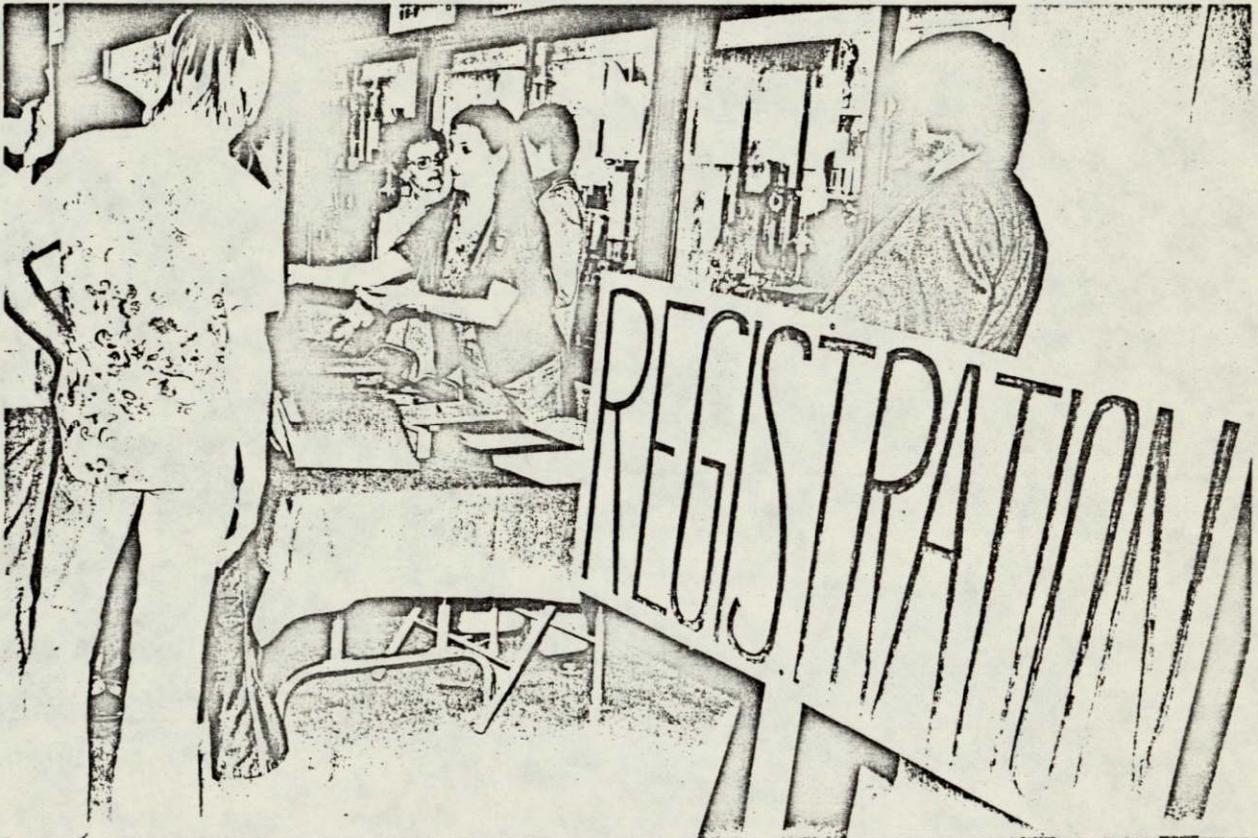
The three-day Symposium was geared to three different levels. The first day of activities was primarily for junior high students, the second day for high school and college level students, the third day for administrators/teachers and counselors. There was an evening session for parents to provide the basic information on student preparation.

The rationale for holding talks, workshops, and seminars for parents, college administrators, and public school teachers and counselors was to insure that the Symposium impacted on all of the elements in the chain of events that must function as "open gates" for a student to enter college and select science or engineering as a major. Not long ago a survey was made of engineers from minority groups asking them to identify the individual who had the most effect on their choice of engineering as a career. Most reported that their selection had been based on the recommendation or urging of a relative, often a parent. Obviously, close family associates and relatives play the major role in individual career choice. Next comes identification with "role models" and advice from teachers and counselors. The NASA Symposium strongly emphasized the success and responsibility of "role models."

To complete the parent/student/teacher triangle, the Symposium also included workshops and seminars for parents, teachers, and counselors.

See Appendix B for a copy of the program.

#### B. Registration



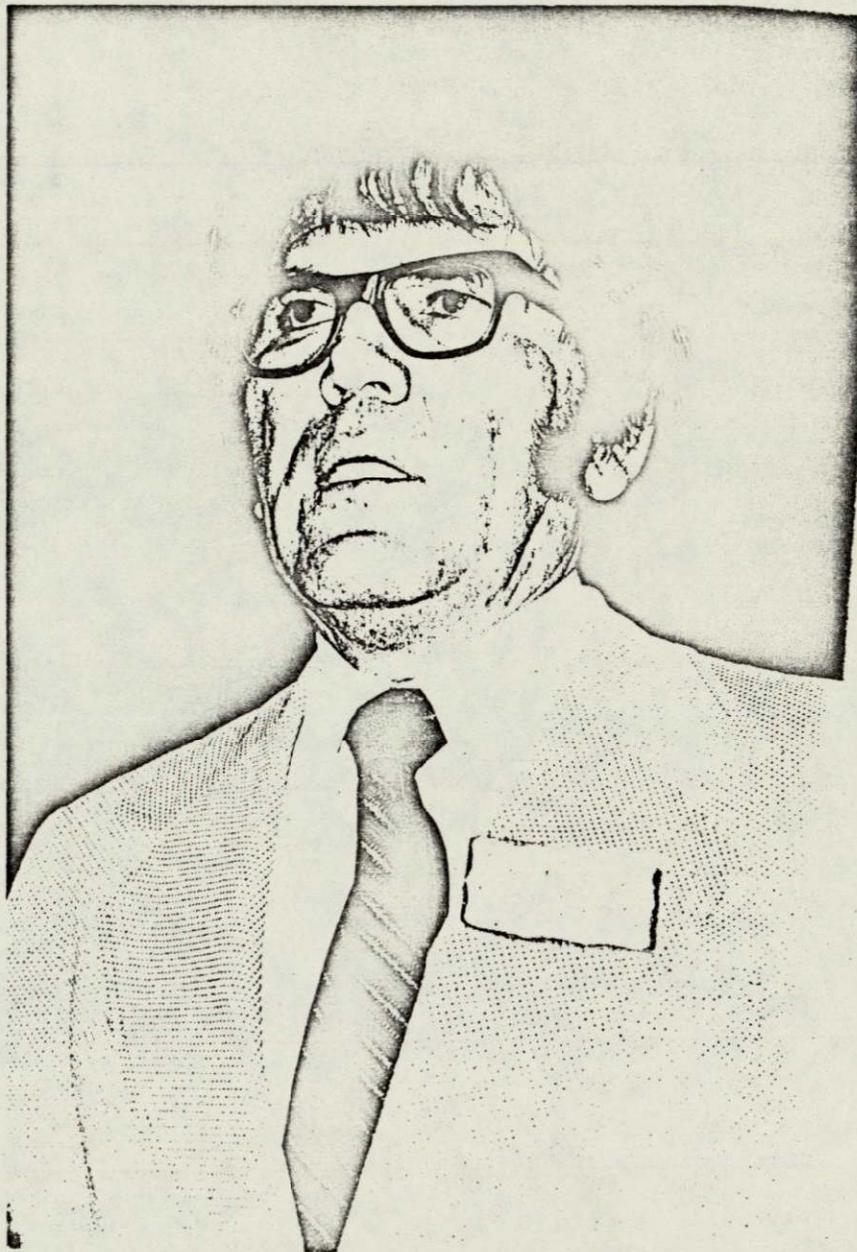
At registration on Wednesday, April 21, and Thursday, April 22, a sponsor from each school attending received a packet containing printed material sent to NMSU by NASA which included a variety of space related subjects. Also included in the packet were name tags for each of the participants and evaluation forms for each to fill out at the end of the Symposium.

To expedite procedure, only one sponsor from each school registered for the entire group. As a list of all participants from the respective schools had been sent previously, it was not necessary for each person to register individually.

On Friday, April 23, each participant was asked to sign a guest book and name tags were made at that time.

C. Opening of Session--Wednesday, April 21, 1976

For the Wednesday session, Louis R. Gomez of NASA, Johnson Space Center, White Sands, New Mexico, was the master of ceremonies. President Gerald Thomas of New Mexico State University was on hand to introduce Jerry Apodaca, Governor of New Mexico, who gave the welcome address.



LOUIS R. GOMEZ  
Johnson Space Center, White Sands, New Mexico  
Master of Ceremonies  
April 21, 1976



DR. GERALD THOMAS  
President  
New Mexico State University

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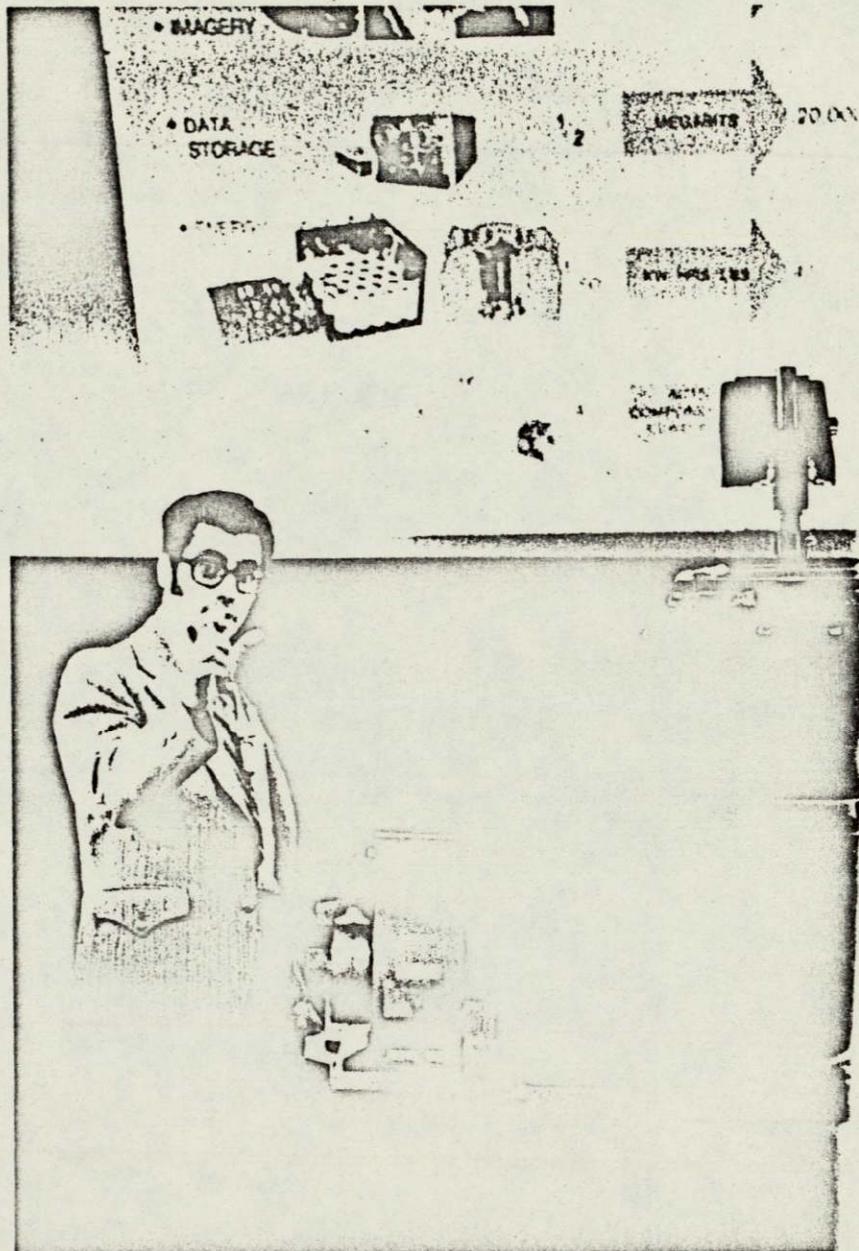
JERRY APODACA  
Governor  
State of New Mexico

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D. Panel--"Toward a Better Tomorrow with Aeronautics and Space Technology"  
This panel, moderated by Frank Penaranda, NASA Headquarters, was presented first because it dealt more with the areas in space technology to which junior high school and high school students could relate.

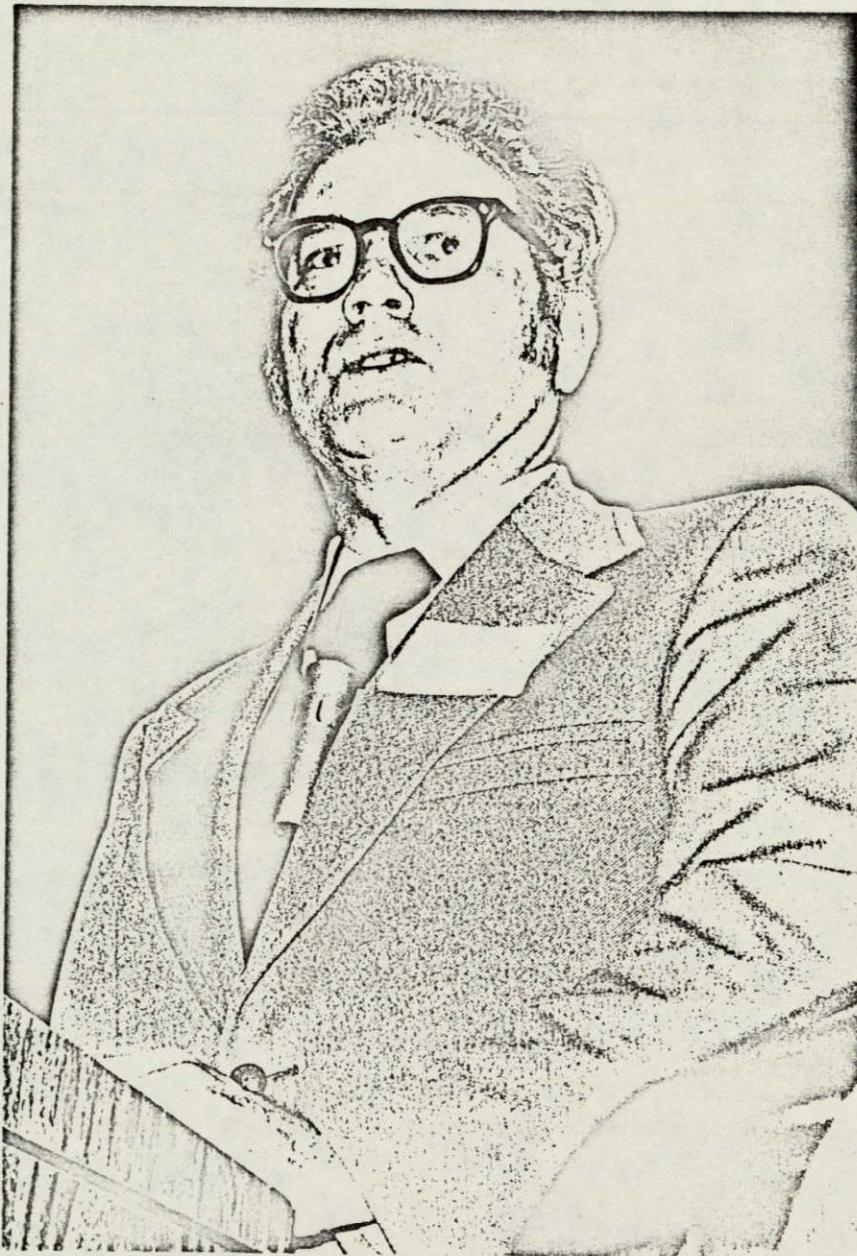
There were many audio/visual aids used in order to help stimulate and keep interest.

Biographical data on NASA speakers may be found in Appendix G.



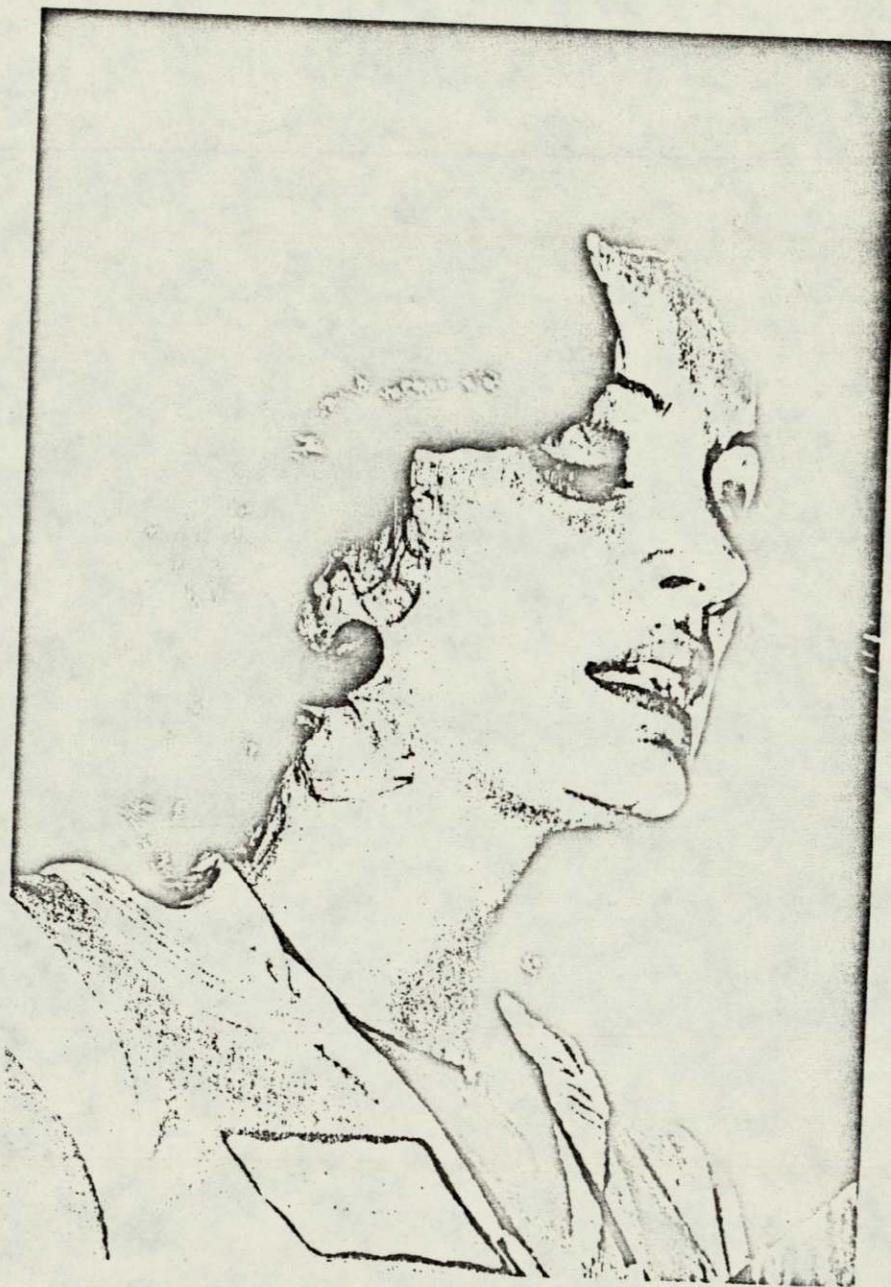
FRANK PENARANDA  
NASA Headquarters, Washington, D.C.  
Moderator for Panel  
"Toward a Better Tomorrow with Aeronautics and Space Technology"

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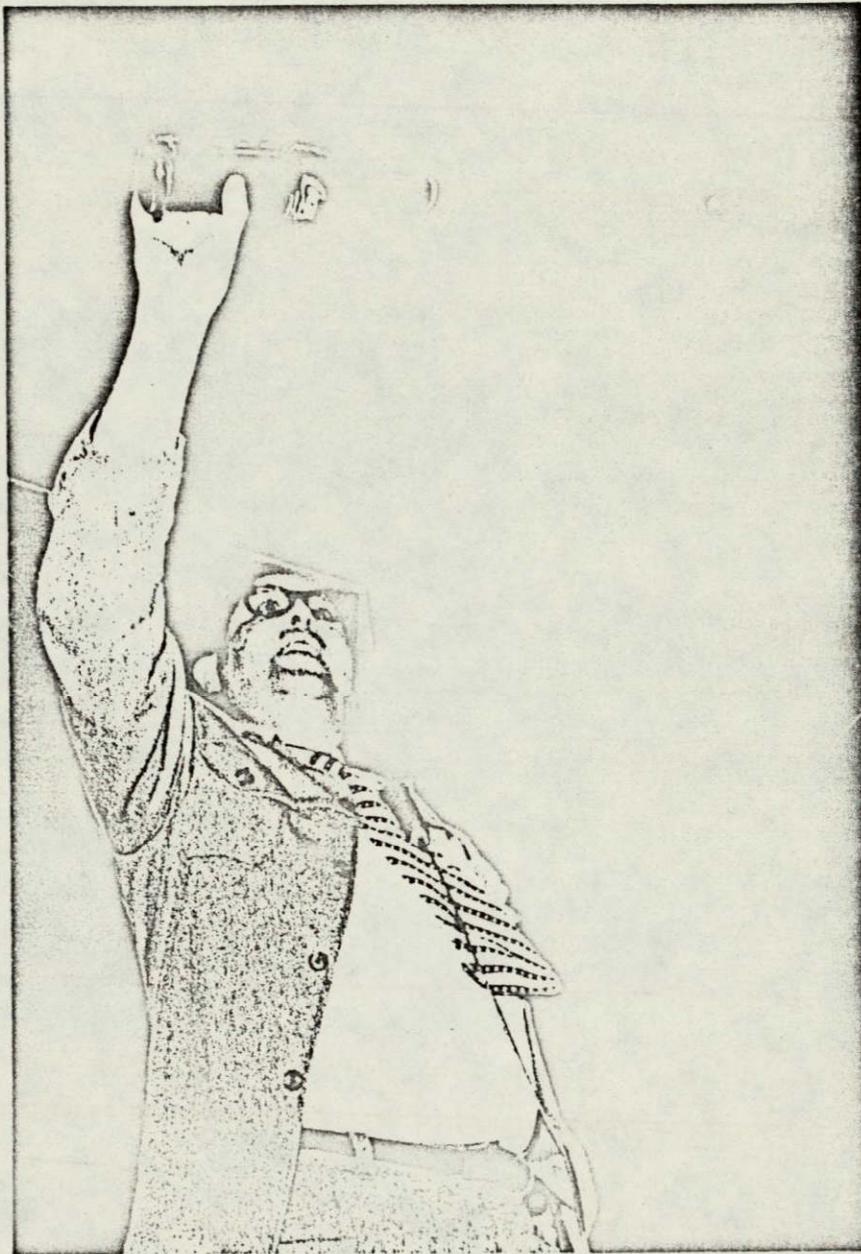
ORLANDO GUTIERREZ  
Lewis Research Center, Cleveland, Ohio  
"Noise Pollution and Energy Development"

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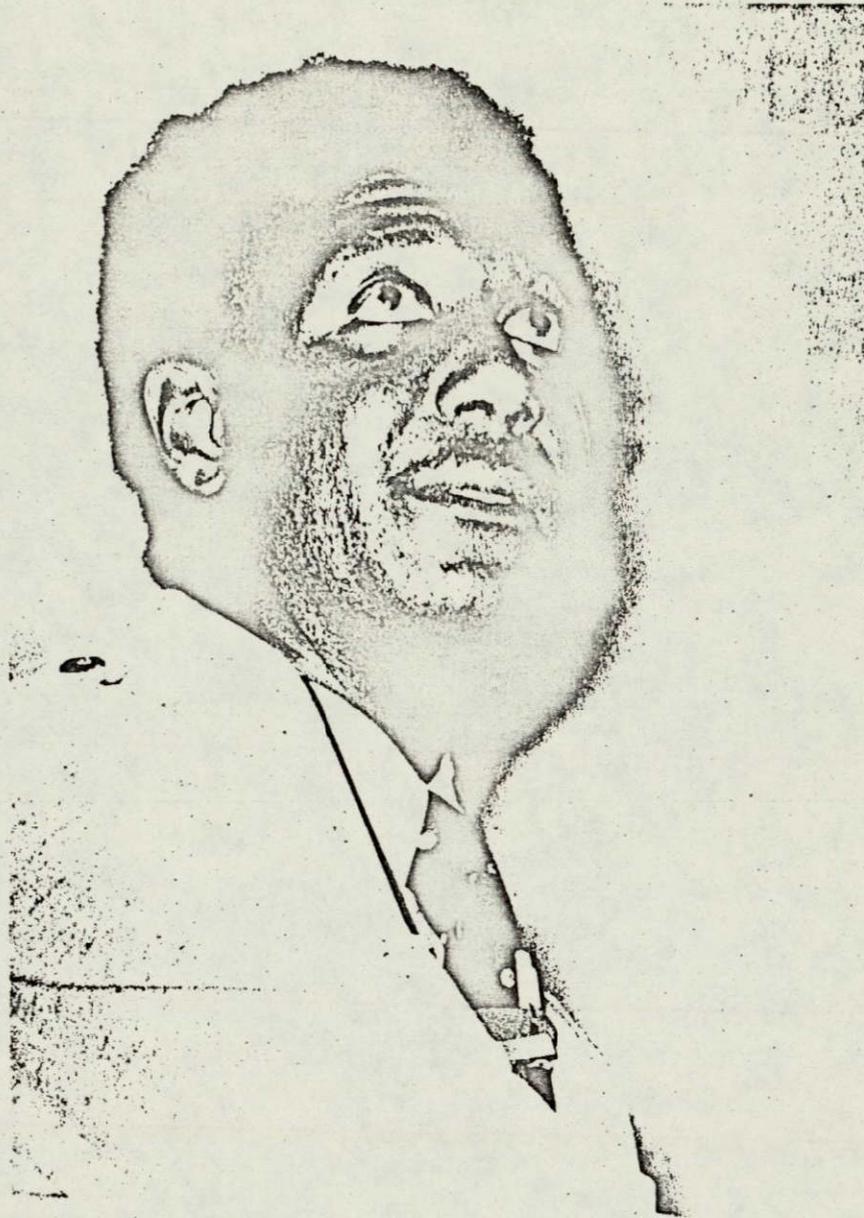
ELENA MELGARES  
Johnson Space Center, Houston, Texas  
"Medical Spinoffs"

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EARL MONTOYA  
Dryden Flight Research Center, Edwards, California  
"The Supercritical Wing"

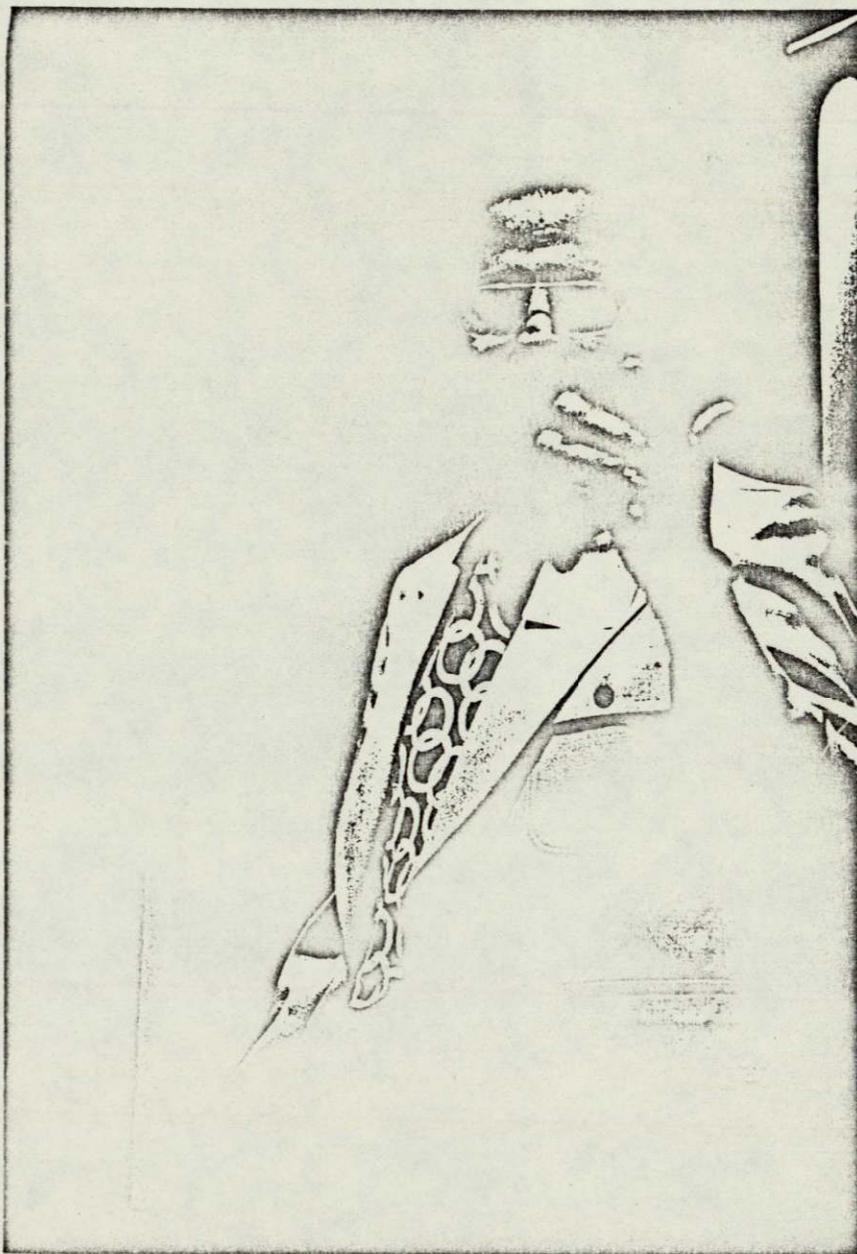
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VERNON SHIELDS  
Johnson Space Center, Houston, Texas  
"Space Technology"

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LEO VILLARREAL  
Johnson Space Center, Houston, Texas  
"Landsat Applications"

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## E. Exhibits

On display during the Symposium were exhibits consisting of various electronic equipment, projectors with tape recordings, Apollo Suit Mock-Up (Man on the Moon), Simulated Moon Rock Display, 1/100th Scale Rotating Shuttle Craft, Skylab Model, Today's Veterinarian in the Space Program, Portable Food Display, 1/3 Scale Command Module Model, EEO Exhibit, HEAO Satellite Model, Skylab Student Experiment Exhibits, 10 Model Aircraft, and other scientific equipment. Available in the exhibit area were complimentary NASA publications on aeronautics and space technology.

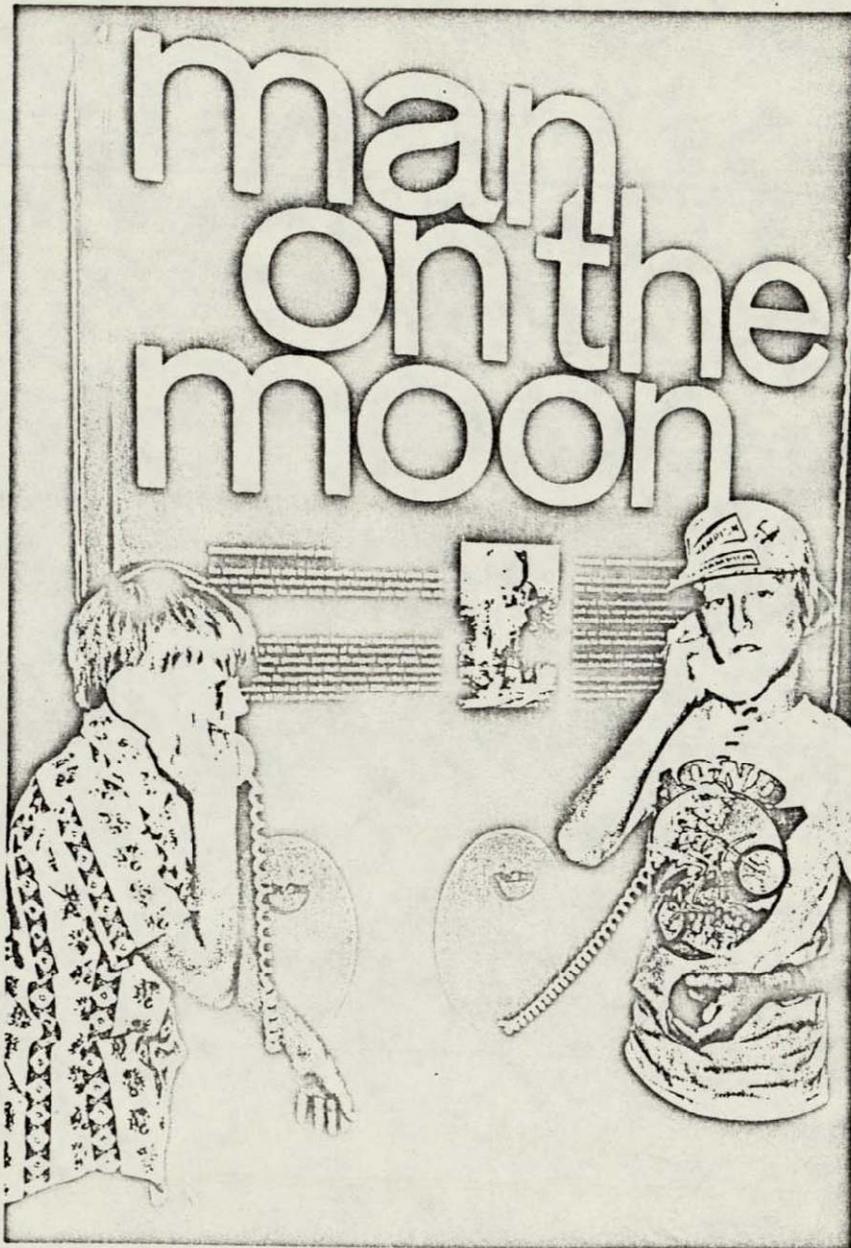
NASA personnel were present to discuss and explain the various exhibits.

Also available were personnel from different departments on campus with information valuable to the visiting students.

The NASA contractors participating in the "job fair" had information booths which attracted many students.

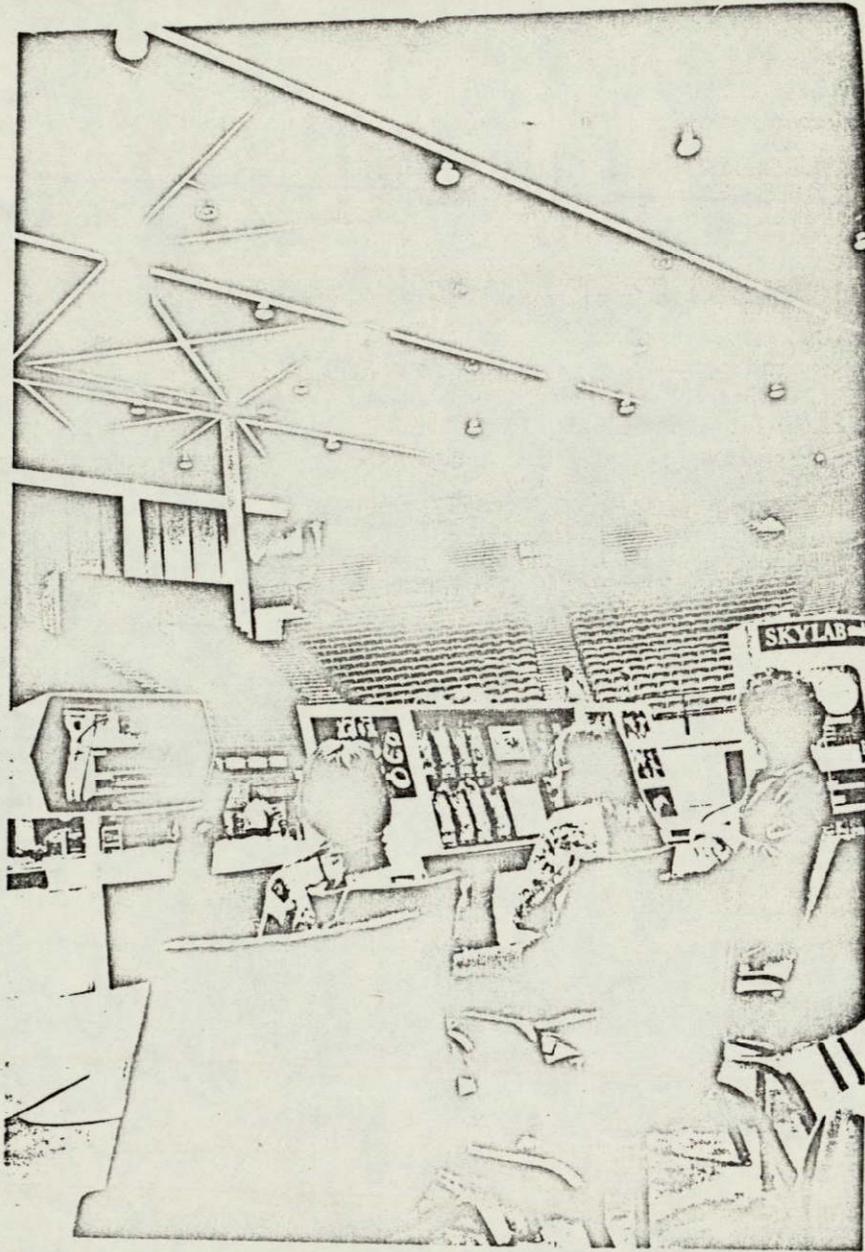
The exhibit viewing time seemed to be a highlight in the day for many of the students, largely because of the one-on-one relationship with the NASA personnel, NASA contractors, and university personnel.

Copies of available photographs of exhibits used at New Mexico State University and a list of publications distributed at the Symposium may be found in Appendix H.



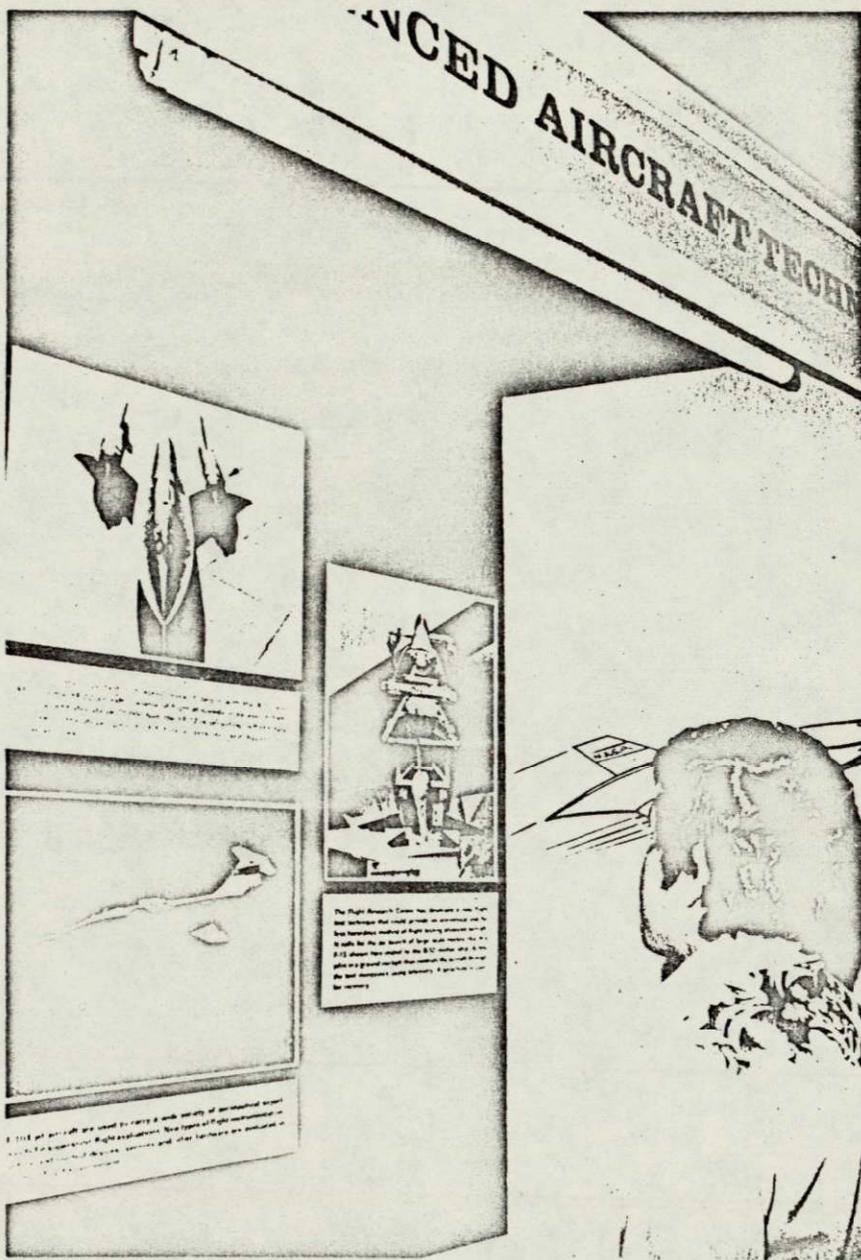
Students enjoy talking on the phones connected to the "Man on the Moon" display. The displays such as this which involved the students actively were the most popular.

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Students were able to sit and observe information being given on projectors.

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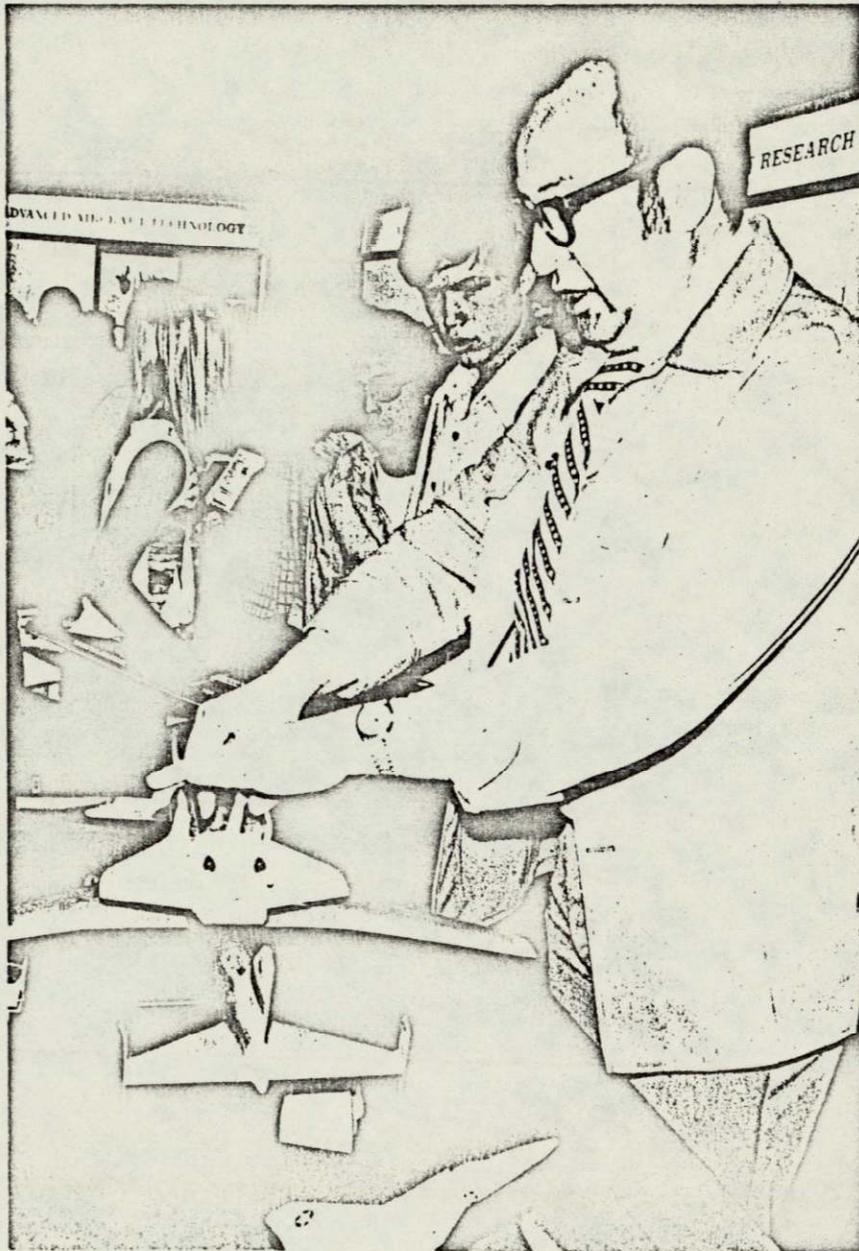
One participant is engrossed in the Advanced Aircraft Technology display.

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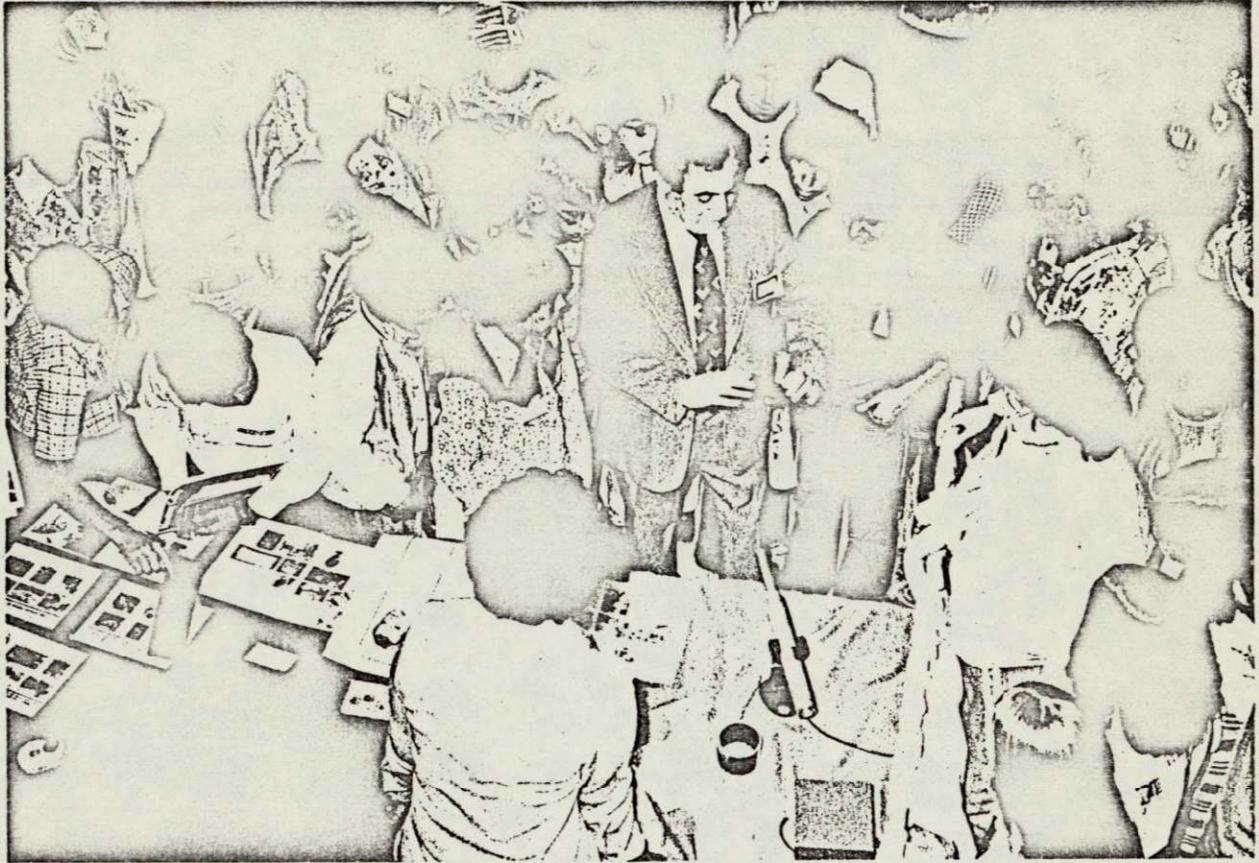
Sylvia Sainz, a co-op student from New Mexico State University, at Dryden Flight Research Center, Edwards, California, explains models to interested students.

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Earl Montoya from Dryden Flight Research Center, Edwards, California explains the operation of one of the model planes.

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Raul Robles and Carlotta Taylor, representatives from Hughes Aircraft Company, demonstrate the laser.

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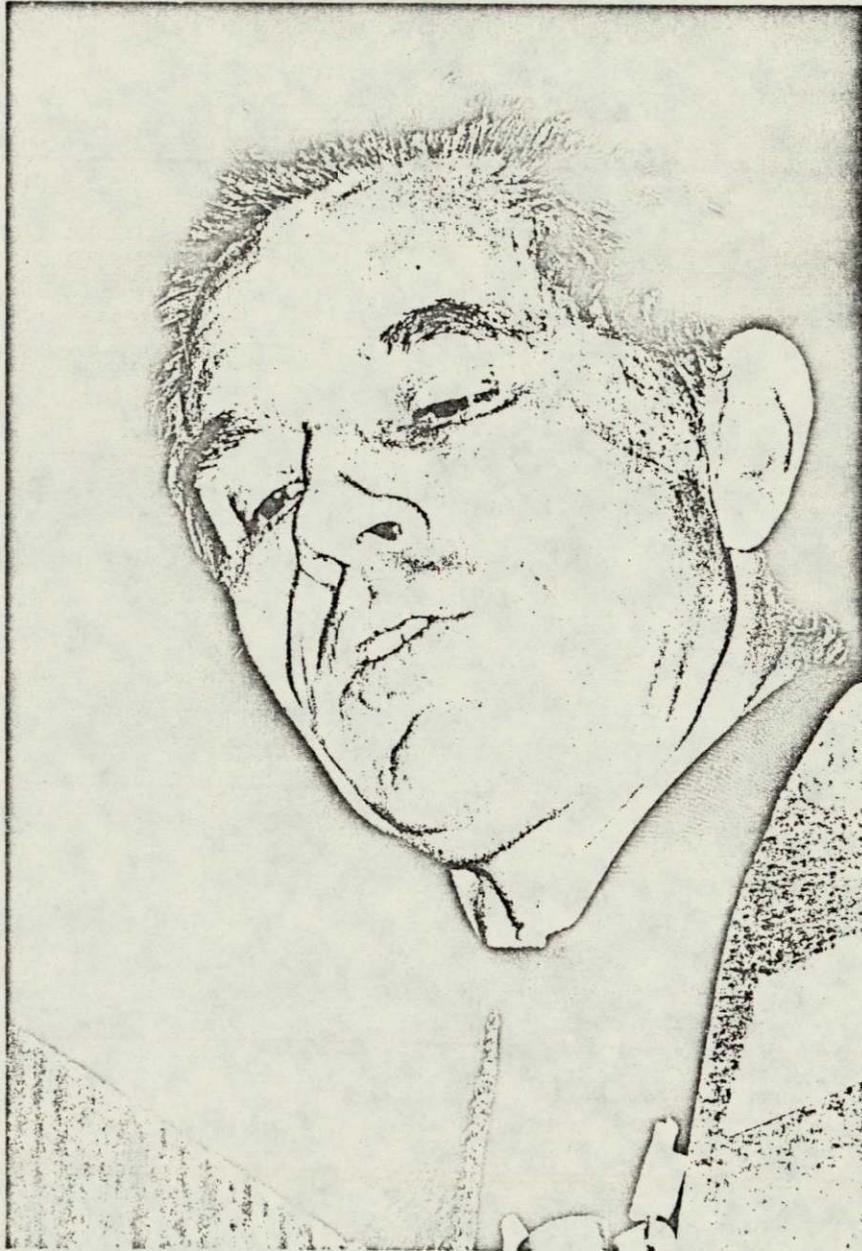
F. "The Space Shuttle"

Dr. Karl G. Henize, NASA astronaut from Johnson Space Center, Houston, Texas, discussed "The Space Shuttle."

Dr. Henize was selected as a scientist-astronaut by NASA in August, 1967. He has completed the initial academic training and the 53-week jet pilot training program at Vance Air Force Base, Oklahoma. He was a member of the astronaut support crew for the Apollo 15 mission and for the Skylab 2, 3, and 4 missions. He is currently concerned with the operation of payloads on the Space Shuttle and is the leader of the NASA Facility Definition Team for a proposed 1-meter general-purpose Shuttle telescope for ultraviolet and optical astronomy.

After Dr. Henize talked on the Space Shuttle, the floor was opened for questions from the participating students. This question/answer period was one of the highlights for many of the students because of the opportunity for them to become involved.

On Wednesday, April 21, a press conference with Dr. Henize attracted media personnel from Las Cruces, El Paso, and Albuquerque.



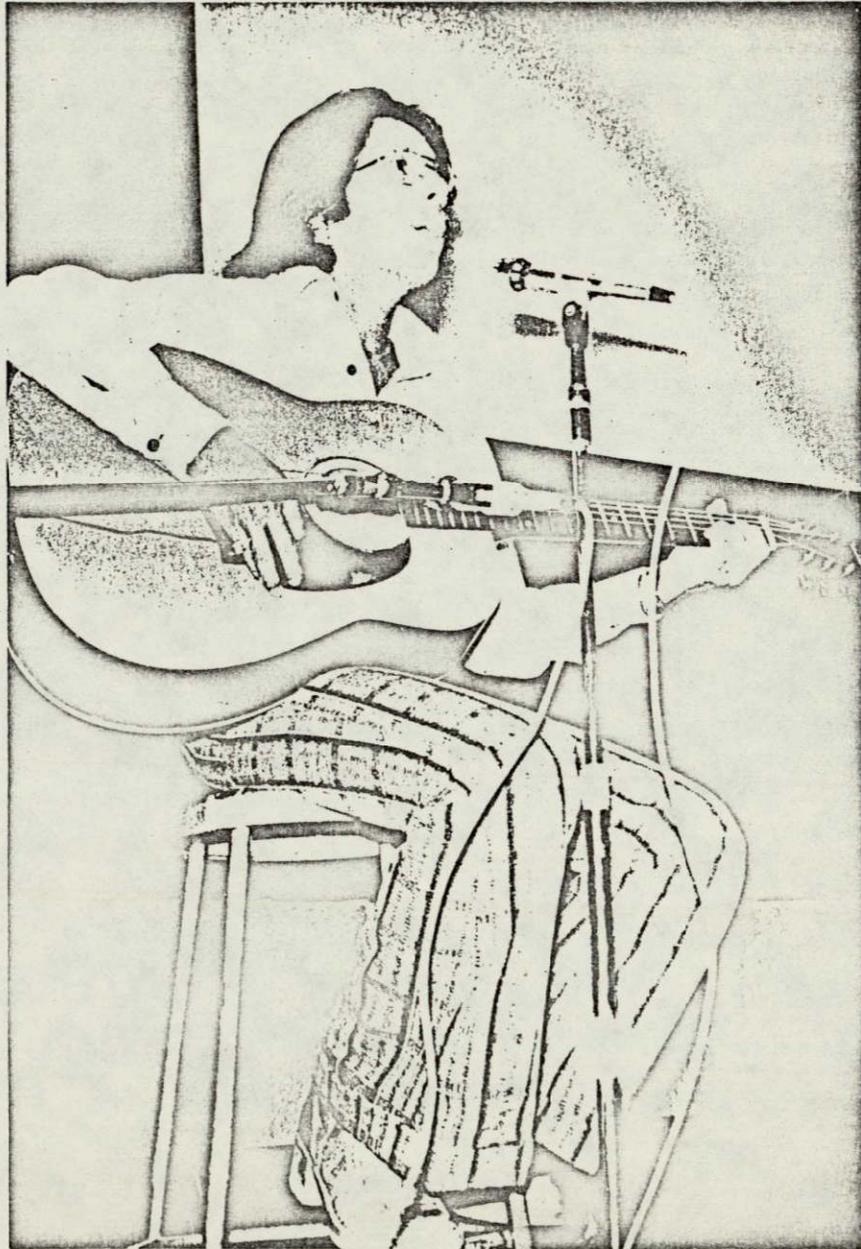
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DR. KARL G. HENIZE  
Johnson Space Center, Houston, Texas  
"The Space Shuttle"

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G. Concert--Albert Cherino, Isleta Indian

Since the week of April 19 was Native American Week on campus, as many of their events as was possible were incorporated into our schedule. The concert by a Native American youth during the lunch break on Wednesday and Thursday was one such event.



ALBERT CHERINO

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H. Panel--"Aeronautics and Space Technology--A Look at NASA's Past,  
Present, and Future"

This panel was moderated by Joe Doke from Johnson Space Center, Houston, Texas. The panelists discussed the past, present, and future of NASA, each going more deeply into their respective topics.

Again there were several audio/visual aids utilized for interest.

Biographical data on NASA speakers may be found in Appendix G.

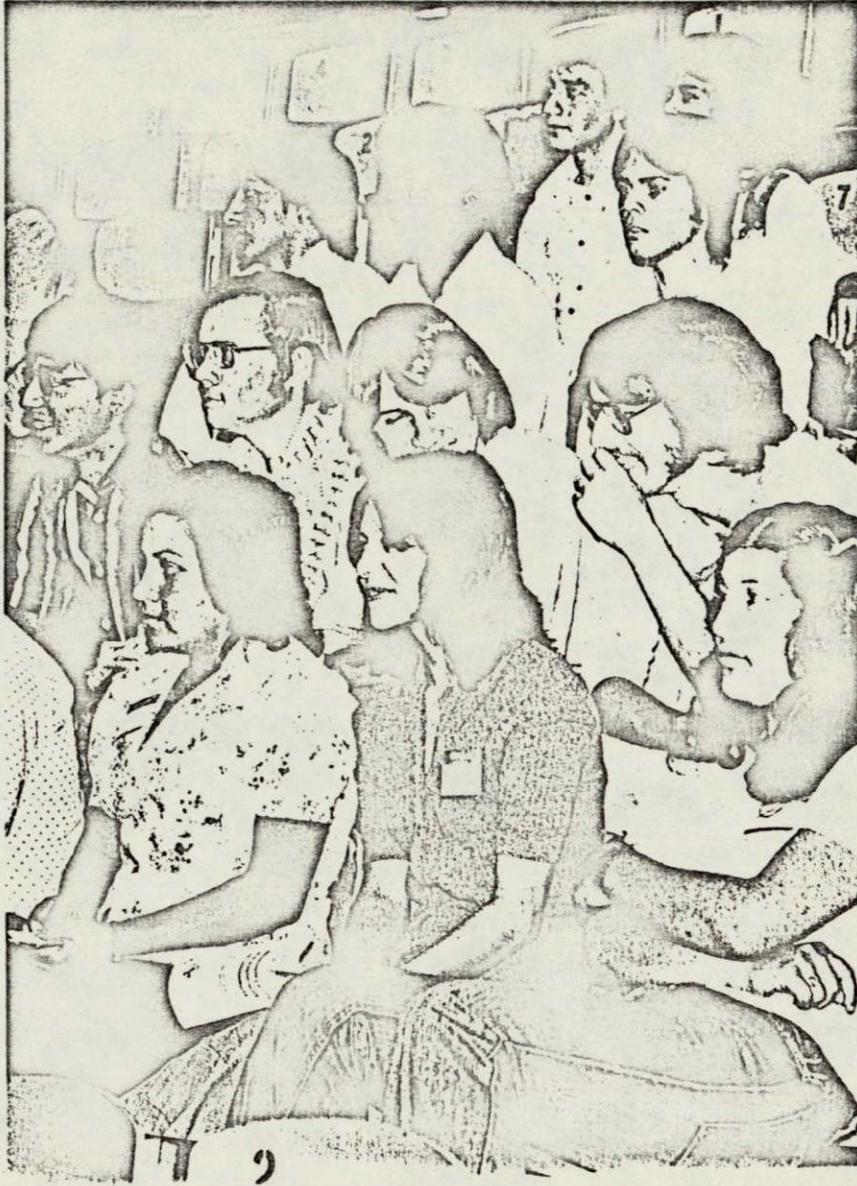


JOE DOKE  
Johnson Space Center, Houston, Texas  
Moderator for Panel  
"Aeronautics and Space Technology--  
A Look at NASA's Past, Present, and Future"

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FERNANDO ESPARZA  
Kennedy Space Center, Florida  
"The Viking and Other Deep Space Explorations"



---

Audience becomes involved with presentation as they relate ideas to topic.

EARL MONTOYA  
Dryden Flight Research Center, Edwards, California  
"Aeronautics"

(Earl Montoya's photograph pages 22 and 30)

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## I. Career Information Session

The special sessions for counselors/teachers on career information was designed to give opportunity to Bob Finnell from the National Academy of Engineering and NASA resource people to inform these people of careers available. In this way, the counselors/teachers would be better able to inform the students.

There were suggestions on motivating interest and information on contacts available for further resource materials.



BOB FINNELL  
Deputy Director  
Committee on Minorities in Engineering  
National Research Council Assembly of Engineering  
Moderator for  
Career Information Session

J. Evening Session--"What a Parent Needs to Know--An Overview of NASA"  
This Wednesday evening session attracted over 100 parents and community people.

The program content and presentation was altered to fit the audience. Dr. Karl G. Henize discussed basically what he felt a parent should know about NASA and space related areas in order to help them in guiding their children in a career choice.

K. Native American Arts and Crafts Display

As mentioned previously, some of the Native American activities were included in our schedule. The one which was held on Wednesday evening was the Native American arts and crafts display.

On display were numerous paintings, pottery, jewelry, and other works of art.

One table of displays included a worker making "Ojos de Dios," which according to Native American lore, keep the evil spirits away.



NATIVE AMERICAN  
Arts and Crafts Display

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NATIVE AMERICAN  
Artist  
Designing "Ojos de Dios"

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L. Opening of Session--Thursday, April 22, 1976

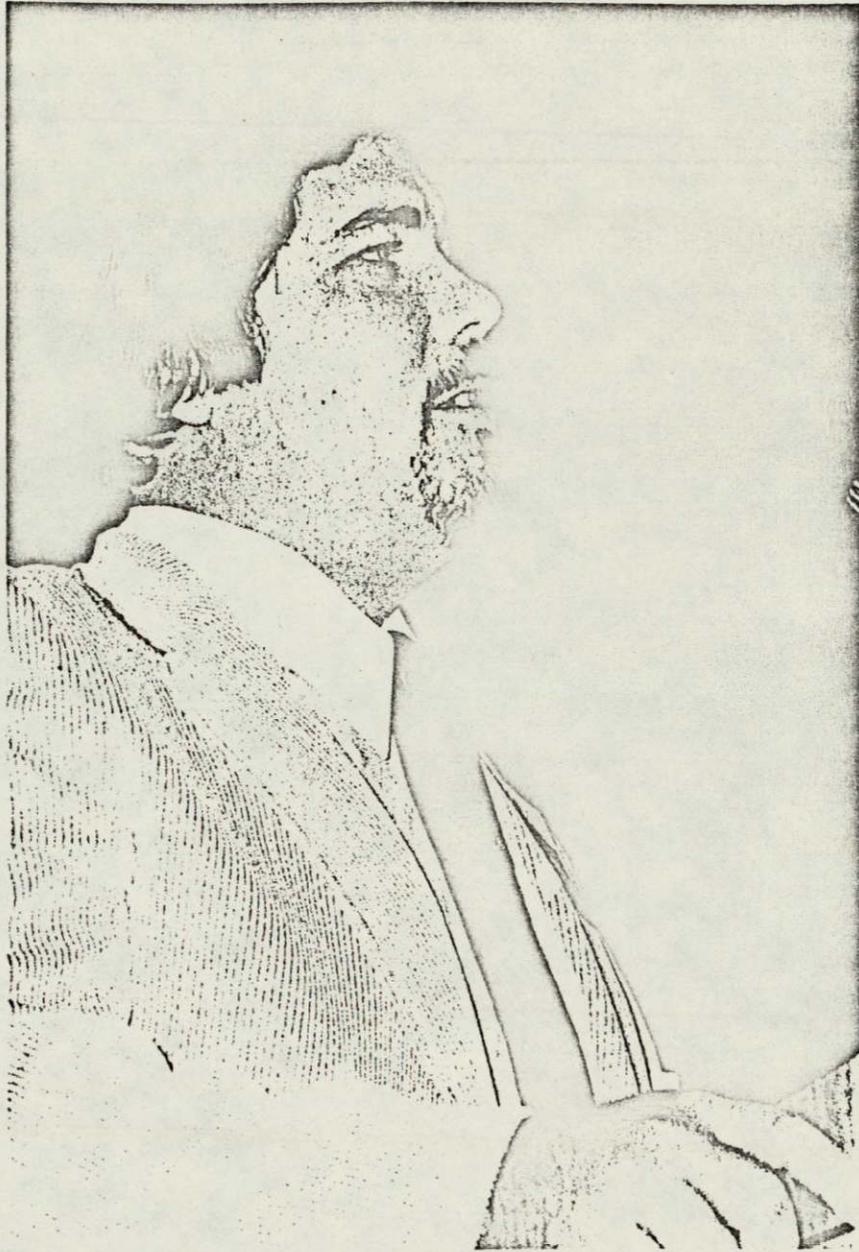
On Thursday, April 22, the master of ceremonies for the day was Dr. Robert San Martin from the College of Engineering, New Mexico State University. Dr. Richard E. Pesqueira, Vice President of Student Affairs, New Mexico State University, was on hand to introduce Albert Johnson, Mayor of the City of Las Cruces, who gave the welcome address.

The sessions for the day were the same as Wednesday's sessions with the exception of a special session for women which was held in conjunction with the panel on "Aeronautics and Space Technology--A Look at NASA's Past, Present, and Future."



Dr. Robert San Martin, Master of Ceremonies, April 22, discusses the activities of the day with Louis R. Gomez, Master of Ceremonies, April 21. Dr. San Martin is from the College of Engineering, New Mexico State University, and Mr. Gomez is from Johnson Space Center, White Sands, New Mexico.

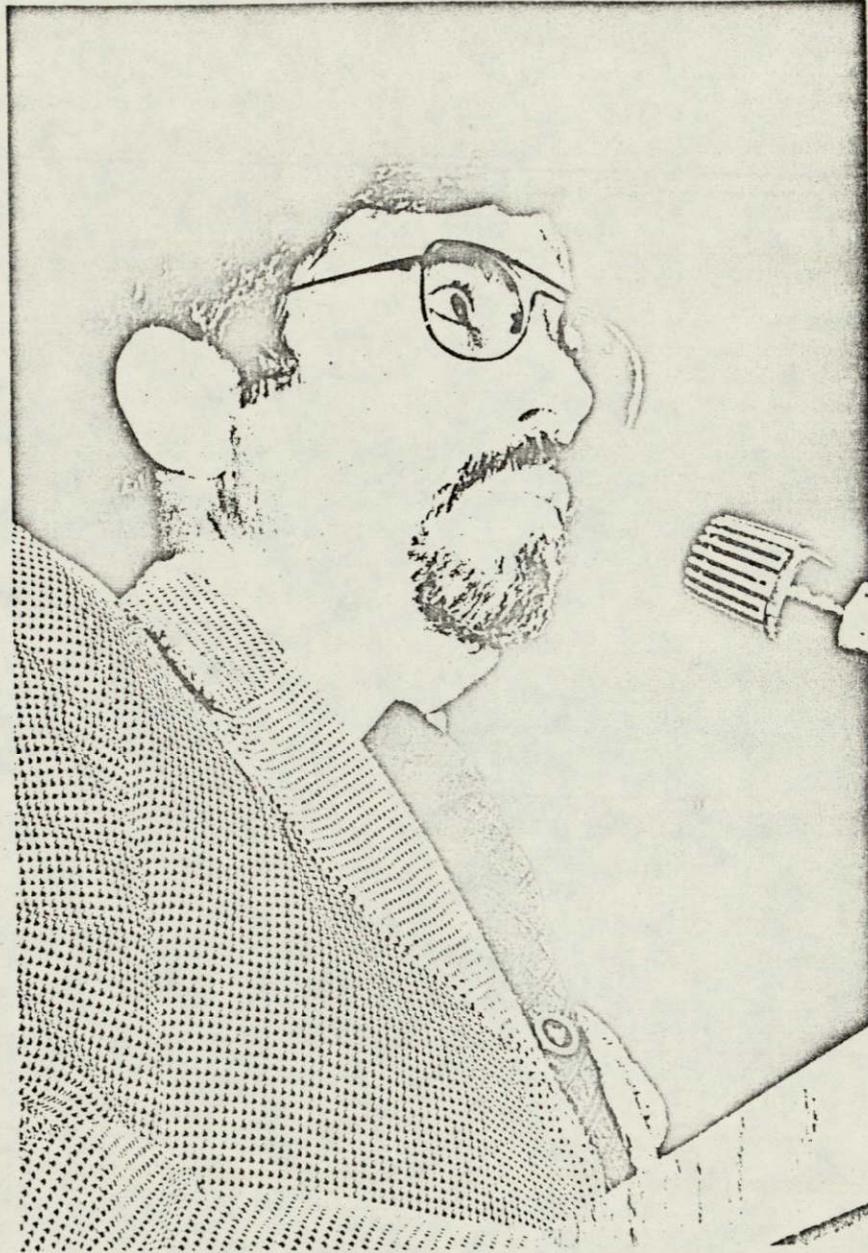
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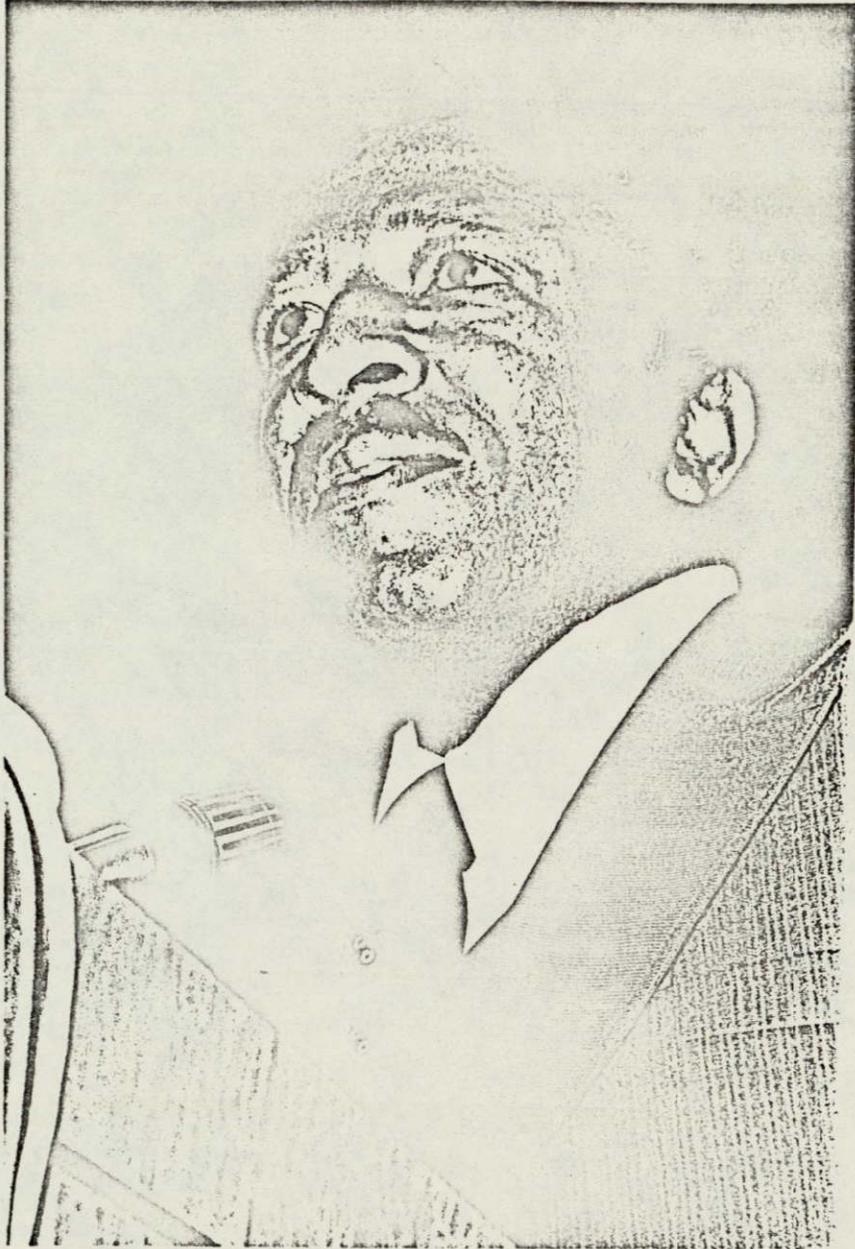
DR. ROBERT SAN MARTIN  
College of Engineering  
New Mexico State University  
Master of Ceremonies  
April 22, 1976

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DR. RICHARD E. PESQUEIRA  
Vice President of Student Affairs  
New Mexico State University

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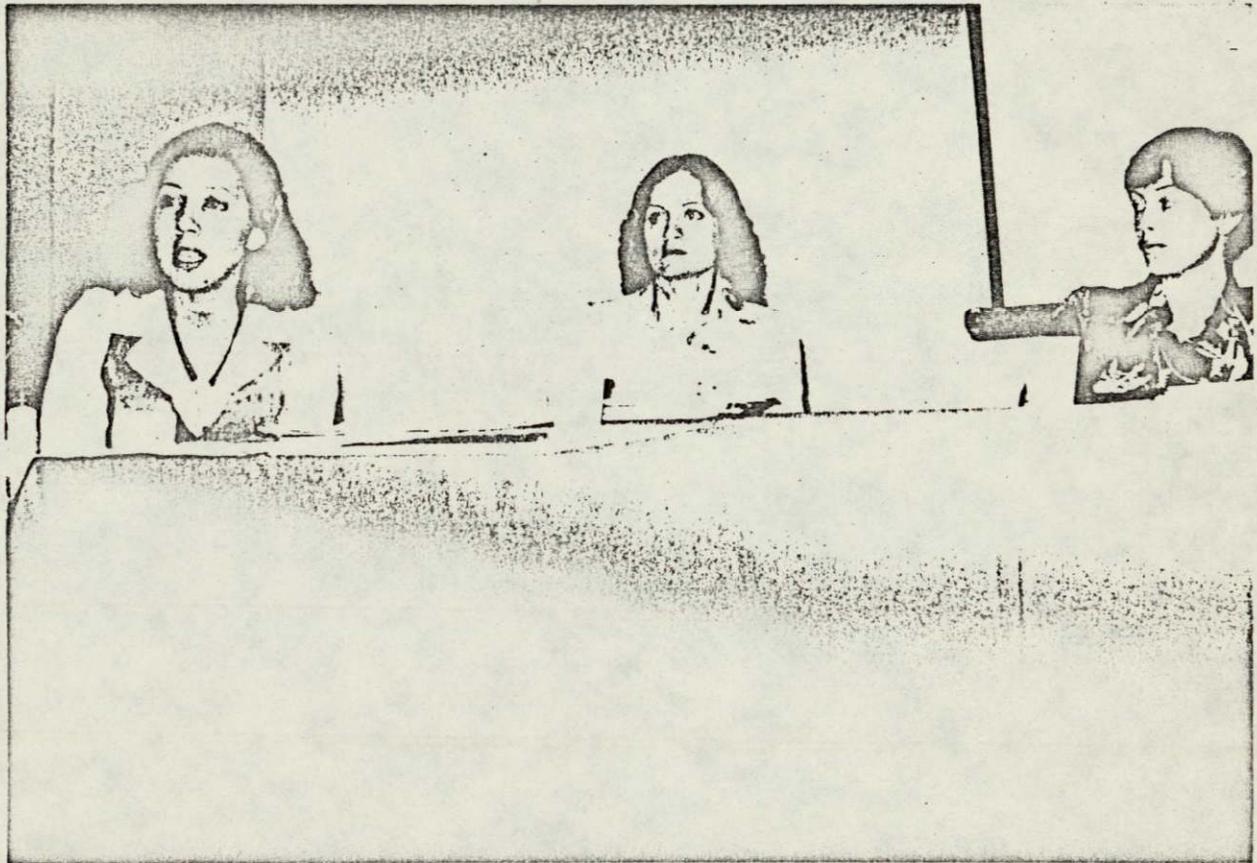


ALBERT JOHNSON  
Mayor  
City of Las Cruces

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M. Panel--"Women in Aeronautics and Space Technology"

This session was designed especially for women to help motivate members of their sex into the areas of science and engineering. Having a session with women already in those fields was one way of convincing them that engineering and science areas of training are not so exceptionally difficult and that careers in these fields can be enjoyable. The panel was moderated by Dora Puleo from Goddard Space Flight Center, Greenbelt, Maryland.



(Left to right) Dora Puleo, Goddard Space Flight Center, Greenbelt, Maryland; Elena Melgares, Johnson Space Center, Houston, Texas; Barbara Eandi, Johnson Space Center, Houston, Texas. Not pictured--Sylvia Sainz, Dryden Flight Research Center, Edwards, California.

N. Social Hour/Dinner

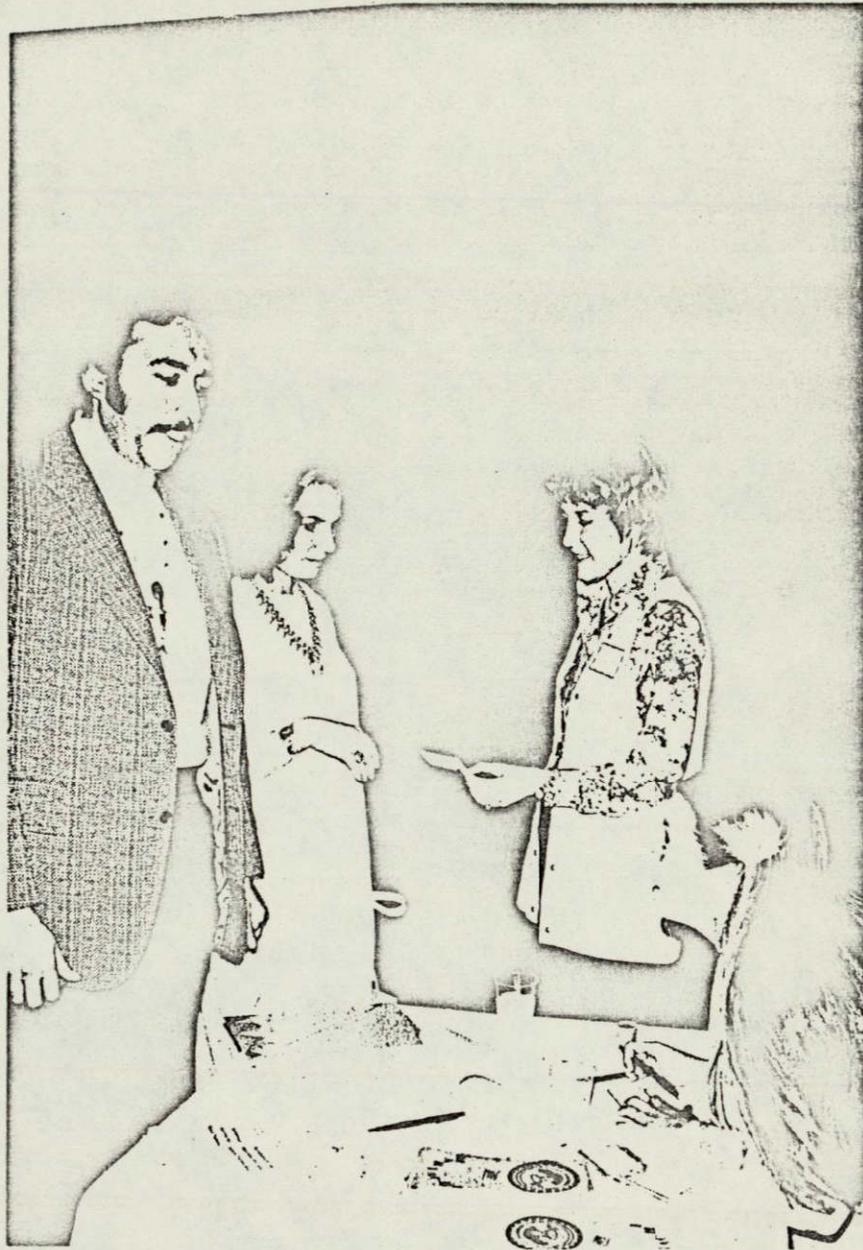
The highlight of Thursday's activities for many of the participants was the social hour and dinner held for college faculty and administrators, student counselors, industrial representatives, and NASA officials.

There were approximately 100 people present for this event. The new Holiday Inn de Las Cruces provided a beautiful and friendly atmosphere for the occasion.

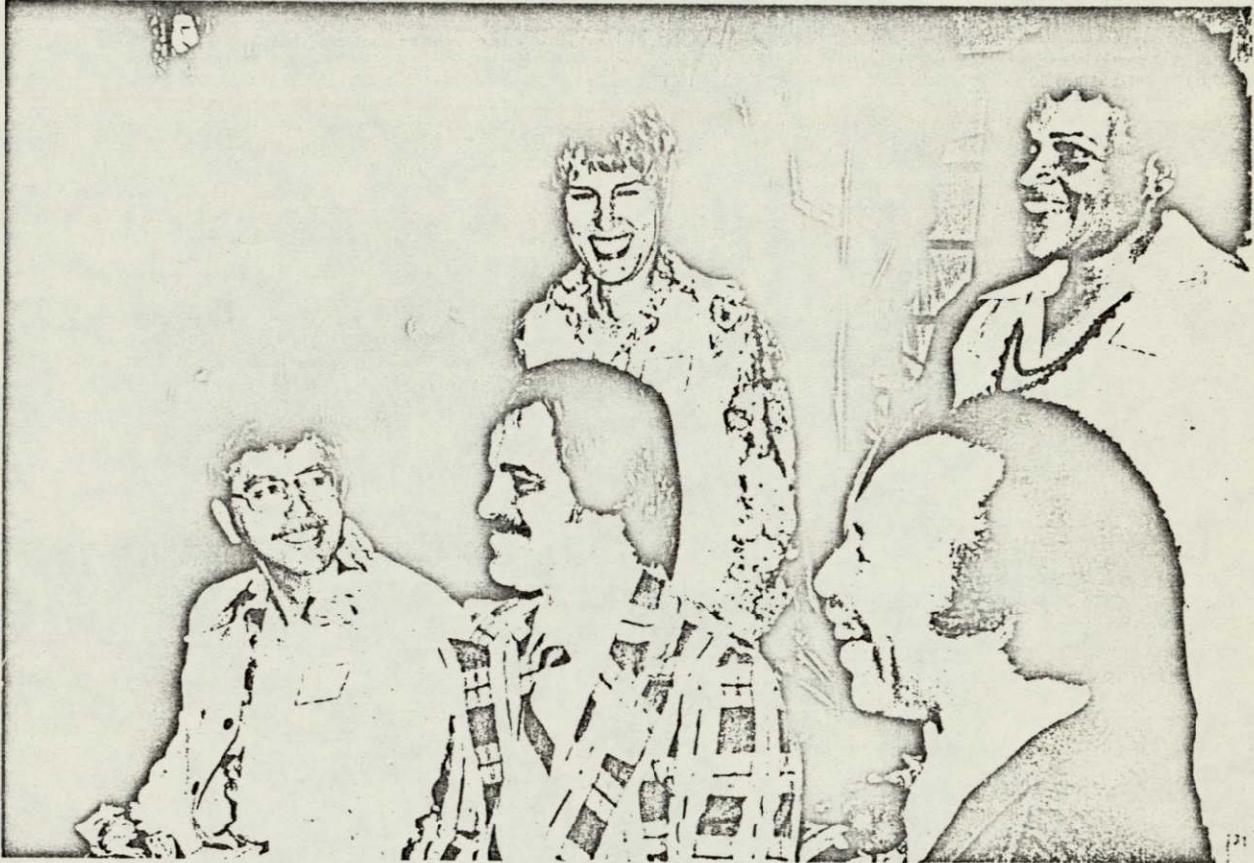
Entertainment for the social hour was a ten-member Mariachi Band from El Paso Community College, El Paso, Texas.

Dr. John Hernandez, Dean of the College of Engineering, New Mexico State University, was the master of ceremonies for the evening.

The after dinner speaker, Dr. Harriett Jenkins from NASA Headquarters, reviewed the status of equal employment opportunity programs and the role of women and minorities.

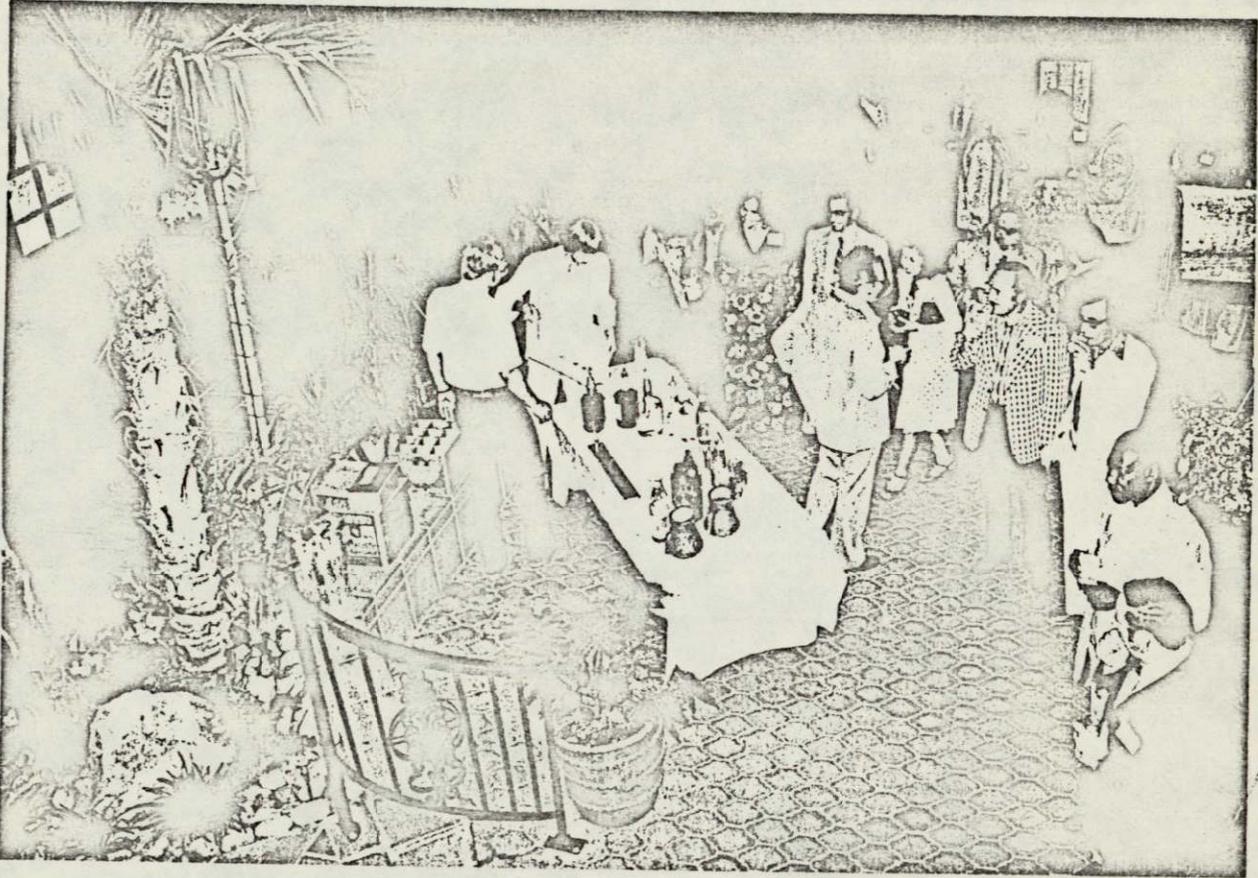


(Left to right) David Valencia and Barbra Bowman from Oregon State University talk with Elcid Mancini and Jerean Camunez from New Mexico State University at the registration table for the Thursday evening social hour and dinner.



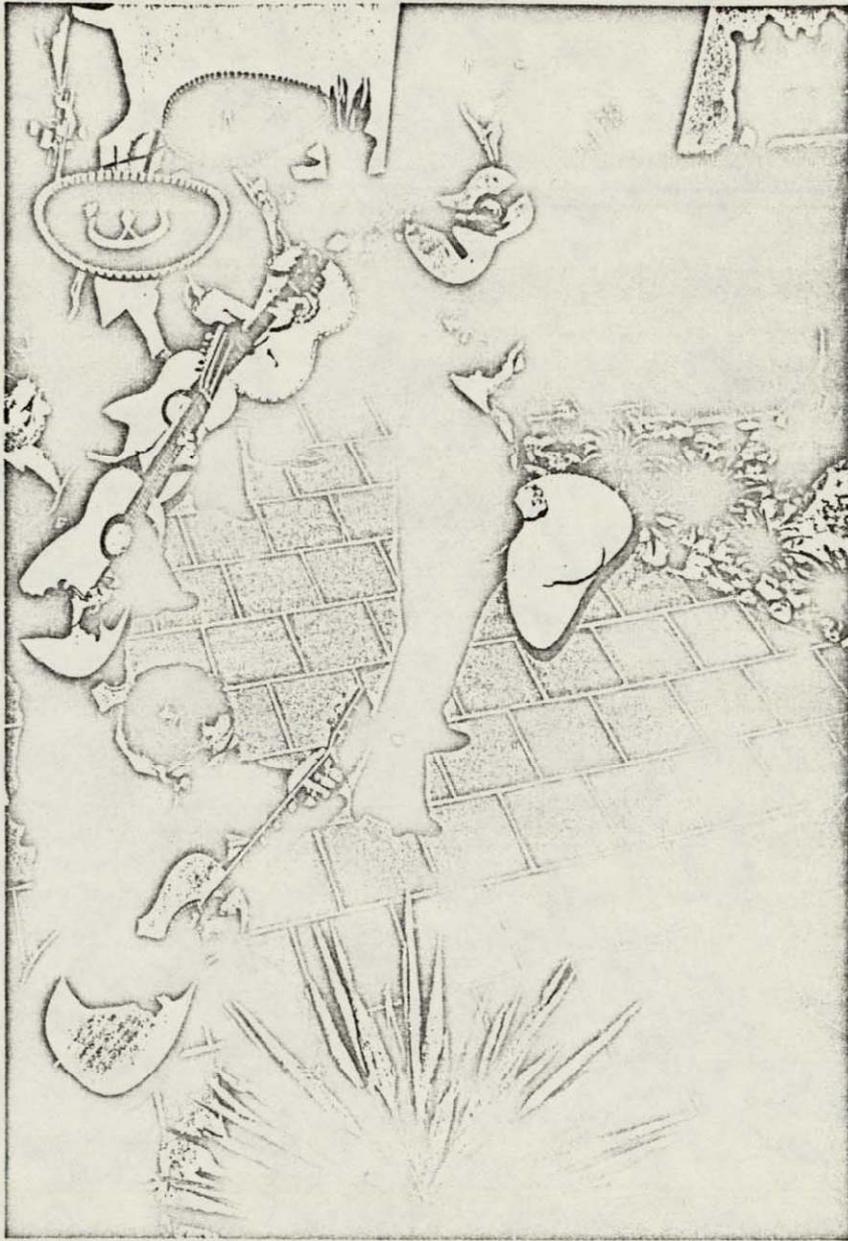
(Standing Left to Right) Elcid Mancini, Project Assistant, New Mexico State University; Dr. Harriett Jenkins, NASA Headquarters

(Seated Left to Right) Alfonso Ludi, NASA Headquarters; Armando R. Alba, Director of Placement and Career Services, New Mexico State University; M. Stanley Kelly, NASA Headquarters



The new Holiday Inn de Las Cruces provided the setting for the no-host social hour which was held Thursday evening, April 22, 1976.

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The entertainment for the social hour was provided by a ten-member Mariachi Band from El Paso Community College in El Paso, Texas.

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(Left to Right) Dr. Harriett Jenkins, NASA Headquarters, Washington, D.C.;  
Dr. John Hernandez, Dean of the College of Engineering, New Mexico State  
University.

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#### O. Curriculum Workshop/Special Programs Workshop

The Friday morning workshops on curriculum and special programs were some of the more significant elements of the NASA Symposium in terms of lasting impact. These sessions were directed at identifying the programs that are available to students from minority groups and their problems they encounter in entering college and in transferring from an initial institution to one that offers engineering degrees.

The Friday morning session was divided into two topic areas: Curriculum discussions and special minority programs. There were 32 college professors and/or administrators from regional institutions participating in the curriculum workshop. In the first hour of these discussions, the college faculty members were joined by NASA personnel and a number of high school teachers and counselors in a panel discussion on curriculum topics. The panel consisted of the following:

Dr. John W. Hernandez, Dean of Engineering, NMSU

Dr. Ray W. Guard, Dean of Engineering, UTEP

Dr. Arnold Koshmann, Assistant Dean of Engineering, UNM

Mr. Joe Doke, NASA, Johnson Space Center

Dr. Harriett G. Jenkins, Assistant Administrator for Equal Opportunity Programs, NASA, Washington

Ms. Barbara Eandi, University Affairs Officer, NASA, Johnson Space Center

The panel presented four concepts for consideration: that there is a basic curriculum that all science and engineering students should take; that these basic courses can often be taken, in part or in total, at junior colleges and at institutions that do not specialize in these fields; that

because of improved retention, that minority students may often be better advised to begin their college life at institutions near home and then transfer to a school offering engineering or other curriculum of interest; and that there needs to be a clear-cut, unambiguous curriculum that students at these institutions can take and know that courses in the program (for example, a pre-engineering program) will all be accepted by the principal universities in the region.

There was a strong and interesting floor discussion on several of these points. Two examples of course transfer techniques were briefly presented: one is the cross-listing of all courses and their equivalent at all of the regional institutions; and the second was a letter of agreement between pairs of institutions that sets forth a two-or three-year pre-engineering or pre-science curricula that students may follow and have assurance that all course work will transfer.

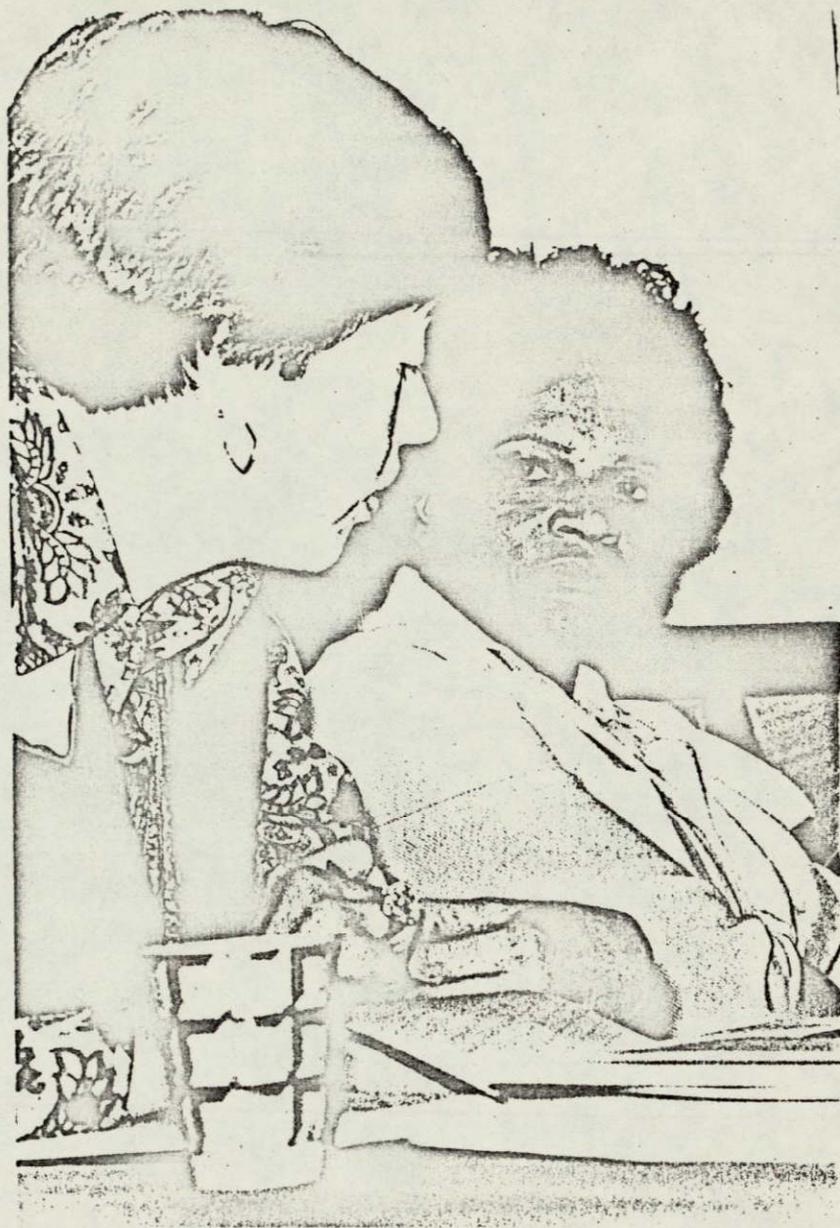
Following this initial discussion, the workshop was split into two groups-- one to discuss special programs for minority students and the other to continue to work on curriculum and the problems of college credit transfer. The counselors and teachers interested in financial aids and other programs for women and minorities in engineering were presented with a range of programs that are intended to facilitate college entrance and to improve retention. Some of these programs were MITE, DAOS, ME, and other industrial and federal agency programs and grants, co-op opportunities, work-study, and a number of types of counseling and tutoring efforts. A good deal of discussion centered on co-op programs and problems that students encounter that tend to discourage their participation in this excellent adjunct to their formal educational processes.

The second session of the curriculum workshop was aimed at obtaining agreement between the various colleges in the region and the transferability of course credits between institutions, particularly those in math, physics, chemistry, geology and economics as these are the basic subject areas that form the foundation of a pre-engineering program. The four universities in the region that do award B.S. degrees in engineering (UNM at Albuquerque, NMIT at Socorro, UTEP at El Paso, and NMSU) all gave their views on pre-engineering programs. It was agreed that it should be possible for a student at any of the other regional colleges and institutions to enroll in courses and know that those courses will be acceptable to meet specific requirements in the engineering curricula at the four regional schools offering that degree. The goal of the session, to formulate a means of initiating agreements on course transferability, was successful as the representatives of the 12 colleges participating in the discussions all agreed to work together toward a common transfer mechanism. A Fall session of a working committee for this purpose was decided upon with a further general session to follow.



Panel members for the general session of the Curriculum Workshop are  
(Left to Right) Dr. John Hernandez, Dean of Engineering, New Mexico State  
University; Arnold Koshmann, Assistant Dean of Engineering, University of  
New Mexico; Ray Guard, Dean of Engineering, University of Texas at El Paso;  
Joe Doke, NASA, Johnson Space Center.

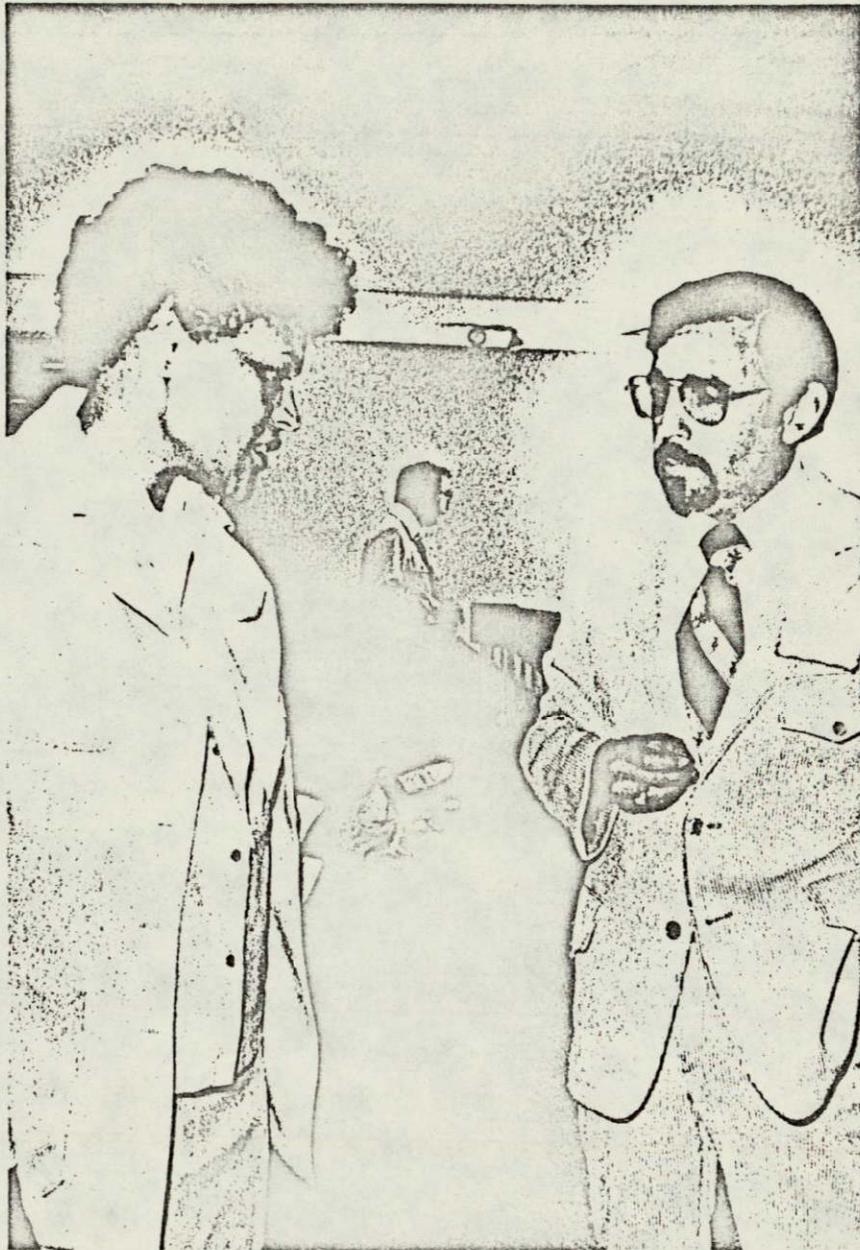
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Panel members for the general session of the Curriculum Workshop are  
(Left to Right) Barbara Eandi, NASA, Johnson Space Center; Dr. Harriett  
Jenkins, NASA Headquarters.

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(Left to Right) Dr. Harriett Jenkins, NASA Headquarters, discusses issues with Dr. Richard E. Pesqueira, Vice President of Student Affairs, New Mexico State University.

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During a break in the Friday morning sessions, local counselors discuss issues with Dr. Thomas Gale (center), Dean of Arts and Sciences, New Mexico State University.



The working session of the Curriculum Workshop chaired by Dr. John Hernandez, Dean of Engineering, New Mexico State University, (lower right) was aimed at obtaining agreement between the various colleges in the region and the transferability of course credits between institutions.

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The Special Programs Workshop, chaired by Earl Ginyard, NASA Headquarters, (Center Head Table) was geared for placement directors, cooperative education program directors/counselors, and minority faculty members.

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P. Luncheon/Native American Style Show

The three-day Symposium on Aeronautics and Space Technology ended with a luncheon and Native American Style Show. The models' costumes were from several of the Native American Cultures in the area.



ISLETA COSTUMES

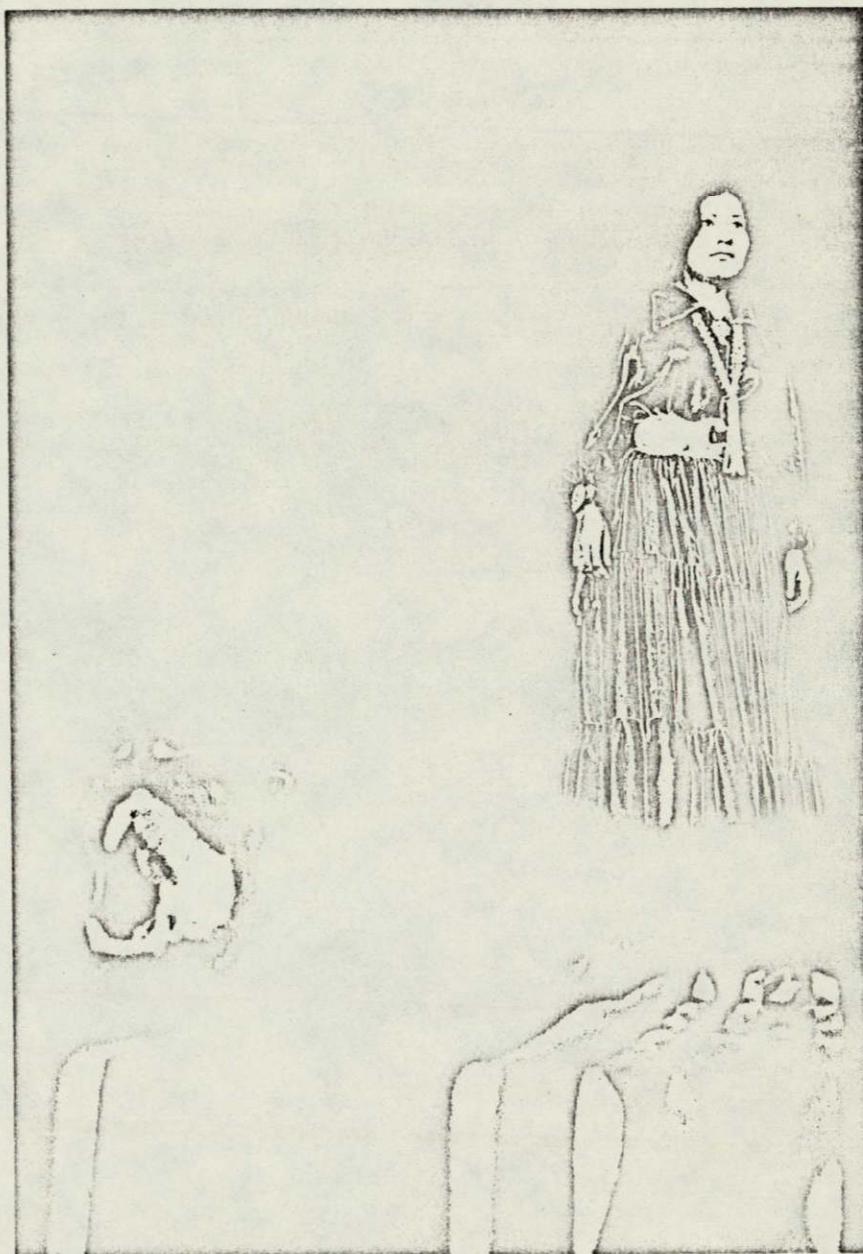
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LADY'S LAGUNA COSTUME

YOUNG BOY'S NAVAJO COSTUME

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NAVAJO COSTUME

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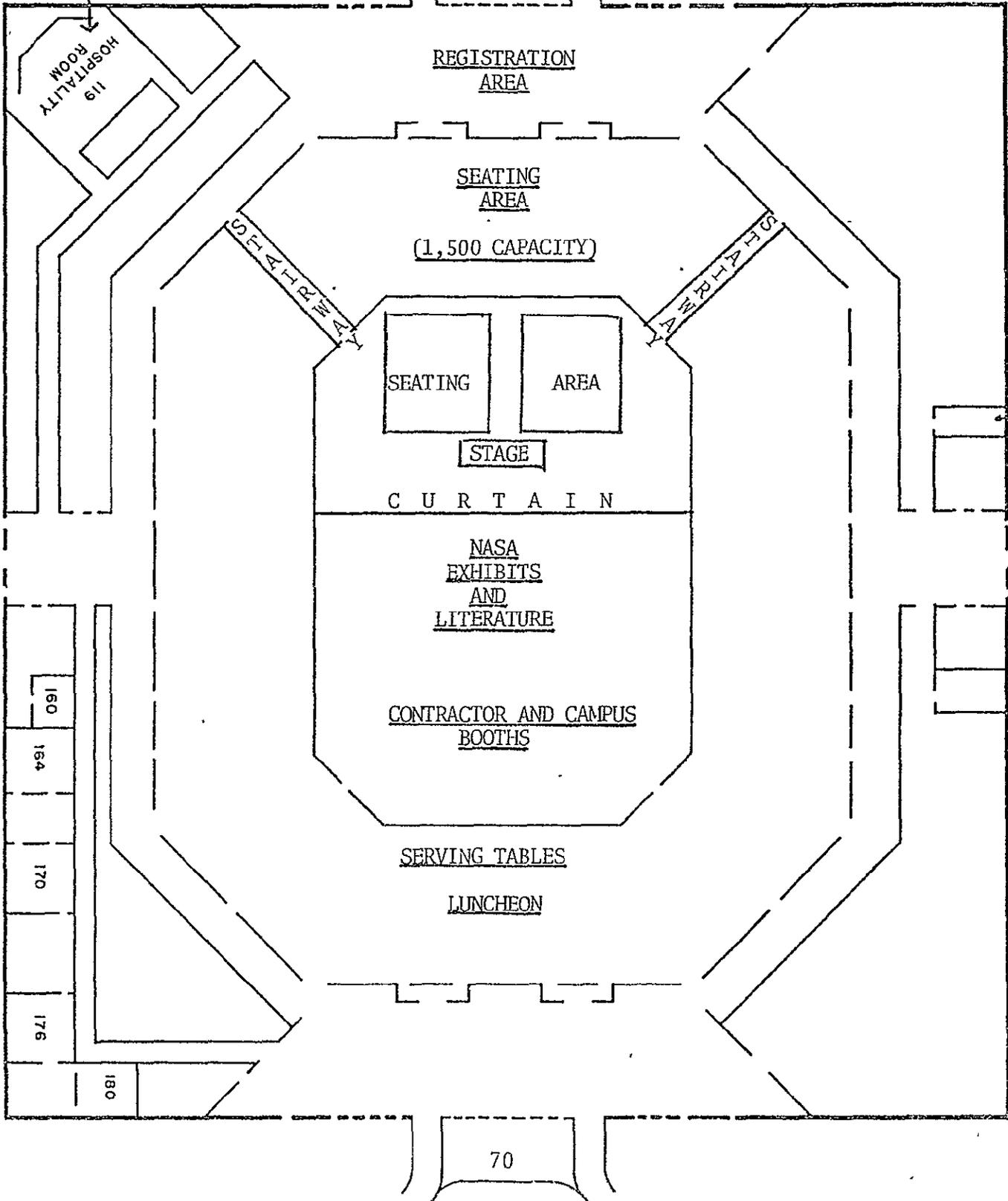
ZUNI COSTUME

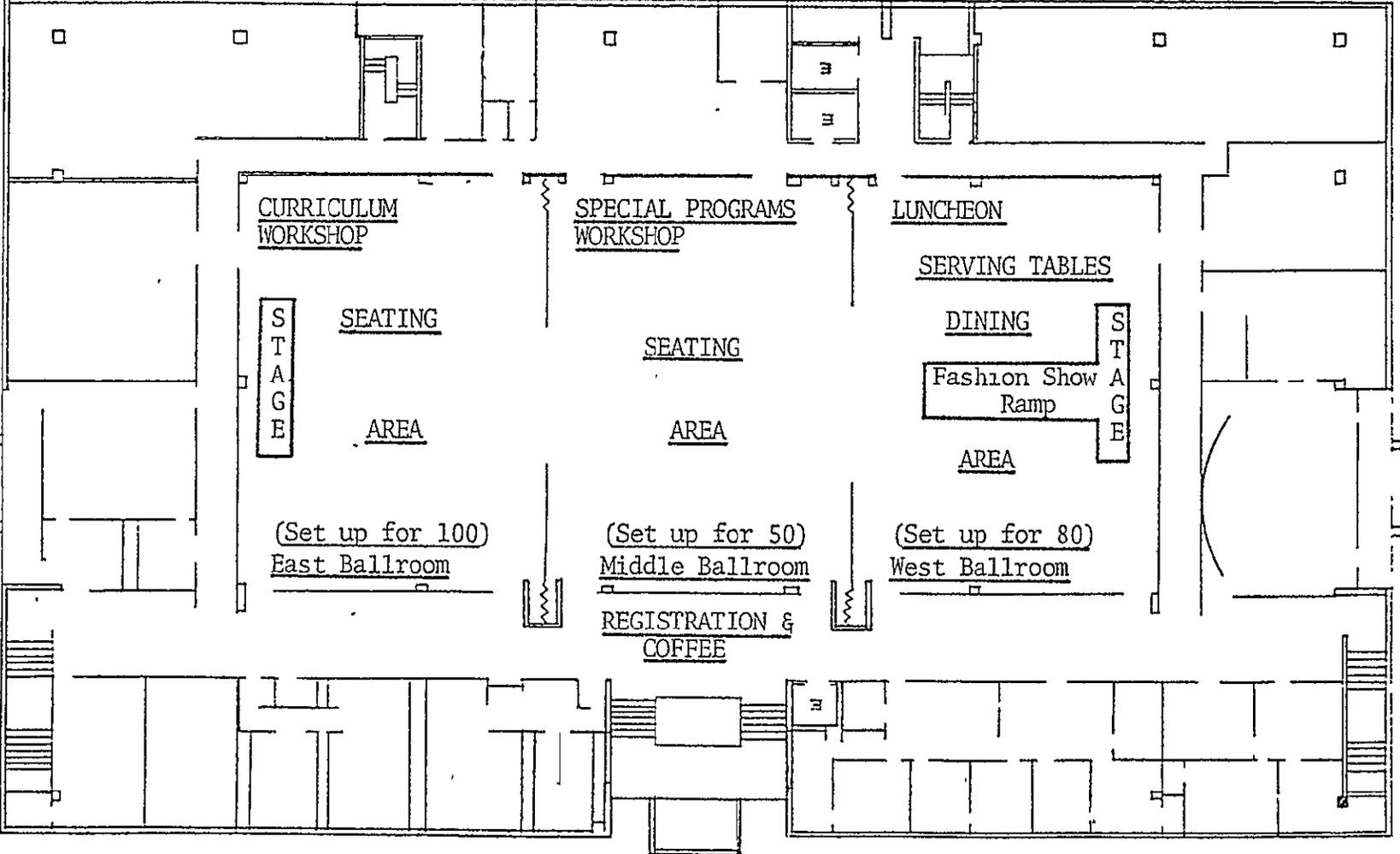
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PAN AMERICAN  
CENTER  
2ND FLOOR LEVEL

NORTH ENTRANCE

SMALL WORKSHOP  
SESSIONS





## PLANNING PROCESS AND SCOPE OF WORK

In late January, 1976, NASA representatives met with New Mexico State University officials concerning NASA's efforts to increase the involvement and participation of minorities and women in NASA and the space industry, and the potential role of New Mexico State University and other southwest colleges in accomplishing this goal. Present at this meeting were Mr. Alfonso Ludi and Mr. Stanley Kelly, NASA Headquarters; Mr. Leo Villarreal and Mr. Jerry Elliott, Johnson Space Center, Houston, Texas. Representing New Mexico State University at this meeting were Mr. Armando R. Alba, Director of Placement and Career Services; Dr. John Hernandez, Dean of Engineering; Mr. Larry Stockton, Director of Student Services; Mr. Andrew Wall, Director of Black Programs; Mr. Louis Sarabia, Director of Chicano Affairs; and Mr. Harry Lujan, Director of Native American Studies.

The consensus was that the target population of women, Black, Hispanic, and Native American minorities could be reached through a program hosted at New Mexico State University and that such a program should be supported and encouraged.

New Mexico State University engaged in the following activities during the planning process:

1. Contacted all parties involved
2. Acted as the clearinghouse for all arrangements
3. Contacted all schools
4. Contacted all school district superintendents concerning the Symposium
5. Arranged for all Symposium support functions
6. Coordinated with NASA the specific speakers and exhibits for the Symposium
7. Made all media contacts in conjunction with NASA
8. Coordinated with NASA's information package
9. Coordinated planning efforts with NASA staff

This basic concept of bringing an awareness to minorities and women of the opportunities available to them in the aerospace industry was implemented along with the following detailed responsibilities for:

1. Designation of staff and overall direction of the Symposium at New Mexico State University
2. Arranging for all necessary Symposium facilities
3. Preparation of correspondence to participants and speakers and follow-up
4. Arranging for all Symposium support functions, including transportation of participants to and from the Symposium
5. Developing the Symposium program
6. Coordinating with the NASA Technical Director concerning the specific speakers and exhibits for the Symposium
7. Submitting final program plans to the NASA Technical Director for approval
8. Coordinating total planning efforts with the NASA Technical Director
9. Submitting a final report of the Symposium to include
  - (a) the utilization of staff
  - (b) outline of Symposium activities
  - (c) descriptions and comments on methodology, results, conclusions, and potential for conducting similar symposia in the future

Additionally, the National Aeronautics and Space Administration (NASA) agreed to supply the initial funds, equipment, and instructional staff.

Next There be a ... al ca ... for  
 session for counselors/teachers in the Hospitality  
 Room from 11 00 a.m. to 12.00 with Bob Finnell,  
 National Academy of Engineering, and NASA  
 resource people

12:00 LUNCH--Concert by Albert Cherino, Ysleta  
 Indian  
 Booth Display Viewing

1:30 p.m. MC Dr. Robert San Martin

'Aeronautics and Space Technology--  
 A Look at NASA's Past Present, and  
 Future'

Moderator: Jerry Elliott, Johnson  
 Space Center, Houston  
 Panelists: Earl Montoya, Dryden Flight  
 Research Center, Edwards  
 'Aeronautics'  
 Fernando Esparza, Kennedy Space  
 Center, FL  
 'The Viking and Other Deep Space  
 Explorations'

1:30 'Women in Aeronautics and Space Tech-  
 nology'--Hospitality Room

Moderator: Dora Puleo, Goddard Space  
 Flight Center, Greenbelt  
 Panelists: Elena Melgares, Johnson Space  
 Center, Houston  
 Silvia Sainz, Dryden Flight Research  
 Center, Edwards (Co-op student from  
 NMSU)  
 Barbara Eandi, Johnson Space Center,  
 Houston

2:45--4:30 Exhibit Viewing--Question/Answer Period  
 Job Fair (Booth Display--Job information  
 for summer, co-op, and permanent oppor-  
 tunities)

6:30 p.m. NO HOST SOCIAL HOUR--Mesilla Room--  
 Holiday Inn Mariachi Band, El Paso  
 Community College

7:30 DINNER (AT HOLIDAY INN)

MC: Dr. John Hernandez, College of  
 Engineering, NMSU  
 Speaker: Dr. Harriett Jenkins, Assistant  
 Administrator for Equal Opportunity  
 Programs, NASA

April 23, 1976  
 Corbett Center

8:00 a.m. Registration for administrators/  
 teachers and counselors

9:00 Curriculum Workshop--Part I--  
 East Ballroom

Moderator: Dean John Hernandez,  
 College of Engineering, NMSU  
 Panelists: Dean William Gross,  
 College of Engineering, UNM  
 Dean Ray Guard, College of  
 Engineering, UT&E  
 Dr. Harriett Jenkins, Assistant  
 Administrator for Equal Oppor-  
 tunity Programs, NASA,  
 Washington, D.C.  
 Frank Penaranda, Director  
 Resources and Management  
 Office of Aeronautics and  
 Space Technology  
 Barbara K. Eandi, University  
 Affairs Officer, Johnson Space  
 Center, Houston  
 Jerry Elliott, Johnson Space  
 Center, Houston

10:00 COFFEE BREAK

10:20 Curriculum Workshop--Part II--  
 East Ballroom  
 Working Session

10 20 Special Programs Workshop (For  
 placement directors, cooperative  
 education program directors/counselors,  
 and minority faculty members)

Moderator: Earl Ginyard, NASA Head-  
 quarters, Washington, D.C.  
 Panelists: Dora Puleo, Goddard Space  
 Flight Center, Greenbelt  
 Leo Villarreal, Johnson Space  
 Center, Houston  
 Alfonso Ludri, NASA Headquarters,  
 Washington, D.C.  
 Silvia Sainz, Dryden Flight Research  
 Center, Edwards  
 Stan Kelly, NASA Headquarters,  
 Washington, D.C.

12:00 LUNCHEON--Native American  
 Style Show

1:30 p.m. Begin College of Engineering  
 Open House



National Aeronautics and  
 Space Administration

# Symposium on Aeronautics and Space Technology

Pan American Center  
 April 21, 22, 23, 1976

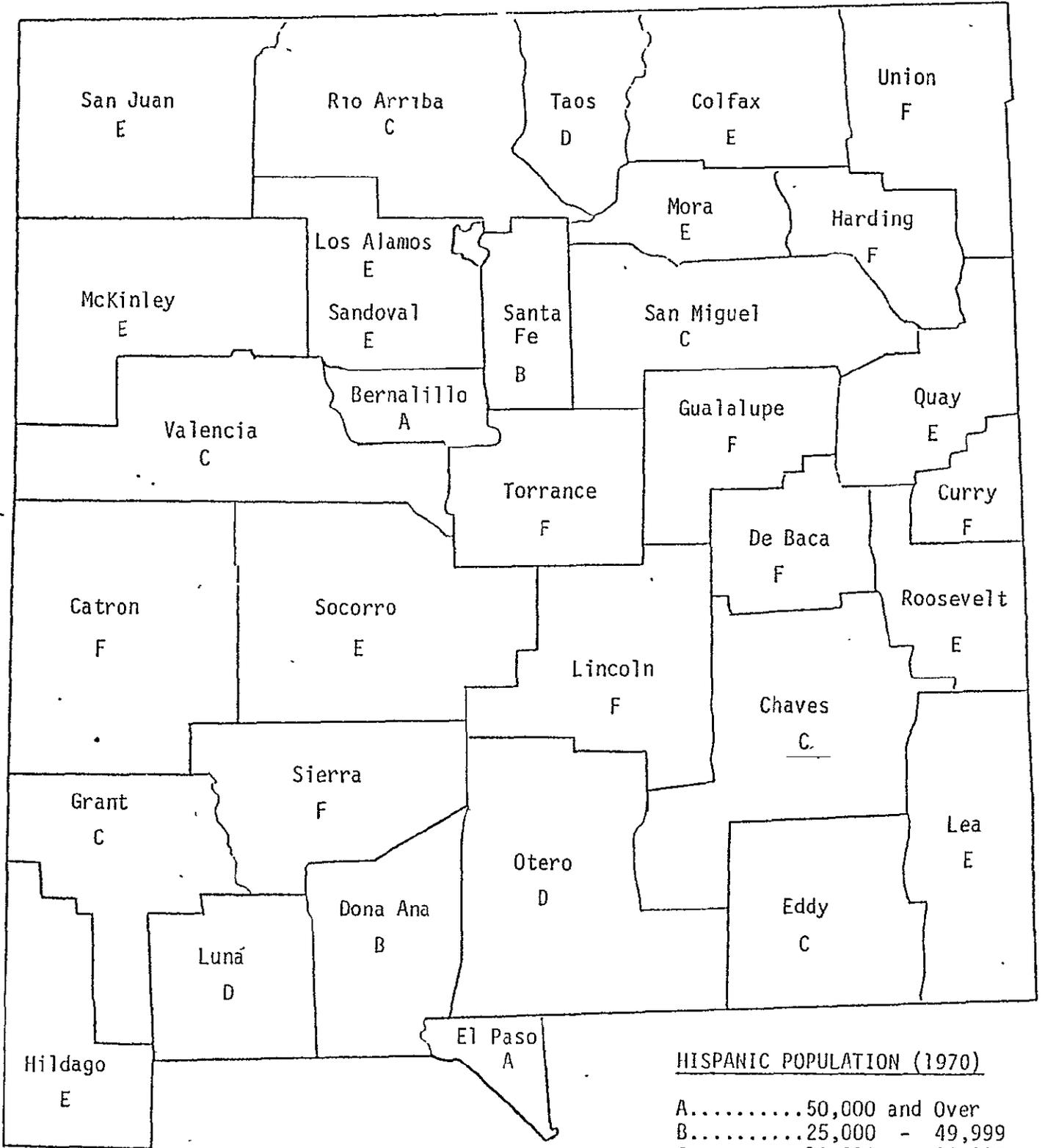
WEDNESDAY  
April 21, 1976  
Pan American Center

- 8:00 a.m. Registration for junior high school students & counselors/teachers
- 9:00 MC Louis R. Gomez, Johnson Space Center, White Sands, N.M.  
Introduction of Governor by Dr. Gerald Thomas, President NMSU  
Welcome by Jerry Apodaca, Governor of New Mexico
- 9:30 MC Louis R. Gomez  
  
'Toward a Better Tomorrow with Aeronautics and Space Technology'
- Moderator. Frank Penaranda, NASA Headquarters, Washington, D.C.  
Panelists Vernon Shields, Johnson Space Center, Houston, TX  
'Space Technology'  
Elena Melgares, Biophysicist, Johnson Space Center, Houston  
'Medical Spinoffs'  
Earl Montoya, Dryden Flight Research Center, Edwards, CA  
'The Supercritical Wing'  
Orlando Gutierrez, Lewis Research Center, Cleveland, OH  
'Noise Pollution and Energy Development'  
Leo Villarreal, Johnson Space Center, Houston  
'Landsat Applications'  
Earl Ginyard, NASA Headquarters, Washington, D C  
'Preparations/Opportunities--Future Careers in Aeronautics and Space Technology'
- 75
- 10:45 a.m. BREAK--Exhibit viewing and one-on-one rap sessions with NASA representatives manning exhibits
- 11:15 MC. Louis R. Gomez  
  
Speaker Dr Karl G Henize, NASA Astronaut, Johnson Space Center, Houston  
'The Space Shuttle'
- 12.00 LUNCH--Concert by Albert Cherino, Ysleta Indian  
Booth Display Viewing

- 1:30 p.m. MC Louis R Gomez  
  
'Aeronautics and Space Technology-- A Look at NASA's Past, Present, and Future'
- Moderator. Jerry Elliott, Johnson Space Center, Houston, TX  
Panelists Earl Montoya, Dryden Flight Research Center, Edwards, CA  
'Aeronautics'  
Fernando Esparza, Kennedy Space Center, FL  
'The Viking and Other Deep Space Explorations'  
Dora Puleo, Goddard Space Flight Center, Greenbelt, MD  
'Women in Aeronautics and Space Technology'
- Note: There will be a special career information session for counselors/teachers in the Hospitality Room from 1:30 p.m. to 2:15 with Bob Finnell, National Academy of Engineering, and NASA resource people.
- 2:15 - 4:30 BREAK-- Exhibit Viewing
- 6:30 p.m. Registration for interested community people
- 7:00 MC Louis R. Gomez  
  
'Welcome and Orientation'
- 7:15 'What a Parent Needs to Know'  
  
Speaker Dr. Karl G. Henize, NASA Astronaut, Johnson Space Center, Houston  
  
'An Overview of NASA'
- Moderator. Dr. John Hernandez, College of Engineering, NMSU  
Panelists. Frank Penaranda  
Dora Puleo  
Leo Villarreal  
Jerry Elliott  
Earl Montoya  
Silvia Sainz  
Elena Melgares  
Stan Kelly  
Earl Ginyard

- 9:00 Exhibit Display Viewing  
Question/Answer Period with NASA resource people  
Native American Arts and Crafts Display "
- THURSDAY  
April 22, 1976  
Pan American Center
- 8:00 a.m. Registration for high school/college students and counselors/teachers
- 9:00 MC Dr. Robert San Martin, College of Engineering, NMSU  
Introduction of Mayor by Dr. Richard E. Pesqueira, Vice President Student Affairs, NMSU  
Welcome by Albert Johnson, Mayor, City of Las Cruces
- 9:30 MC Dr. Robert San Martin  
  
'The Space Shuttle'
- Speaker: Dr. Karl G. Henize, NASA Astronaut, Johnson Space Center, Houston, TX
- 10:15 BREAK--Exhibit Viewing and one-on-one rap sessions with NASA representatives manning exhibits
- 10:45 MC Dr. Robert San Martin  
  
'Toward a Better Tomorrow with Aeronautics and Space Technology'
- Moderator: Frank Penaranda, NASA Headquarters, Washington, D.C.  
Panelists. Earl Montoya, Dryden Flight Research Center, Edwards, CA  
'The Supercritical Wing'  
Orlando Gutierrez, Lewis Research Center, Cleveland, OH  
'Noise Pollution and Energy Development'  
Leo Villarreal, Johnson Space Center, Houston  
'Landsat Applications'  
Earl Ginyard, NASA Headquarters, Washington, D C  
'Preparations/Opportunities--Future Careers in Aeronautics and Space Technology'  
Vernon Shields, Johnson Space Center, Houston  
'Space Technology'  
Elena Melgares, Biophysicist, Johnson Space Center, Houston  
'Medical Spinoffs'

NEW MEXICO AND EL PASO COUNTIES

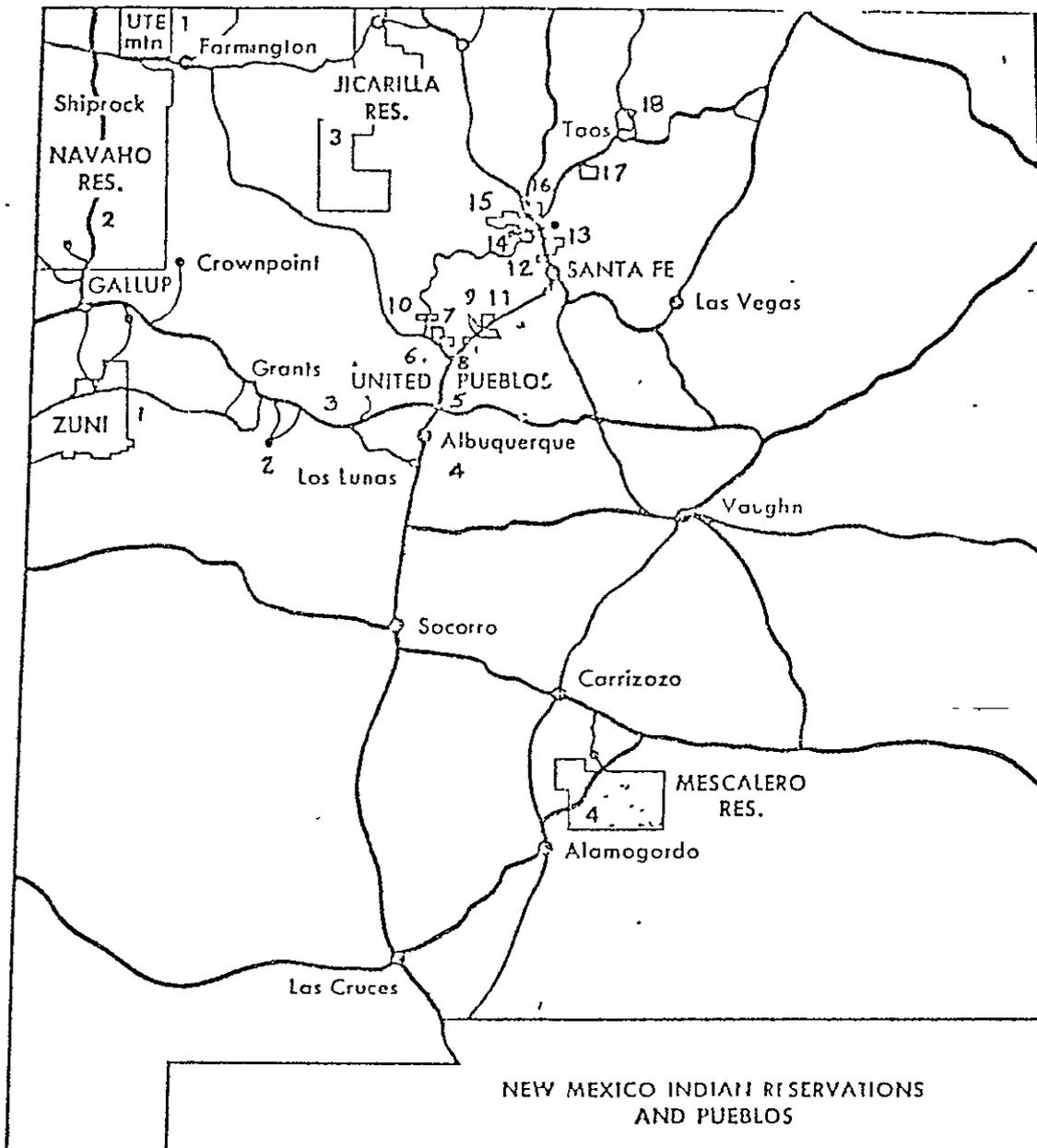


HISPANIC POPULATION (1970)

A.....	50,000 and Over
B.....	25,000 - 49,999
C.....	10,000 - 24,999
D.....	5,000 - 9,999
E.....	2,500 - 4,999
F.....	Under 2,500

Scale  
0 50 miles

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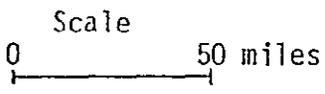
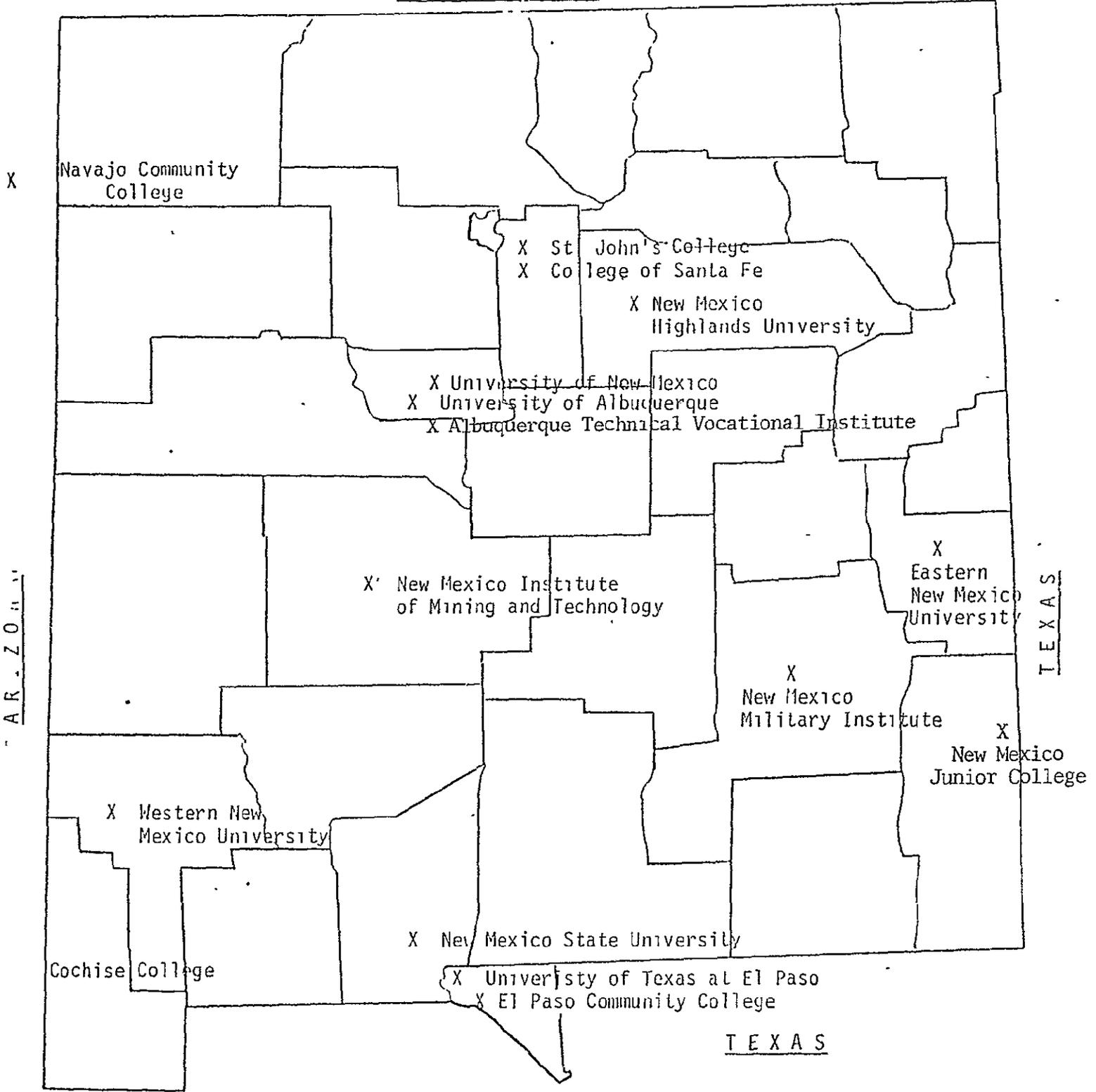


- 1 UTE MOUNTAIN
- 2 NAVAHO
- 3 JICARILLA APACHE
- 4 MESCALERO APACHE
- 1 Zuni, near point of Coronado's entry
- 2 Acama, the Sky City, with original Mission
- 3 Laguna, on highway, with original Mission
- 4 Isleta, on main highway, with original Mission
- 5 Sandia on highway just north of Albuquerque.

- 6 Santa Ana, with original Mission still in use.
- 7 Zia with strange original mission, still in use
- 8 San Felipe with interesting rebuilt Mission
- 9 Santa Domingo, with unusual rebuilt Mission
- 10 Jemez in the beautiful Jemez Mountain region
- 11 Cochiti, between Albuquerque and Santa Fe
- 12 Tesuque, with part of original Mission

- 13 Hamlet of the Rio Grande group near Santa Fe.
- 14 San Ildefonso famous for its black pottery
- 15 Santa Clara, ranks with San Ildefonso for pottery
- 16 San Juan, named by Oñate in 1598
- 17 Picuris, between Taos and Santa Fe
- 18 Taos with the largest communal dwellings

AREA UNIVERSITIS AND COLLEGES  
NEW MEXICO



#### COLLEGES AND UNIVERSITIES INVITED TO PARTICIPATE

Albuquerque Technical Vocational Institute, Albuquerque, New Mexico  
Cochise Community College, Douglas, Arizona  
College of Santa Fe, Santa Fe, New Mexico  
Eastern New Mexico University, Portales, New Mexico  
El Paso Community College, El Paso, Texas  
Navajo Community College, Tsaile, Arizona  
New Mexico Highlands University, Las Vegas, New Mexico  
New Mexico Institute of Mining and Technology, Socorro, New Mexico  
New Mexico Junior College, Hobbs, New Mexico  
New Mexico Military Institute, Roswell, New Mexico  
New Mexico State University and Branches (five), Las Cruces, New Mexico  
St. John's College, Santa Fe, New Mexico  
University of Albuquerque, Albuquerque, New Mexico  
University of New Mexico and Branches (three), Albuquerque, New Mexico  
University of Texas at El Paso, El Paso, Texas  
Western New Mexico University, Silver City, New Mexico

#### JUNIOR HIGH SCHOOLS INVITED TO PARTICIPATE

Alameda Junior High, Las Cruces, New Mexico  
Bel Air Junior High, El Paso, Texas  
Court Junior High, Las Cruces, New Mexico  
Eastwood Junior High, El Paso, Texas  
Guillen School, El Paso, Texas  
Hillcrest Junior High, El Paso, Texas  
Lynn Junior High, Las Cruces, New Mexico

McArthur School, El Paso, Texas  
Parkland Junior High, El Paso, Texas  
Riverside Junior High, El Paso, Texas  
Ross School, El Paso, Texas  
White Sands Junior High, White Sands Missile Range, New Mexico  
Ysleta Junior High, El Paso, Texas  
Zia Junior High, Las Cruces, New Mexico

HIGH SCHOOLS INVITED TO PARTICIPATE

Alamogordo High School, Alamogordo, New Mexico  
Andress High School, El Paso, Texas  
Artesia High School, Artesia, New Mexico  
Austin High School, El Paso, Texas  
Aztec High School, Aztec, New Mexico  
Bel Air High School, El Paso, Texas  
Belen High School, Belen, New Mexico  
Bloomfield High School, Bloomfield, New Mexico  
Bowie High School, El Paso, Texas  
Burgess High School, El Paso, Texas  
Canutillo High School, Canutillo, Texas  
Carlsbad High School, Carlsbad, New Mexico  
Clovis High School, Clovis, New Mexico  
Cobre High School, Bayard, New Mexico  
Coronado High School, El Paso, Texas  
Crownpoint High School, Crownpoint, New Mexico  
Cuba High School, Cuba, New Mexico

Del Norte High School, Albuquerque, New Mexico  
Deming High School, Deming, New Mexico  
Dulce High School, Dulce, New Mexico  
Eastwood High School, El Paso, Texas  
El Paso High School, El Paso, Texas  
Española High School, Espanola, New Mexico  
Farmington High School, Farmington, New Mexico  
Gadsden High School, Anthony, New Mexico  
Gallup High School, Gallup, New Mexico  
Grants High School, Grants, New Mexico  
Hatch High School, Hatch, New Mexico  
Hobbs High School, Hobbs, New Mexico  
Hot Springs High School, Truth or Consequences, New Mexico  
Irvin High School, El Paso, Texas  
Jefferson High School, El Paso, Texas  
Jemez Valley High School, Jemez Pueblo, New Mexico  
Laguna-Acoma High School, New Laguna, New Mexico  
Las Cruces High School, Las Cruces, New Mexico  
Lordsburg High School, Lordsburg, New Mexico  
Los Lunas High School, Los Lunas, New Mexico  
Mayfield High School, Las Cruces, New Mexico  
Parkland High School, El Paso, Texas  
Pojoaque High School, Pojoaque, New Mexico  
Ramah Navajo High School, Ramah, New Mexico  
Rio Grande High School, Albuquerque, New Mexico  
Riverside High School, El Paso, Texas

Roswell High School, Roswell, New Mexico  
Santa Fe High School, Santa Fe, New Mexico  
Shiprock High School, Shiprock, New Mexico  
Silver High School, Silver City, New Mexico  
St. Catherine's High School, Santa Fe, New Mexico  
Taos High School, Taos, New Mexico  
Tohatchi High School, Tohatchi, New Mexico  
Tularosa High School, Tularosa, New Mexico  
Valley High School, Albuquerque, New Mexico  
West Mesa High School, Albuquerque, New Mexico  
Wingate High School, Fort Wingate, New Mexico  
Ysleta High School, El Paso, Texas  
Zuni High School, Zuni, New Mexico

The following are copies of correspondence sent to:

1. All deans, the Administrative Council, and Board of Regents of New Mexico State University, senators and congressional representatives of the State of New Mexico, Governor of New Mexico, and Mayor of the City of Las Cruces-- from Richard E. Pesqueira, Vice President of Student Affairs, New Mexico State University
2. President, Vice President of Academic Affairs, Dean of Graduate School, all deans and department heads in mathematics, chemistry, physics, geology, economics, and English at New Mexico State University; representatives at area colleges--  
from (a) Dr. John Hernandez, Dean of Engineering, New Mexico State University  
(1 enclosure)  
(b) Mrs. Elcid Mancini, Project Assistant
3. Ysleta Independent School District's counselors--  
from Armando R. Alba, Director of Placement and Career Services, New Mexico State University
4. El Paso Public Schools' counselors--  
from Armando R. Alba, Director of Placement and Career Services, New Mexico State University
5. NASA Contractors (65)--  
from Armando R. Alba, Director of Placement and Career Services, New Mexico State University
6. New Mexico schools with high Native American population (recommended by Harry Lujan, Director of Native American Activities)--  
from Armando R. Alba, Director of Placement and Career Services, New Mexico State University
7. Las Cruces Public Schools' counselors--  
from Armando R. Alba, Director of Placement and Career Services, New Mexico State University
8. New Mexico schools within a 100-mile radius--  
from Armando R. Alba, Director of Placement and Career Services, New Mexico State University
9. Campus women's organizations--  
from Armando R. Alba, Director of Placement and Career Services, New Mexico State University
10. New Mexico schools with high Black population (recommended by Andrew Wall, Director of Black Programs)--  
from Armando R. Alba, Director of Placement and Career Services, New Mexico State University

11. School principals and superintendents--  
from Alfonso J. Ludi, NASA Headquarters, Spanish Speaking Program  
Coordinator
12. Placement directors of area colleges--  
from Armando R. Alba, Director of Placement and Career Services, New  
Mexico State University
13. Community ethnic organizations within 100-mile radius--  
from Armando R. Alba, Director of Placement and Career Services, New  
Mexico State University
14. Campus ethnic organizations--  
from Armando R. Alba, Director of Placement and Career Services, New  
Mexico State University
15. Campus departments (for booth recruitment)--  
from Armando R. Alba, Director of Placement and Career Services, New  
Mexico State University
16. School superintendents within a 100-mile radius--  
from Dr. John W. Hernandez, Dean of Engineering, New Mexico State  
University
17. Cooperative education directors/counselors, minority faculty members  
at New Mexico State University--  
from Armando R. Alba, Director of Placement and Career Services, New  
Mexico State University
18. New Mexico schools within a 100-mile radius--  
from Mrs. Elcid Mancini, Project Assistant  
(Enclosures--letters of invitation to parents of all students planning  
to participate in the Symposium--  
from Armando R. Alba, Director of Placement and Career Services, New  
Mexico State University)
19. NASA Centers--  
from Armando R. Alba, Director of Placement and Career Services, New  
Mexico State University
20. NASA participants--  
from Armando R. Alba, Director of Placement and Career Services, New  
Mexico State University
21. NASA Contractors and campus departments manning booths--  
from Armando R. Alba, Director of Placement and Career Services, New  
Mexico State University
22. Participating schools--  
from Armando R. Alba, Director of Placement and Career Services, New  
Mexico State University

23. Personnel from participating colleges and universities--  
from Dr. John W. Hernandez, Dean of Engineering, New Mexico State  
University
24. NASA participants--  
from Dr. John W. Hernandez, Dean of Engineering, New Mexico State  
University

VICE PRESIDENT OF STUDENT AFFAIRS

Box 3549/Las Cruces, New Mexico 88003  
Telephone (505) 646-1232

March 24, 1976



Dear

New Mexico State University, in conjunction with National Aeronautics and Space Administration (NASA), is sponsoring a Space Symposium on April 21, 22, and 23, 1976 at the Pan American Center on campus. The purpose of the program is to present career information to junior high and high school students in sciences and engineering. Area students are the target population with special emphasis on minorities and women.

Junior High Program-----April 21

High School Program-----April 22

Counselors/Administrators-----April 23

The week of April 19 is Native American Week on campus and some of their activities will be included into the program. Also, April 23 and 24 are the dates for the College of Engineering Open House.

It is our hope that you will be able to attend these activities. A formal program will be mailed to you at a later date. It is expected that the program will attract many of the area adults and students, and we hope that you may take the time from your busy schedule to participate in the activities.

Sincerely,

Richard E. Pesqueira

REP:em

COLLEGE OF ENGINEERING

OFFICE OF THE DEAN  
Box 3449/Las Cruces, New Mexico 88003  
Telephone (505) 646-2911  
March 24, 1976



Dear

Beginning April 21 through April 23, New Mexico State University will host a symposium funded by NASA and designed to encourage more young people, particularly women and minority students to enter the sciences and engineering. I would like to invite you and other interested representatives of your (school) (department) to participate--students, counselors, faculty, and administrators. An outline of the tentative program is attached. Mr. Armando Alba of Placement is the symposium director and I am helping him coordinate some of the activities.

In addition to other parts of the program that may interest you, I would specifically like to invite you or your representatives to attend two events. One is the Thursday night dinner (7:30 p.m.) at the new Holiday Inn for college faculty and administrators, student counselors, industrial representatives and NASA officials. You will be our guest at this function.

The second is the Friday morning working conference aimed at obtaining agreement between the various colleges in the region on the transferability of course credits between institutions, particularly those in math, physics, chemistry, geology and economics. These are the basic subject areas that form the foundation of a pre-engineering program. It is often to the students' advantage to initially enter a pre-engineering program at a two-year school, or at a four-year college that does not offer a bachelors degree in engineering, and then transfer. As you know, we have four universities in our region that do award B.S. and advanced degrees in this field: UNM at Albuquerque, NMIT at Socorro, UTEP at El Paso, and NMSU. It should be possible for a student at any of the other regional colleges and institutions to enroll in courses that he knows will be acceptable to meet specific requirements in the engineering curricula at the four schools offering that degree.

The goal of the Friday morning session will be to formulate a means of initiating agreements on course transferability. The format for the morning will be quite informal with only two or three short presentations of examples of possible models for a joint pre-engineering program between all of the regional schools. I hope that you will have someone represent your (school) (department) at this important session.

Page 2

We will be able to pay some travel expenses--for one vehicle from each institution coming to Las Cruces. We will also provide a noon luncheon on Friday. Please write or call and let me know who will be representing your (institution) (department) and what other arrangements we can make for you. I will send you a revised copy of the 3-day program when it is printed.

Sincerely,

John W. Hernandez, Dean  
College of Engineering

JWH:jlb

Enclosure



PLACEMENT AND CAREER SERVICES OFFICE

Box 3509/Las Cruces, New Mexico 88003  
Telephone (505) 646-1631

April 15, 1976



Dear

I understand that Dean John Hernandez of the College of Engineering has written you earlier about the National Aeronautics and Space Administration (NASA) Space Symposium which will be held on the campus of New Mexico State University April 21-23, 1976. I am enclosing a formal program of the three-day activity.

If you are planning to attend any of these sessions and you have not already contacted us, please do so immediately so that we may make arrangements accordingly.

We feel that this will be a most worthwhile activity and we hope that you will be able to attend.

Sincerely,

Elcid Mancini  
Project Assistant

EM:jc

Enclosure

PLACEMENT AND CAREER SERVICES OFFICE

Box 3509/Las Cruces, New Mexico 88003  
Telephone (505) 646-1631

March 26, 1976



Dear

New Mexico State University, in conjunction with National Aeronautics and Space Administration (NASA), is sponsoring a space symposium on April 21, 22, 23, 1976 at the Pan American Center on campus. The purpose of the program is to present information and motivate junior high and high school students in the sciences and engineering tracts. The target population is minority and women students, but all students are welcomed to attend.

Junior High Program-----April 21

High School Program-----April 22

Counselors/Administrators-----April 23

Dr. John Hernandez, Dean of Engineering at New Mexico State University has received approval from Dr. Hanks for your school to participate. You will be receiving additional information on the program when the activity is formalized. Also, a follow up letter from NASA officials is being sent to your principal inviting your school to the activity.

We plan to take care of transportation costs and also feed the participants a noon meal while on campus. Please contact me or Mrs. Elcid Mancini, Project Assistant, if you have any questions on the activity.

Sincerely,

Armando R. Alba  
Director

ARA:em

cc Principal

PLACEMENT AND CAREER SERVICES OFFICE

Box 3509/Las Cruces, New Mexico 88003  
Telephone (505) 646-1631

March 29, 1976



Dear

New Mexico State University, in conjunction with National Aeronautics and Space Administration (NASA), is sponsoring a space symposium on April 21, 22, 23, 1976 at the Pan American Center on campus. The purpose of the program is to present information and motivate junior high and high school students in the sciences and engineering tracts. The target population is minority and women students, but all students are welcomed to attend.

Junior High Program-----April 21

High School Program-----April 22

Counselors/Administrators-----April 23

Dr. John Hernandez, Dean of Engineering at New Mexico State University has received approval from Dr. Whitaker for your school to participate. You will be receiving additional information on the program when the activity is formalized. Also, a follow up letter from NASA officials is being sent to your principal inviting your school to the activity.

We plan to take care of transportation costs and also feed the participants a noon meal while on campus. Please contact me or Mrs. Elcid Mancini, Project Assistant, if you have any questions on the activity.

Sincerely,

Armando R. Alba  
Director

ARA:em

Enclosure

cc Principal

PLACEMENT AND CAREER SERVICES OFFICE

Box 3509/Las Cruces, New Mexico 88003  
Telephone (505) 646-1631

March 30, 1976



Dear

New Mexico State University, in conjunction with National Aeronautics and Space Administration (NASA), is sponsoring a space symposium on April 21, 22, 23, 1976 at the Pan American Center on campus. The activity will have three programs geared to area junior highs, high schools, colleges, and counselors/administrators. It is our purpose to present a program that will add information and motivate women, minorities, and other interested students into the sciences and engineering. Also, a curriculum session is planned to discuss general issues dealing with science and engineering.

We would like to invite you to attend this project and participate in a summer, co-op, and permanent employment recruiting session on the afternoon of the 22nd. A booth will be provided for you and recruitment will be on an informal basis.

Dr. John Hernandez, Dean of Engineering, New Mexico State University, and I hope that you will be able to attend. Please let me know of your plans and contact myself or Mrs. Elcid-Mancini, Project Assistant, if you have any questions.

Sincerely,

Armando R. Alba  
Director

ARA:em

Enclosures

PARTIAL LIST  
MOTEL ACCOMMODATIONS  
Las Cruces, NM 88001

THE COACHLIGHT INN  
I-10 & Highway 292  
Phone 505-526-3301

HOLIDAY INN DE LAS CRUCES  
201 E. University Blvd.  
Phone 505-526-4411

HOWARD JOHNSON'S  
2600 S. Valley Drive  
Phone 505-526-4441

LAS CRUCES INN  
2160 W. Picacho Ave.  
Phone 505-524-3671

THE MISSION INN  
1765 South Main  
Phone 505-524-8591

PALMS BEST WESTERN  
2405 W. Picacho Ave.  
Phone 505-524-1951

ROADWAY INN LAS CRUCES  
901 Avenida De Mesilla  
Phone 505-524-8603

Please return to:

Mrs. Elcid Mancini, NASA Conference Asst.  
Placement and Career Services' Office  
P. O. Box 3509  
New Mexico State University  
Las Cruces, NM 88003

Our organization will \_\_\_\_\_ will not \_\_\_\_\_ be able to participate in the National Aeronautics and Space Administration (NASA) Space Symposium on April 21, 22, 23, 1976 at New Mexico State University.

NAME AND ADDRESS OF ORGANIZATION

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Name/s of representative/s who will attend.

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We will \_\_\_\_\_ will not \_\_\_\_\_ require a booth.\*

\*If you are planning to man a booth, you will need a poster identifying your organization, hand outs, and job information for summer, co-op, and permanent positions.

We will plan to participate on April 21 \_\_\_\_\_ (Please check one or both)

April 22 \_\_\_\_\_

(See Tentative Program for booth display viewing times.)

TENTATIVE PROGRAM  
NASA Space Symposium  
April 21, 22, 23, 1976  
Pan American Center  
New Mexico State University

APRIL 21 (Junior High Session)

8:00 a.m. - 9:00 a.m. Registration  
9:00 a.m. - 12:00 noon NASA Speakers  
"The Space Age" (Past, Present and Future)  
"Technology in Service to Man"  
12:00 noon - 1:30 p.m. Lunch/Walk-Around Time/Booth Display Viewing  
1:30 p.m. - 3:00 p.m. NASA Speakers  
"The Moon Walk"  
"Preparation/Opportunities in NASA-Related Occupations"

APRIL 21 (Community Night Session)

6:30 p.m. - 7:30 p.m. Registration\*  
7:30 p.m. - 9:00 p.m. "What A Parent Needs To Know"  
9:00 p.m. - 10:00 p.m. Walk -Around Time/Booth Display Viewing  
\*Native-American Arts and Crafts Display

APRIL 22 (High School/College Students' Session)

8:00 a.m. - 9:00 a.m. Registration  
9:00 a.m. - 12:00 noon NASA Speakers  
"The Space Age" (Past, Present and Future)  
"Technology in Service to Man"  
12:00 noon - 1:30 p.m. Lunch/Concert at Preciado Park  
1:30 p.m. - 4:00 p.m. NASA Speakers/Job Fair  
"The Moon Walk"  
"Preparation/Opportunities in NASA-Related Occupations"  
Job Fair (Booth Display - Job Information for Summer, Co-op and Placement Opportunities)

APRIL 22 -(Thru Night)

7:00 p.m. Social Hour - Holiday Inn

APRIL 23 (Administrators/Teachers and Counselors)

8:00 a.m. - 9:00 a.m. Registration  
9:00 a.m. - 12:00 noon "Curriculum Workshops"  
"Native-American Style Show"  
12:00 noon - 1:30 p.m. Lunch  
1:30 p.m. - 4:00 p.m. College of Engineering Open House

SPECIAL NOTE:

April 19-24 is Native-American Week at New Mexico State University.

For further information contact Armando Alba or Elcid Mancini at the Placement and Career Services' office at New Mexico State University, 646-1631.

PLACEMENT AND CAREER SERVICES OFFICE

Box 3509/Las Cruces, New Mexico 88003  
Telephone (505) 646-1631

March 30, 1976



Dear

New Mexico State University, in conjunction with National Aeronautics and Space Administration (NASA), is sponsoring a space symposium on April 21, 22, 23, 1976 at the Pan American Center on campus. The purpose of the program is to present information and motivate secondary school students in the sciences and engineering tracts. The target population is minority and women students, but all students are welcomed to attend.

I have been in touch with Mr. Harry Lujan, Native American Studies Director, and he has indicated that your school system may be interested in sending students to the symposium. We plan to take care of transportation costs and room/board for two days.

You will be receiving additional information on the program when the activity is formalized. Also, a follow up letter is being prepared to your principal from a NASA official inviting your school to participate.

Mrs. Elcid Mancini will be working on the project with our office. She will be involved with the coordination of the conference. Please contact one of us if you have any questions on the activity.

Sincerely,

Armando R. Alba  
Director

ARA:em

Enclosure

PLACEMENT AND CAREER SERVICES OFFICE

Box 3509/Las Cruces, New Mexico 88003  
Telephone (505) 646-1631

March 31, 1976



Dear

New Mexico State University, in conjunction with the National Aeronautics and Space Administration (NASA), is sponsoring a space symposium on April 21, 22, 23, 1976 at the Pan American Center on campus. The purpose of the program is to present information and motivate junior high and high school students in the sciences and engineering tracts. The target populations are minority and women students, but all students are welcomed to attend. Also, if you have any science and/or math teachers who would like to attend they will be most welcome.

Junior High Program-----April 21

High School Program-----April 22

Counselors/Administrators-----April 23

I have been in touch with Mr. John Stablein and he has granted approval for the Las Cruces schools to participate. You will be receiving additional information on the program when the activity is formalized. Also, a follow up letter is being prepared to your principal from a NASA official inviting your school to participate.

We do plan to take care of transportation costs and also feed the participants a noon meal while on campus.

Mrs. Elcid Mancini will be working on the project with our office. She will be involved with the recruiting as well as helping with the coordination of the conference itself. Please contact one of us if you have any questions on the activity.

Sincerely,

Armando R. Alba  
Director

ARA:em

Enclosure

PLACEMENT AND CAREER SERVICES OFFICE

Box 3509/Las Cruces, New Mexico 88003  
Telephone (505) 646-1631

March 31, 1976



Dear

I was very happy to see you once again and I am glad that you and your school system are having another good year.

As I mentioned in our conversation, New Mexico State University, in conjunction with National Aeronautics and Space Administration (NASA), is sponsoring a space symposium on April 21, 22, 23, 1976 at the Pan American Center on campus. The activity will have three separate programs geared to junior highs, high schools, and counselors/administrators. It is our purpose to present a program that will add information and motivate minorities, women, and other interested students into the sciences and engineering. Also, a curriculum session is planned to discuss general issues dealing with science and engineering.

Junior High Program-----April 21

High School Program-----April 22

Counselors/Administrators-----April 23

Thank you for tentatively accepting to participate in the symposium. You will be receiving additional information on the program when the activity is formalized. Also, a follow up letter is being prepared to your superintendent from a NASA official and from Dr. John Hernandez, Dean of Engineering at New Mexico State University inviting your school system to the activity.

We do plan to take care of transportation costs and also feed the participants a noon meal while on campus. Please contact me or Mrs. Elcid Mancini, Project Assistant, if you have any questions on the activity.

Sincerely,

Armando R. Alba  
Director

ARA:em

Enclosure

cc Principal

PLACEMENT AND CAREER SERVICES OFFICE

Box 3509/Las Cruces, New Mexico 88003  
Telephone (505) 646-1631

April 1, 1976



MEMORANDUM

TO: Campus Women's Organizations  
FROM: Armando R. Alba, Director  
SUBJECT: National Aeronautics and Space Administration (NASA) Space Symposium

New Mexico State University, in conjunction with National Aeronautics and Space Administration (NASA), is sponsoring a Space Symposium on April 21, 22, 23, 1976 at the Pan American Center on campus. The activity will have three separate programs geared to junior highs, high schools/colleges, and counselors/administrators. It is our purpose to present a program that will add information and motivate minorities, women, and other interested students into the sciences and engineering fields.

We hope that some members of your organization will be able to attend some or all of the sessions on Thursday, April 22. We especially invite you to the Job Fair (Booth Display-- job information for summer, co-op, and permanent employment) portion of the program.

I am enclosing a Tentative Program at this time. You will be receiving additional information on the program when the activity is formalized.

Please contact me or Mrs. Elcid Mancini, Project Assistant, at 646-1631 if you have any questions on the activity.

ARA:em

Enclosure

PLACEMENT AND CAREER SERVICES OFFICE

Box 3509/Las Cruces, New Mexico 88003  
Telephone (505) 646-1631

April 1, 1976



Dear

New Mexico State University, in conjunction with National Aeronautics and Space Administration (NASA), is sponsoring a space symposium on April 21, 22, 23, 1976 at the Pan American Center on campus. The purpose of the program is to present information and motivate secondary school students in the sciences and engineering tracts. The target population is minority and women students, but all students are welcomed to attend.

I have been in touch with Mr. Andrew Wall, Director of Black Ethnic Programs and he has indicated that your school system may be interested in sending students to the symposium. We plan to take care of transportation costs and room/board for two days.

You will be receiving additional information on the program when the activity is formalized. Also, a follow up letter is being prepared to your principal from a NASA official inviting your school to participate. \_\_\_\_\_

Mrs. Elcid Mancini will be working on the project with our office. She will be involved with the coordination of the conference. Please contact one of us if you have any questions on the activity.

Sincerely,

Armando R. Alba  
Director

ARA:em

Enclosure

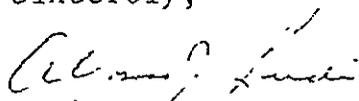
cc Principal

The National Aeronautics and Space Administration and New Mexico State University are sponsoring a three-day symposium at the Las Cruces New Mexico campus on April 21-23, 1976 to explore and seek answers to the question: "How can careers in aeronautics and aerospace technology be made more relevant to minorities and women?"

The symposium is expected to draw about 700 participants from secondary educational systems within a 100-mile radius of Las Cruces; Native Americans from most of the tribal units in New Mexico; and a cross-section of students/faculty members from fourteen area colleges and universities.

This is a great opportunity to establish institutional ties with NASA and its educational programs. We hope that you, interested faculty members and students will take advantage of the opportunity to share this unique experience with us.

Sincerely,



Alfonso J. Ludi  
NASA Spanish Speaking  
Program Coordinator

ORIGINAL PAGE IS  
OF POOR QUALITY

PLACEMENT AND CAREER SERVICES OFFICE

Box 3509/Las Cruces, New Mexico 88003  
Telephone (505) 646-1631

April 6, 1976



Dear

Beginning April 21 through April 23, New Mexico State University will host a symposium funded by National Aeronautics and Space Administration (NASA) and designed to encourage more young people, particularly women and minority students to enter the sciences and engineering fields. I would like to invite you and other interested representatives of your school/department to participate--students, counselors, faculty and administrators. A tentative program of the three-day activity is enclosed.

In addition to other parts of the program that may interest you, I would especially like to invite you or your representatives to attend two events. One is the Thursday night dinner (7:30 p.m.) at the new Holiday Inn for college faculty and administrators, student counselors, industrial representatives and NASA officials. You will be our guest at this function. The second is the Friday morning working conference for administrators, teachers and counselors.

We will be able to pay some travel expenses--for one vehicle from each institution coming to Las Cruces. We will also provide a noon luncheon on Friday. Please write or call me or Mrs. Elcid Mancini, Project Assistant, and let us know who will be representing your institution/department or if you have any questions on the activity.

Sincerely,

Armando R. Alba  
Director

ARA:em

Enclosure

PLACEMENT AND CAREER SERVICES OFFICE

Box 3509/Las Cruces, New Mexico 88003  
Telephone (505) 646-1631

April 6, 1976



Dear

New Mexico State University, in conjunction with the National Aeronautics and Space Administration (NASA), is sponsoring a Space Symposium on April 21, 22, 23, 1976, at the Pan American Center on campus. The activity will have programs geared to junior highs, high schools/colleges and counselors/administrators, as well as a community night session. It is our purpose to present a program that will give information and motivate minorities, women, and other interested students into the sciences and engineering fields.

Mr. \_\_\_\_\_, Director of \_\_\_\_\_ Ethnic Programs at New Mexico State University, has suggested that members of your organization might like to attend the community night session (6:30 p.m. - 10:00 p.m.) on April 21. The night session will be a "mini" program of the day activities. We think it will be quite interesting and informative.

I am enclosing a tentative program at this time. You will be receiving additional information on the program when the activity is formalized.

Please contact me or Mrs. Elcid Mancini, Project Assistant, if you have any questions on the activity.

Sincerely,

Armando R. Alba  
Director

ja

Enclosure

PLACEMENT AND CAREER SERVICES OFFICE

Box 3509/Las Cruces, New Mexico 88003  
Telephone (505) 646-1631

April 6, 1976



MEMORANDUM

TO: Campus Ethnic Organizations  
FROM: Armando R. Alba, Director  
SUBJECT: National Aeronautics and Space Administration (NASA) Symposium

New Mexico State University, in conjunction with National Aeronautics and Space Administration (NASA), is sponsoring a Space Symposium on April 21, 22, 23, 1976 at the Pan American Center on campus. The activity will have three separate programs geared to junior highs, high schools/colleges, and counselors/administrators. It is our purpose to present a program that will add information and motivate minorities, women, and other interested students into the sciences and engineering fields.

Mr. \_\_\_\_\_, Director of \_\_\_\_\_ Ethnic Programs, has suggested that some members of your organization might be able to attend some or all of the sessions on Thursday April 22. We especially invite you to the Job Fair (Booth Display--Job information for summer, co-op, and permanent employment) portion of the program.

I am enclosing a Tentative Program at this time. You will be receiving additional information on the program when the activity is formalized.

Please contact me or Mrs. Elcid Mancini, Project Assistant, if you have any questions on the activity.

ARA:jc

Enclosure

PLACEMENT AND CAREER SERVICES OFFICE

Box 3509/Las Cruces, New Mexico 88003  
Telephone (505) 646-1631

April 6, 1976



MEMORANDUM

TO:

FROM: Armando R. Alba, Director

SUBJECT: National Aeronautics and Space Administration (NASA) Space Symposium

New Mexico State University, in conjunction with National Aeronautics and Space Administration (NASA), is sponsoring a Space Symposium on April 21, 22, 23, 1976 at the Pan American Center on campus. The activity will have programs geared to junior highs, high schools/colleges and counselors/administrators as well as a community night session. It is our purpose to present a program that will give information and motivate minorities, women, and other interested students into the sciences and engineering fields.

We would like to invite you to attend this project and participate in the booth display sessions. I am enclosing a tentative program at this time. You will be receiving additional information (set-up times, instructions on booth staffing times, etc.) when the project is formalized. Please contact me or Mrs. Elcid Mancini, Project Assistant, and let us know of your plans.

ARA:em

Enclosure

COLLEGE OF ENGINEERING

OFFICE OF THE DEAN  
Box 3449/Las Cruces, New Mexico 88003  
Telephone (505) 646-2911  
April 7, 1976



Dear

The National Aeronautics and Space Administration has asked New Mexico State University to host a three-day regional symposium on the space sciences on April 21 through 23rd. The purpose of the symposium is to encourage more young people from our region to enter the sciences and engineering.

A major theme in each day's program is to define course work and curriculum that students should take to be prepared to enter engineering and the sciences. The program's goal is to expose junior high and high school students, particularly women and minority that have not been fully represented in engineering in the past, to information on the space sciences to motivate them to take math and science courses during their secondary school years so that they have the option of engineering as a career choice.

We would like the junior high schools and the high school in your system to participate in the symposium. We have already contacted your staff by telephone and letter to give them some of the details. We would like to have a significant number of the students from your public school system participate in the program. We will either provide bus transportation for these students, or reimbursement to the school system for mileage costs. We will also provide a noon luncheon on each day.

I am enclosing a preliminary program for the symposium. Mrs. Elcid Mancini is our day-to-day program assistant and she will contact you or your staff on the details.

I would like to encourage you to allow a sizeable number of your junior high (April 21) and high school (April 22) students to participate

April 7, 1976  
Page 2

in the program. I would also like to invite you and your counselor to attend. Please call Mrs. Mancini or Mr. Armando Alba at 646-1631, or myself at 646-2911 if you have any questions. I would like to personally thank you for the support your school has given NMSU in the past and for your participation in this NASA symposium.

Sincerely,

John W. Hernandez, Dean  
College of Engineering

JWH:jlb

Enclosure

PLACEMENT AND CAREER SERVICES OFFICE

Box 3509/Las Cruces, New Mexico 88003  
Telephones (505) 646-1631



April 9, 1976

TO:

FROM: Armando R. Alba, Director

SUBJECT: National Aeronautics and Space Administration (NASA) Symposium

New Mexico State University, in conjunction with National Aeronautics and Space Administration (NASA), is sponsoring a Space Symposium on April 21, 22, 23, 1976 at the Pan American Center on campus. The activity will have programs geared to junior highs, high schools/colleges and counselors/administrators as well as a community night session. It is our purpose to present a program that will give information and motivate minorities, women, and other interested students into the sciences and engineering fields.

NASA will conduct a special session for minority faculty members, placement people, co-op directors and counselors during the Friday morning program. You will be our guest at a luncheon immediately following the working session Friday morning. It is our hope that you will be able to attend this part of the activity as well as any other session that might interest you.

I am enclosing a tentative program at this time. You will be receiving a formal program when it is printed. Please contact me or Mrs. Elcid Mancini, Project Assistant, and let us know whether or not you will be able to attend or if you have any questions on the activities.

ARA:em

Enclosure

PLACEMENT AND CAREER SERVICES OFFICE

Box 3509/Las Cruces, New Mexico 88003  
Telephone (505) 646-1631

April 15, 1976



Dear

I am enclosing invitations to the parents of the students who are attending the NASA Space Symposium on the campus of New Mexico State University. Will you please see that the students get these to take home to their parents.

When your group arrives at the Pan American Center, have the bus go to the north entrance to unload. The registration tables will be right inside the north doors. We plan to have a packet of name tags for each school.

We are looking forward to seeing you next week. If you have any questions between now and then, please contact me.

Sincerely,

Elcid Mancini  
Project Assistant

EM:jc

Enclosures

PLACEMENT AND CAREER SERVICES OFFICE

Box 3509/Las Cruces, New Mexico 88003  
Telephone (505) 646-1631

April 13, 1976



Dear Parent(s):

New Mexico State University, in conjunction with the National Aeronautics and Space Administration (NASA), is sponsoring a Space Symposium from April 21-23, 1976. The activity will have programs geared to junior highs, high schools/colleges and counselors/administrators, as well as a community night session.

The purpose of this letter is to invite you to the community night session which will be a "mini" program of the day's activities. The program will give information to motivate minorities, women, and other interested students into the sciences and engineering fields. It will be held from 6:30 p.m. to 10:00 p.m., April 21, Pan American Center here on campus. Dr. Karl G. Henize, astronaut from Johnson Space Center in Houston, will be the featured speaker. He will speak on what a parent needs to know about careers in space and technology. We think it will be quite interesting and informative.

There will be various NASA exhibits available for viewing as well as a Native American arts and crafts display. Won't you join us in this most worthwhile activity?

Please contact me or Mrs. Elcid Mancini, Project Assistant, if you have any questions concerning the event.

Sincerely,

Armando R. Alba  
Director

ARA:em

PLACEMENT AND CAREER SERVICES OFFICE

Box 3509/Las Cruces, New Mexico 88003  
Telephone (505) 646-1631

April 19, 1976



MEMORANDUM

TO:

FROM: Armando R. Alba, Director

For your information, attached is a copy of the program, SYMPOSIUM ON AERONAUTICS AND SPACE TECHNOLOGY, to be held on the campus of New Mexico State University, April 21 through 23, 1976.

I thought your office would be interested in receiving an information copy of the program.

ja  
att.

PLACEMENT AND CAREER SERVICES OFFICE

Box 3509/Las Cruces, New Mexico 88003  
Telephone (505) 646-1631

April 28, 1976



Dear

The Placement and Career Services Office of New Mexico State University would like to thank you for your participation in the National Aeronautics and Space Administration (NASA) Space Symposium which was held on campus April 21-23, 1976.

We feel that the program was quite a success and your presence and cooperation helped make it so. We would like to have an outline or notes of any presentation/s you made during the sessions for our final report.

Our office has proofs of the pictures which were taken during the sessions. If you would be interested in seeing these, please let us know and we will send a set for your use.

You might be interested to know on April 21 there were 751 junior high students, 20 high school students, and 35 counselors/teachers in attendance. On April 22 there were 375 high school students, 20 college students, and 35 counselors/teachers. On April 23 for the Curriculum Workshop and Special Programs Workshop for administrators/teachers and counselors there were 40 university people and 15 secondary school people in attendance.

Thanks again for your cooperation and help in presenting a successful program.

Sincerely,

Armando R. Alba  
Director

ARA:em

PLACEMENT AND CAREER SERVICES OFFICE

Box 3509/Las Cruces, New Mexico 88003  
Telephone (505) 646-1631

May 3, 1976



Dear

The Placement and Career Services Office would like to thank you for your participation in the National Aeronautics and Space Administration (NASA) Space Symposium which was held on the campus of New Mexico State University April 21-23, 1976.

We feel that the program was quite a success and your booth from \_\_\_\_\_ helped make it so. Your booth was one of the favorites among the visiting students.

You might be interested to know on April 21 there were 751 junior high students, 20 high school students, and 35 counselors/teachers in attendance. On April 22 there were 375 high school students, 20 college students, and 35 counselors/teachers.

Thanks again for your cooperation and help in presenting a successful program.

Sincerely,

Armando R. Alba  
Director

ARA:em

PLACEMENT AND CAREER SERVICES OFFICE

Box 3509/Las Cruces, New Mexico 88003  
Telephone (505) 646-1631

May 5, 1976



Dear

The Placement and Career Services Office would like to thank your school for participating in the National Aeronautics and Space Administration (NASA) Space Symposium which was held on the campus of New Mexico State University April 21-23, 1976.

We feel that the program was quite a success and the attendance of your students and counselors/teachers helped make it so.

You might be interested to know that on April 21 there were 751 junior high students, 20 high school students, and 35 counselors/teachers in attendance. On April 22 there were 375 high school students, 20 college students, and 35 counselors/teachers. On April 23 for the Curriculum Workshop and Special Programs Workshop for administrators/teachers and counselors there were 40 university people and 15 secondary school people present.

In the packet which was given to a sponsor from your school at registration were evaluation forms for the participants to fill out. If your school has not returned these, will you please do so as soon as possible. We need this information for our final report on the Symposium.

Thanks again for your time and participation. If you have any questions concerning the Symposium, please contact me or Mrs. Elcid Mancini, Project Assistant.

Sincerely,

Armando R. Alba  
Director

ARA:em

cc Principal

COLLEGE OF ENGINEERING

OFFICE OF THE DEAN  
Box 3449/Las Cruces, New Mexico 88003  
Telephone (505) 646-2911



April 30, 1976

Dear

I want to take this occasion to thank you for attending and participating in our recent NASA Symposium and general session relative to the Curriculum Workshop. Only through contact such as this will we be able to properly advise our students and evaluate transferred work among our respective institutions.

In the near future, you will be receiving preliminary information from Dean Ford as a starting point for establishing equivalencies of courses. We will appreciate any help that you would be able to give us in these interpretations.

It was nice seeing you and I will be looking forward to our next meeting.

Sincerely,

John W. Hernandez, Dean  
College of Engineering

JWH:cc

COLLEGE OF ENGINEERING

OFFICE OF THE DEAN  
Box 3449/Las Cruces, New Mexico 88003  
Telephone (505) 646-2911



June 2, 1976

Dear

It's been more than a month since the NASA Space Symposium was held here at New Mexico State; you did a great deal to make the program a success. To me it wasn't the number of participants that was so important (We did have over 1100 students.) nor the fact that there were a large number of counselors and visitors from other colleges in the region, to me it was the very positive attitude that I found to be common among the participants. Almost everyone I talked with was strongly in favor of encouraging more women and minorities to enter engineering and the sciences.

You have certainly contributed to this goal. My personal thanks. \_\_\_\_\_

Sincerely,

John W. Hernandez, Dean  
College of Engineering

JWH:jlb

Frank S. Pennock  
April 2, 1976

LAS CRUCES--A three-day combination of the NASA Space Symposium and the New Mexico State University College of Engineering open house is expected to attract more than 800 junior and senior high school and college students from southern New Mexico and west Texas to the NMSU campus in Las Cruces.

Designed to profile career and educational opportunities in science and engineering, the symposium is scheduled April 21-23 with the full-scale engineering open house planned for the general public and students on the afternoon of the 23rd. Various highlights of the April 18-23 Native American Week observance will be integrated into the schedule.

Activities are jointly sponsored by the National Space and Aeronautics Administration, the NMSU Placement and Career Services office and the College of Engineering.

Symposium sessions will be staged in the Pan American Center April 21. Activities will be keyed to junior high school students. Sessions on April 22 will be designed for high school and college level participants.

Students will hear NASA speakers discuss the past, present and future of the space age, the moon walk and opportunities in NASA-related occupations. A series of elaborate displays will be available. A comparable program has been arranged for parents and the general public for the evening of April 21.

-more-

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add one--engineering symposium

The symposium concludes at Corbett Center on the morning of April 23 with a series of curriculum workshops for administrators, teachers and counselors.

The College of Engineering open house, staged by the NMSU Engineers' Council, is scheduled from 1 to 5 p.m., April 23. Many of the NASA exhibits will be moved from the Pan American Center to the Jett Hall engineering complex to join approximately two dozen exhibits prepared by individual departments and professional organizations within the college.

Exhibits will be staged by the mechanical engineering department, American Society of Certified Engineer Technicians, American Society of Civil Engineers, agricultural engineering department, American Institute of Chemical Engineers, Institute of Electrical and Electronics Engineers, and the Society of Women Engineers.

Tours of laboratories and of the solar heated and cooled New Mexico Department of Agriculture building and the solar demonstration house are planned as well.

The engineering open house is open to the public as well as visiting students. There is no admission charge for any of the scheduled activities.

Colleges in New Mexico as well as junior colleges at Douglas and Many Farms, Ariz., are expected to participate in NASA symposium and engineering open house activities.

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internal, alba (3509), hernandez (3449)  
general story with pic to ru, sun news and bulletin, alb journal,  
missile ranger  
general story to ap, upi, nm teachers news  
w/hometown lead to deming, silver city, lordsburg, t or c, socorro,  
alamo, ep times and herald post  
code: placement, engineering

internal, alba (3509) hernandez (3449)  
alano paper and radio

Frank S. Pennock  
April 2, 1976

LAS CRUCES--Junior and senior high school students from Alamogordo have been invited to join more than 800 students from southern New Mexico and west Texas for a three-day combination of the NASA Space Symposium and New Mexico State University's College of engineering open house.

Designed to profile career and educational opportunities in science and engineering, the symposium is scheduled April 21-23 with the full-scale engineering open house planned for the general public and students on the afternoon of the 23rd. Various highlights of the April 18-23 Native American Week observance will be integrated into the schedule.

Activities are jointly sponsored by the National Space and Aeronautics Administration, the NMSU Placement and Career Services office and the College of Engineering.

Symposium sessions will be staged in the Pan American Center April 21. Activities will be keyed to junior high school students. Sessions on April 22 will be designed for high school and college level participants.

Students will hear NASA speakers discuss the past, present and future of the space age, the moon walk and opportunities in NASA-related occupations. A series of elaborate displays will be available. A comparable program has been arranged for parents and the general public for the evening of April 21.

-more-

add one--engineering symposium

The symposium concludes at Corbett Center on the morning of April 23 with a series of curriculum workshops for administrators, teachers and counselors.

The College of Engineering open house, staged by the NMSU Engineers' Council, is scheduled from 1 to 5 p.m., April 23. Many of the NASA exhibits will be moved from the Pan American Center to the Jett Hall engineering complex to join approximately two dozen exhibits prepared by individual departments and professional organizations within the college.

Exhibits will be staged by the mechanical engineering department, American Society of Certified Engineer Technicians, American Society of Civil Engineers, agricultural engineering department, American Institute of Chemical Engineers, Institute of Electrical and Electronics Engineers, and the Society of Women Engineers.

Tours of laboratories and of the solar heated and cooled New Mexico Department of Agriculture building and the solar demonstration house are planned as well.

The engineering open house is open to the public as well as visiting students. There is no admission charge for any of the scheduled activities.

Colleges in New Mexico as well as junior colleges at Douglas and Many Farms, Ariz., are expected to participate in NASA symposium and engineering open house activities.

internal, alba(3509) hernandez (3449)  
ep times, post, ep radios

Frank S. Pennock  
April 2, 1976

LAS CRUCES--Junior and senior high school students from El Paso and Isleta have been invited to join more than 800 students from southern New Mexico and west Texas for a three-day combination of the NASA Space Symposium and New Mexico State University's College of Engineering open house.

Designed to profile career and educational opportunities in science and engineering, the symposium is scheduled April 21-23 with the full-scale engineering open house planned for the general public and students on the afternoon of the 23rd. Various highlights of the April 18-23 Native American Week observance will be integrated into the schedule.

Activities are jointly sponsored by the National Space and Aeronautics Administration, the NMSU Placement and Career Services office and the College of Engineering.

Symposium sessions will be staged in the Pan American Center April 21. Activities will be keyed to junior high school students. Sessions on April 22 will be designed for high school and college level participants.

Students will hear NASA speakers discuss the past, present and future of the space age, the moon walk and opportunities in NASA-related occupations. A series of elaborate displays will be available. A comparable program has been arranged for parents and the general public for the evening of April 21.

-more-

add one--engineering symposium

The symposium concludes at Corbett Center on the morning of April 23 with a series of curriculum workshops for administrators, teachers and counselors.

The College of Engineering open house, staged by the NMSU Engineers' Council, is scheduled from 1 to 5 p.m., April 23. Many of the NASA exhibits will be moved from the Pan American Center to the Jett Hall engineering complex to join approximately two dozen exhibits prepared by individual departments and professional organizations within the college.

Exhibits will be staged by the mechanical engineering department, American Society of Certified Engineer Technicians, American Society of Civil Engineers, agricultural engineering department, American Institute of Chemical Engineers, Institute of Electrical and Electronics Engineers, and the Society of Women Engineers.

Tours of laboratories and of the solar heated and cooled New Mexico Department of Agriculture building and the solar demonstration house are planned as well.

The engineering open house is open to the public as well as visiting students. There is no admission charge for any of the scheduled activities.

Colleges in New Mexico as well as junior colleges at Douglas and Many Farms, Ariz., are expected to participate in NASA symposium and engineering open house activities.

internal, alba (3509) hernandez (3449)  
socorro paper and radio

Frank S. Pennock  
April 2, 1976

LAS CRUCES---Junior and senior high school students from Socorro have been invited to join more than 800 students from southern New Mexico and west Texas for a three-day combination of the NASA Space Symposium and New Mexico State University's College of Engineering open house.

Designed to profile career and educational opportunities in science and engineering, the symposium is scheduled April 21-23 with the full-scale engineering open house planned for the general public and students on the afternoon of the 23rd. Various highlights of the April 18-23 Native American Week observance will be integrated into the schedule.

Activities are jointly sponsored by the National Space and Aeronautics Administration, the NMSU Placement and Career Services office and the College of Engineering.

Symposium sessions will be staged in the Pan American Center April 21. Activities will be keyed to junior high school students. Sessions on April 22 will be designed for high school and college level participants.

Students will hear NASA speakers discuss the past, present and future of the space age, the moon walk and opportunities in NASA-related occupations. A series of elaborate displays will be available. A comparable program has been arranged for parents and the general public for the evening of April 21.

add one--engineering symposium

The symposium concludes at Corbett Center on the morning of April 23 with a series of curriculum workshops for administrators, teachers and counselors.

The College of Engineering open house, staged by the NMSU Engineers' Council, is scheduled from 1 to 5 p.m., April 23. Many of the NASA exhibits will be moved from the Pan American Center to the Jett Hall engineering complex to join approximately two dozen exhibits prepared by individual departments and professional organizations within the college.

Exhibits will be staged by the mechanical engineering department, American Society of Certified Engineer Technicians, American Society of Civil Engineers, agricultural engineering department, American Institute of Chemical Engineers, Institute of Electrical and Electronics Engineers, and the Society of Women Engineers.

Tours of laboratories and of the solar heated and cooled New Mexico Department of Agriculture building and the solar demonstration house are planned as well.

The engineering open house is open to the public as well as visiting students. There is no admission charge for any of the scheduled activities.

Colleges in New Mexico as well as junior colleges at Douglas and Many Farms, Ariz., are expected to participate in NASA symposium and engineering open house activities.

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t or c paper and radio

Frank S. Pennock  
April 2, 1976

LAS CRUCES--Junior and senior high school students from Truth or Consequences have been invited to join more than 800 students from southern New Mexico and west Texas for a three-day combination of the NASA Space Symposium and New Mexico State University's College of Engineering open house.

Designed to profile career and educational opportunities in science and engineering, the symposium is scheduled April 21-23 with the full-scale engineering open house planned for the general public and students on the afternoon of the 23rd. Various highlights of the April 18-23 Native American Week observance will be integrated into the schedule.

Activities are jointly sponsored by the National Space and Aeronautics Administration, the NMSU Placement and Career Services office and the College of Engineering.

Symposium sessions will be staged in the Pan American Center April 21. Activities will be keyed to junior high school students. Sessions on April 22 will be designed for high school and college level participants.

Students will hear NASA speakers discuss the past, present and future of the space age, the moon walk and opportunities in NASA-related occupations. A series of elaborate displays will be available. A comparable program has been arranged for parents and the general public for the evening of April 21.

-more-

add one--engineering symposium

The symposium concludes at Corbett Center on the morning of April 23 with a series of curriculum workshops for administrators, teachers and counselors.

The College of Engineering open house, staged by the NMSU Engineers' Council, is scheduled from 1 to 5 p.m., April 23. Many of the NASA exhibits will be moved from the Pan American Center to the Jett Hall engineering complex to join approximately two dozen exhibits prepared by individual departments and professional organizations within the college.

Exhibits will be staged by the mechanical engineering department American Society of Certified Engineer Technicians, American Society of Civil Engineers, agricultural engineering department, American Institute of Chemical Engineers, Institute of Electrical and Electronics Engineers, and the Society of Women Engineers.

Tours of laboratories and of the solar heated and cooled New Mexico Department of Agriculture building and the solar demonstration house are planned as well.

The engineering open house is open to the public as well as visiting students. There is no admission charge for any of the scheduled activities.

Colleges in New Mexico as well as junior colleges at Douglas and Many Farms, Ariz., are expected to participate in NASA symposium and engineering open house activities.

int., alba (3509) hernandez (3449)  
deming, silver city, lordsburg papers  
and radios

Frank S. Pennock  
April 2, 1976

LAS CRUCES--Junior and senior high school students from Deming, Silver City and Lordsburg have been invited to join more than 800 students from southern New Mexico and west Texas for a three-day combination of the NASA Space Symposium and New Mexico State University's College of Engineering open house.

Designed to profile career and educational opportunities in science and engineering, the symposium is scheduled April 21-23 with the full-scale engineering open house planned for the general public and students on the afternoon of the 23rd. Various highlights of the April 18-23 Native American Week observance will be integrated into the schedule.

Activities are jointly sponsored by the National Space and Aeronautics Administration, the NMSU Placement and Career Services office and the College of Engineering.

Symposium sessions will be staged in the Pan American Center April 21. Activities will be keyed to junior high school students. Sessions on April 22 will be designed for high school and college level participants.

Students will hear NASA speakers discuss the past, present and future of the space age, the moon walk and opportunities in NASA-related occupations. A series of elaborate displays will be available. A comparable program has been arranged for parents and the general public for the evening of April 21.

-more-

add one--engineering symposium

The symposium concludes at Corbett Center on the morning of April 23 with a series of curriculum workshops for administrators, teachers and counselors.

The College of Engineering open house, staged by the NMSU Engineers' Council, is scheduled from 1 to 5 p.m., April 23. Many of the NASA exhibits will be moved from the Pan American Center to the Jett Hall engineering complex to join approximately two dozen exhibits prepared by individual departments and professional organizations within the college.

Exhibits will be staged by the mechanical engineering department American Society of Certified Engineer Technicians, American Society of Civil Engineers, agricultural engineering department, American Institute of Chemical Engineers, Institute of Electrical and Electronics Engineers, and the Society of Women Engineers.

Tours of laboratories and of the solar heated and cooled New Mexico Department of Agriculture building and the solar demonstration house are planned as well.

The engineering open house is open to the public as well as visiting students. There is no admission charge for any of the scheduled activities.

Colleges in New Mexico as well as junior colleges at Douglas and Many Farms, Ariz., are expected to participate in NASA symposium and engineering open house activities.

Frank S. Pinnock

April 2, 1976

## OUTLINE

THE NASA SPACE SYMPOSIUM AND ENGINEERS' OPEN HOUSE are scheduled April 21-23 at New Mexico State University. Arrangements were finalized by Dr. John Hernandez (left), dean of NMSU's College of Engineering, Lou Gomez (center), technical manager for NASA's White Sands Test Facility, and Dr. Robert San Martin (right), director of NMSU's Energy Research and Development Institute. The three-day combination of events is expected to draw 800 junior and senior high school and college students from southern New Mexico and west Texas. (NMSU Photo: Chuck Williams)

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with pic and story to ru, sun news, and bulletin, albu jrn1, missile  
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code: placement  
          engineering  
co

**ORIGINAL PAGE IS  
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Frank S. Pinnock  
April 7, 1976

LAS CRUCES--New Mexico's governor and a National Aeronautics and Space Administration official will be special guests at the April 21-23 NASA Space Symposium and New Mexico State University College of Engineering Open House.

Gov. Jerry Apodaca will open the space symposium April 21 at the Pan American Center. Dr. Harriet Jenkins, NASA's assistant administrator for equal opportunity programs, will be the featured speaker at an evening banquet for college faculty and administrators, counselors, industrial representatives and NASA officials.

More than 200 junior and senior high school and college students from southern New Mexico and west Texas have been invited to participate in both the symposium and the engineering open house. The series of events is jointly sponsored by the National Aeronautics and Space Administration, NMSU's Placement and Career Services Office and the College of Engineering.

Symposium speakers will discuss opportunities in NASA-related occupations as well as the past, present and future of the space age. Numerous displays will graphically illustrate various NASA projects. Symposium sessions, all in the Pan American Center, will be directed to junior high school students April 21 and to high school and college level participants on April 22.

-more-

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add 1 - NASA Space Symposium

Student-oriented sessions are scheduled during daytime hours with a program for parents and the general public 6:30 p.m.-10 p.m., April 21. A Curriculum workshop for administrators, teachers and counselors will conclude the symposium on the morning of April 23.

Designed for the general public and students alike, the college of engineering open house will begin at 1 p.m. on April 23. Many NASA exhibits will be moved to the Jett Hall complex to join two dozen exhibits prepared by individual departments and professional organizations within the college.

Staged by the NMSU Engineers' Council, the open house will feature tours of laboratories and of the solar heated and cooled New Mexico Department of Agriculture building. Diverse exhibits will illustrate not only general areas of engineering but specific research areas.

The engineering open house is open to the public as well as visiting students. Highlights of the April 18-23 Native American Week observance are integrated into the three-day schedule.

Students invited to the symposium and open house are from schools in Deming, Silver City, Lordsburg, Hatch, Truth or Consequences, Socorro, Alamogordo, Anthony and Las Cruces, New Mexico. El Paso and Isleta schools in Texas have been invited to send delegations along with colleges throughout the region.

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internal, alba (3509), hernandez (3449)  
campus: local inc KOBLE, alb jrnl, ep times, missile ranger, ap, upi,  
deming, silver city, lordsburg, torc, socorro, alamo  
code: placement, engineering  
mlr

lordsburg, torc, socorro,  
alamo  
code: placement & engineering  
mlr.

Frank S. Pinnock  
April 13, 1976

LAS CRUCES--The New Mexico State University Engineers' Council open house on April 23 will give first-hand knowledge of educational opportunities, accomplishments and NMSU's facilities in the field of engineering.

The 1-5 p.m. open house at Jett Hall will be the final event of a three-day series opening April 21 with the National Aeronautics and Space Administration Space Symposium at the Pan American Center.

Some space symposium exhibits will be moved to Jett Hall to join the more than two-dozen displays and demonstrations to be staged by engineering departments and professional organizations.

Dr. John Hernandez, NMSU dean of engineering, commented that NMSU produces practical engineers with "hands on" experience. Hernandez said "these graduates can do a job in the field because they have had more than just theoretical training." He said because of news coverage of the massive technological advances of the past few years "it is quite difficult to develop something that is unique that the general public hasn't seen before." Discussing the April 23 open house, Hernandez said "people need to know about our facilities. Some of the laboratory facilities are composed solely of very old equipment that needs replacing."

Open house highlights include conducted tours of laboratories and of the solar heated and cooled demonstration house and New Mexico Department of Agriculture building. Displays will illustrate engineering fields, research areas and specific processes.

add 1....Engineers' open house

Subjects range from a sun-tracking solar furnace and solar-cooked hotdogs to the mechanical harvest of chile. Other demonstrations center on various computer systems, surveying, laser technology and computer identification of insects.

Individual exhibits will be prepared by the mechanical engineering department, American Society of Civil Engineers, agricultural engineering department, American Institute of Chemical Engineers, Institute of Electrical and Electronics Engineers, and American Society of Women Engineers.

The NASA Space Symposium opens April 21 at the Pan American Center. More than 800 junior and senior high school and college students have been invited to participate.

New Mexico Governor Jerry Apodaca will open the symposium. Speakers and panelists represent NASA Headquarters, Washington, D.C.; Johnson Space Center, Houston, Tex.; Dryden Flight Research Center, Edwards, Cal.; Lewis Research Center, Cleveland, Ohio; Kennedy Space Center, Fla.; Goddard Space Flight Center, Greenbelt, Md., and the NASA White Sands Test Facility.

Displays and presentations will profile NASA-related career opportunities as well as the past, present and future of the space age. Daytime sessions are designed for students, with an evening program planned for the general public at 6:30 p.m., April 21.

The April 21-23 events are sponsored by the National Aeronautics and Space Administration, NMSU's Placement and Career Services office and College of Engineering.

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internal, alba (3509), hernandez (3449), campus, local inc. kobe, alb jrnl, ep times, missile ranger, ap, -upi, deming, silver city, etc.

Frank S. Pinnock  
April 15, 1976

LAS CRUCES--Area residents are invited to attend a special session of the National Aeronautics and Space Administration Space Symposium, Wednesday evening (April 21) at the Pan American Center.

Part of an April 21-23 series of events at New Mexico State University, the evening space symposium session and the engineering open house on Friday (April 23) have been arranged for the general public as well as students.

The public session of the space symposium begins with registration at 6:30 p.m. and will feature a 7 p.m. orientation by Louis Gomez, NASA White Sands Test Facility.

Astronaut Dr. Karl G. Henize, Johnson Space Center, Houston will discuss 'What a Parent Needs to Know.'

'An Overview of NASA' will be presented by a panel moderated by Dr. John Hernandez, dean of NMSU's College of engineering. Panelists will be Frank Penaranda, Stan Kelly and Earl Ginyard of NASA headquarters, Washington, D.C.; Dora Puleo, Goddard Space Flight Center, Greenbelt, MD., Leo Villarreal, Jerry Elliott and Elena Helgares, Johnson Space Center, Houston, Tex.; Earl Montoya and Silvia Sainz, Dryden Flight Research Center, Edwards, Cal. Miss Sainz is an NMSU co-op student.

A question and answer period and opportunity to view NASA exhibits will follow the address by Dr. Henize and the panel presentation.

add 1 - NASA

The three-day series is designed to profile career and educational opportunities in engineering and science. Space symposium sessions for students, administrators and counselors are scheduled during daytime hours April 21-23 and will detail NASA career potential and space program activities.

Speakers and panelists for student sessions represent not only NASA headquarters but related research and development agencies in six states.

NMSU Engineers' Council open house is planned 1-5 p.m. Friday (April 23). Some NASA exhibits will be moved to join two dozen displays at Jett Hall.

Subject matter covers a wide range of engineering fields, research and accomplishments. Engineering departments and professional organizations are responsible for the displays.

Tours of laboratories and NMSU's solar demonstration house and the solar heated and cooled New Mexico Department of Agriculture building are included in open house activities.

There is no charge for the public space symposium session or the open house.

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sun news inc kobe, ep tires, albu jrnl, deming, alamo, silver city  
torc, missile ranger, socorro, lordsburg  
code: placement, engineering  
mlr

Frank S. Pinnock  
April 15, 1976

## CUTLINE

SCIENTIST-ASTRONAUT DR. KARL G. HENIZE, Johnson Space Center, Houston, Tex., will be among the featured speakers for public and student sessions of the National Aeronautics and Space Administration Space Symposium at New Mexico State University. A public session is scheduled 6:30 to 10 p.m., Wednesday (April 21) at the Pan American Center. The symposium will involve displays and speakers representing NASA headquarters, Washington, D.C., and related research and development agencies in six states. The NMSU Engineers' Council open house will complete the three-day series of events 1-5 p.m. Friday (April 23) at Jett Hall.

-30-

internal, hernandez (3449), alba (3509)  
pic to sun-news

code: placement, engineering

# Around New Mexico



From Left, John Hernandez, Lou Gomez and Robert San Martin  
Checking Over Final Plans for NASA Space Symposium

## NASA Space Symposium To Be Conducted at NMSU

### Journal Special

**LAS CRUCES** — A three-day combination of the NASA Space Symposium and the New Mexico State University College of Engineering open house is expected to attract more than 800 junior and senior high school and college students from southern New Mexico and west Texas to the NMSU campus in Las Cruces.

Designed to profile career and educational opportunities in science and engineering, the symposium is scheduled April 21-23 with the full-scale engineering open house planned for the general public and students on the afternoon of the 23rd. Various highlights of the April 18-23 Native American Week observance will be integrated into the schedule.

Activities are jointly sponsored by the National Space

and Aeronautics Administration, the NMSU Placement and Career Services office and the College of Engineering.

Dr. John Hernandez, dean of NMSU's College of Engineering; Lou Gomez, technical manager for NASA's White Sands Test Facility; and Dr. Robert San Martin, director of NMSU's Energy Research and Development Institute, helped make the arrangements for the symposium.

Symposium sessions will be staged in the Pan American Center April 21. Activities will be keyed to junior high school students. Sessions on April 22 will be designed for high school and college level participants.

Students will hear NASA speakers discuss the past, present and future of the space age, the moon walk

and opportunities in NASA-related occupations. A series of elaborate displays will be available. A comparable program has been arranged for parents and the general public for the evening of April 21.

The symposium concludes at Corbett Center on the morning of April 23 with a series of curriculum workshops for administrators, teachers and counselors.

The College of Engineering open house, staged by the NMSU Engineers' Council, is scheduled from 1 to 5 p.m., April 23. Many of the NASA exhibits will be moved from the Pan American Center to the Jett Hall engineering complex to join approximately two dozen exhibits prepared by individual departments and professional organizations within the college.

ORIGINAL PAGE IS  
OF POOR QUALITY

April 9, 1976

# Apodaca Will Open Space Symposium Scheduled In Pan American Center

Special To The El Paso Times

LAS CRUCES — New Mexico's governor and a National Aeronautics and Space Administration official will be special guests at the April 21-23 NASA Space Symposium and New Mexico State University College of Engineering Open House.

Gov. Jerry Apodaca will open the space symposium April 21 at the Pan American Center. Dr. Harrit Jenkins, NASA's assistant administrator for equal opportunity programs, will be the featured speaker at an evening banquet for college faculty and administrators, counselors, industrial representatives and NASA officials.

More than 800 junior and senior high school and college students from southern New Mexico and west Texas have been invited to participate in both the symposium and the engineering open house. The series of events is jointly sponsored by the National Aeronautics and Space Administration, NMSU's Placement and Career Services Office and the College of Engineering.

Symposium speakers will discuss opportunities in NASA-related occupations as well as the past, present

and future of the space age. Numerous displays will graphically illustrate various NASA projects. Symposium sessions, all in the Pan American Center, will be directed to junior high school students April 21 and to high school and college level participants on April 22.

Student-oriented sessions are scheduled during daytime hours with a program for parents and the

general public 6:30-10 p.m., April 21. A Curriculum workshop for administrators, teachers and counselors will conclude the symposium on the morning of April 23.

Designed for the general public and students alike, the college of engineering open house will begin at 1 p.m. April 23. Many NASA exhibits will be moved to the Jett Hall complex to join two dozen exhibits.

April 9, 1976

## NASA Symposium Set At NMSU

Special To The El Paso Times

LAS CRUCES — Junior and senior high school pupils from El Paso and Ysleta have been invited to join more than 800 pupils from southern New Mexico and West Texas for a three-day combination of the NASA Space Symposium and New Mexico State University's College of Engineering open house.

Designed to profile career and educational opportunities in science and engineering, the symposium is scheduled April 21-23 with the full-scale engineering open house planned for the general public

and students on the afternoon of the 23rd. Various highlights of the Native American Week observance April 18-23 will be integrated into the schedule.

Activities are jointly sponsored by the National Space and Aeronautics Administration, the NMSU Placement and Career Services office and the College of Engineering.

Symposium sessions will be in the Pan American Center April 21. Activities will be keyed to junior high school pupils. Sessions on April 22 will be designed for high school and college level participants.

Students will hear NASA speakers discuss the past, present and future of the space age, the moon walk and opportunities in NASA-related occupations. A series of elaborate displays will be available. A comparable program has been arranged for parents and the general public for the evening of April 21.

The symposium concludes at Corbett Center on the morning of April 23 with a series of curriculum workshops for administrators, teachers and counselors.

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At New Mexico State

# Governor To Open Space Meet

New Mexico's governor and a National Aeronautics and Space Administration official will be special guests at the April 21-23 NASA Space Symposium and New Mexico State University College of Engineering Open House

Gov Jerry Apodaca will open the space symposium April 21 at the Pan American Center. Dr. Harriet Jenkins, NASA's assistant administrator for equal opportunity programs, will be the featured speaker at an evening banquet for college faculty and administrators,

counselors, industrial representatives and NASA officials

More than 800 junior and senior high school and college students from southern New Mexico and west Texas have been invited to participate in both the symposium and the engineering open house. The series of events is jointly sponsored by the National Aeronautics and Space Administration, NMSU's Placement and Career Services Office and the College of Engineering

Symposium speakers will discuss opportunities in NASA-related occupations as well as the past, present and future of the space age. Numerous displays will graphically illustrate various NASA projects. Symposium sessions, all in the Pan American Center, will be directed to junior high school students April 21 and to high school and college level participants on April 22.

Student-oriented sessions are scheduled during daytime hours with a program for parents and the general public 6:30 p.m. - 10

p.m. April 21. A Curriculum workshop for administrators, teachers and counselors will conclude the symposium on the morning of April 23.

Designed for the general public and students alike, the college of engineering open house will begin at 1 p.m. on April 23. Many NASA exhibits will be moved to the Jett Hall complex to join two dozen exhibits prepared by individual departments and professional organizations within the college.

Staged by the NMSU Engineers' Council, the open house will feature tours of laboratories and of the solar heated and cooled New Mexico Department of Agriculture

building. Diverse exhibits will illustrate not only general areas of engineering, but specific research areas.

The engineering open house is open to the public as well as

visiting students. Highlights of the April 18-23 Native American Week observance are integrated into the three-day schedule.

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April 13, 1976

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## Open House Also Set

# NASA Symposium Planned

A three-day combination of the NASA Space Symposium and the New Mexico State University College of Engineering open house is expected to attract more than 800 junior and senior high school and college students from southern New Mexico and west Texas to the NMSU campus in Las Cruces

Designed to profile career and educational opportunities in science and engineering, the symposium is scheduled April 21-23 with the full-scale engineering openhouse planned for the general public and students on the afternoon of the

23rd Various highlights of the April 18-23 Native American Week observance will be integrated into the schedule

Activities are jointly sponsored by the National Space and Aeronautics Administration, the NMSU Placement and Career Services office and the College of Engineering.

Symposium sessions will be staged in the Pan American Center April 21 Activities will be keyed to junior high school students Sessions on April 22 will be designed for high school and college level participants

Students will hear NASA speakers discuss the past, pre-

sent and future of the space age, the moon walk and opportunities in NASA-related occupations A series of elaborate displays will be available. A comparable program has been arranged for parents and the general public for the evening of April 21

The symposium concludes at Corbett Center on the morning of April 23 with a series of curriculum workshops for administrators, teachers and counselors

The College of Engineering open house, staged by the NMSU Engineers' Council, is

scheduled from 1 to 5 p.m. April 23 Many of the NASA exhibits will be moved from the Pan American Center to the Jett Hall engineering complex to join approximately two dozen exhibits prepared by individual departments and professional organizations within the college

Exhibits will be staged by the mechanical engineering department American Society of Certified Engineer Technicians, American Society of Civil Engineers, agricultural engineering department, American Institute of Chemical Engineers, Institute of Electrical and Electronics

Engineers, and the Society of Women Engineers

Tours of laboratories and of the solar heated and cooled New Mexico Department of Agriculture building and the solar demonstration house are planned as well

The engineering open house is open to the public as well as visiting students There is no admission charge for any of the scheduled activities

Colleges in New Mexico as well as junior colleges at Douglas and Many Farms, Ariz. are expected to participate in NASA symposium and engineering open house activities

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April 16, 1976

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# Open House Set Friday

L A S C R U C E S

S U N N E W S

April 20, 1976

## Apodaca To Visit

Gov Jerry Apodaca will visit Las Cruces Wednesday to participate in a National Aeronautics and Space Administration space symposium

The symposium will be held at the Pan American Center on the New Mexico State University campus Apodaca will deliver a brief welcoming address at 9 a m

The program is being held to present career information

The New Mexico State University Engineers' Council open house on April 23 will give first-hand knowledge of educational opportunities, accomplishments and NMSU's facilities in the field of engineering

The 1-5 p m open house at Jett Hall will be the final event of a three-day series opening April 21 with the National Aeronautics and Space Administration Space Symposium at the Pan American Center

Some space symposium exhibits will be moved to Jett Hall to join the more than two dozen displays and demonstrations to be staged by engineering departments and professional organizations

Dr John Hernandez, NMSU dean of engineering, commented that NMSU produces practical engineers with "hands on" experience Hernandez said "these graduates can do a job in the field because they have had more than just theoretical training" He said because of news coverage of the massive technological advances of the past few years "it is quite difficult to develop something that is unique that the general public hasn't seen before" Discussing the April 23 open house, Hernandez said "people

need to know about our facilities Some of the laboratory facilities are composed solely of very old equipment that need replacing"

Open house highlights include conducted tours of laboratories and of the solar heated and cooled demonstration house and New Mexico Department of Agriculture building Displays will illustrate engineering fields, research areas and specific processes

Subjects range from a sun-tracking solar furnace and solar-cooked hotdogs to the mechanical harvest of chile Other demonstrations center on various computer systems, surveying, laser technology and computer identification of insects

Individual exhibits will be prepared by the mechanical engineering department, American Society of Civil Engineers, agricultural engineering department, American Society of Civil Engineers, American Institute of Chemical Engineers, Institute of Electrical and Electronics Engineers, and American Society of Women Engineers

The NASA Space Symposium opens April 21 at the Pan American Center More than 800 junior and senior high school and college students have been invited to participate

New Mexico Governor Jerry Apodaca will open the symposium Speakers and panelists represent NASA Headquarters, Washington D C, Johnson Space Center, Houston, Tex, Dryden Flight Research Center, Edwards, Cal, Lewis Research, Cleveland, Ohio, Kennedy Space Center, Fla, Goddard Space Flight Center, Greenbelt, Md, and the NASA White Sands Test Facility

Displays and presentations will profile NASA-related career opportunities as well as the past, present and future of the space age Daytime sessions are designed for students, with an evening program planned for the general public at 6.30 p m, April 21

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# Apodaca opens space talks

New Mexico's governor and a National Aeronautics and Space Administration official will be special guests at the NASA Space Symposium and NMSU College of Engineering Open House today-Friday.

Gov Jerry Apodaca will open the space symposium today at the Pan American Center. Dr. Harriet Jenkins, NASA's assistant administrator for equal opportunity programs, will be the featured speaker at an evening banquet for college faculty and administrators, counselors, industrial representatives and NASA officials.

The public session of the space symposium begins with

registration at 6:30 p.m. and will feature a 7 p.m. orientation by Louis Gomez, NASA White Sands Test Facility.

Astronaut Dr. Karl G. Henize, of Johnson Space Center in Houston, will discuss "What a Parent Needs to Know."

Symposium speakers will discuss opportunities in NASA-related occupations as well as the past, present and future of the space age. Numerous displays will illustrate various NASA projects. Symposium sessions, all in the Pan American Center, will be directed to junior high school students today and to high school and college level participants on Thursday.

Student-oriented sessions are scheduled during daytime hours with a program for parents and the general public 6:30 p.m.-10 p.m. today. A curriculum workshop for administrators, teachers and counselors will conclude the symposium Friday.

Designed for the general public and students alike, the college of engineering open house will begin at 1 p.m.

Friday. Many NASA exhibits will be moved to the Jett Hall complex to join two dozen exhibits prepared by individual departments and professional organizations within the college.

Staged by the NMSU Engineers' Council, the open house will feature tours of laboratories and of the solar-heated and cooled New Mexico Department of Agriculture building.

Student Newspaper of

R O U N D U P

New  
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University

April 21, 1976

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# Shuttle concern of NASA

The space shuttle is presently the main concern of the manned space program, according to Dr. Karl G. Henize, NASA Scientist-Astronaut who is visiting NMSU this week for the NASA Space Symposium.

Henize said Wednesday the shuttle is being designed at the Johnson Space Center in Houston, Tex., and will provide astronauts a low-cost system of travelling in space.

"In the 1980s, we plan to have shuttles going up at least once a month," Henize said. "These will help scientists observe the earth."

According to Henize, there are 300 missions planned for the 1980s and the same shuttles used in the missions can be used for the monthly trips.

The astronaut will be able to observe crops on the earth from orbit and tell farmers

throughout the world what kind of supply they will have that year and the crops' quality.

"It also can help the pollution problems occurring in our oceans," Henize said. "Only from space can we get a full picture of where the pollution is coming."

The total cost of the initial shuttle from 1970 to 1980 will be \$6 billion.

Prior to working with NASA as a scientist-astronaut, Henize was a senior astronomer at the Smithsonian Astrophysical Observatory and was an associate professor in Northwestern University's department of astronomy.

He is also the author and co-author of 45 scientific publications dealing with astronomy research.

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The first evaluation form which was given to participants at the Symposium was quite general in form.

Some of the students were confused by the third part (as to the category to check), and perhaps there should have been a better break down on the evaluation of the program ratings.

There were several interesting and constructive comments from all levels of participants.

The second evaluation form was sent to NASA personnel who participated in the Symposium. Hopefully, some of their ideas and comments will aid in presenting symposia of this nature in the future.

EVALUATION FORM

NEW MEXICO STATE UNIVERSITY

Pan American Center

April 21, 22, 23, 1976

"Symposium on Aeronautics and Space Technology"

Please rate each of the following presentations given. You may do so by placing the numbers 1, 2, 3 or 4 before each topic.

- 1 Valuable information
- 2 Somewhat valuable information
- 3 Not valuable information
- 4 Should be deleted from program

Rating of Program

- \_\_\_\_\_ 1. Toward a Better Tomorrow with Aeronautics and Space Technology
- \_\_\_\_\_ 2. The Space Shuttle
- \_\_\_\_\_ 3. A Look at NASA's Past, Present and Future
- \_\_\_\_\_ 4. Exhibit Viewing
- \_\_\_\_\_ 5. What A Parent Needs To Know
- \_\_\_\_\_ 6. Curriculum Workshop
- \_\_\_\_\_ 7. Special Program Workshop

II. Rate by checking YES or NO.

- |       |       |   |
|-------|-------|---|
| Yes   | No    |   |
| _____ | _____ | 1. If not in college already, do you plan to attend college?  |
| _____ | _____ | 2. Do you think the conference will help you in making a career decision?                                     |
| _____ | _____ | 3. If another activity such as this were to be held in the future, would you recommend that people attend it? |

III. Make any comments or suggestions that you feel would help to make this type of symposium more in line with the needs of people in your category.

- A. Faculty :
- |                  |                   |                   |
|------------------|-------------------|-------------------|
| University _____ | High School _____ | Junior High _____ |
|------------------|-------------------|-------------------|
- B. Staff:
- |                  |                   |                   |
|------------------|-------------------|-------------------|
| University _____ | High School _____ | Junior High _____ |
|------------------|-------------------|-------------------|
- C. University student \_\_\_\_\_
- D. High School student \_\_\_\_\_
- E. Junior High School student \_\_\_\_\_
- F. Other \_\_\_\_\_

COMMENTS: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



UNIVERSITY FACULTY

Rating of Program

1	2	3	4	
<u>1</u>	<u>1</u>			1.
<u>2</u>	<u>1</u>			2.
<u>2</u>	<u>1</u>			3.
<u>2</u>	<u>1</u>			4.
	<u>2</u>			5.
<u>2</u>	<u>1</u>			6.
<u>1</u>	<u>1</u>			7.

3 checked YES to the question, "If another activity such as this were to be held in the future, would you recommend that people attend it?"

HIGH SCHOOL FACULTY

Rating of Program

1	2	3	4	
<u>2</u>	<u>5</u>			1.
<u>5</u>	<u>2</u>			2.
<u>1</u>	<u>2</u>			3.
<u>3</u>	<u>3</u>			4.
				5.
<u>1</u>	<u>1</u>			6.
<u>1</u>	<u>1</u>			7.

2 checked YES, 1 checked NO to the question, "If another activity such as this were to be held in the future, would you recommend that people attend it?"

Recommended for future symposia:

1. Schedule activities for "chaperones" only when there are activities for students.
2. Plan more in way of evening activities for out of town students.
3. Have more specific information on kinds of work, jobs available, salaries, etc.

2 commented that they felt the program was too complex in some areas.

JUNIOR HIGH FACULTY

Rating of Program

1    2    3    4

<u>4</u>	<u>1</u>	1.
<u>2</u>	<u>3</u>	2.
<u>3</u>	<u>2</u>	3.
<u>4</u>	<u>1</u>	4.
_____		5.
_____		6.
_____		7.

1 checked YES to the question, "If another activity such as this were to be held in the future, would you recommend that people attend it?"

Recommended for future symposia:

1. Pace program faster for junior high students.
2. Have prepared talk at each exhibit.
3. Half-day program might work better.
4. Include "Careers for Women" at junior high level.

Comments:

1. Very worthwhile--3
2. Material too technical for junior high level in some instances--2
3. Earl Montoya's presentation was a good example of putting technical material across to young people.--2

Quote from counselor at Hillcrest Junior High, El Paso, Texas.

"Excellent program--should be presented about twice per public school year. Noticeable change in several students' attitudes toward science and learning in general (for the better). Our small model flying rocket club has had a 30% increase in active members. The posters were the winning shot."

UNIVERSITY STAFF

Rating of Program

1    2    3    4

_____		1.
<u>1</u>		2.
_____		3.
<u>1</u>		4.
_____		5.
_____		6.
_____		7.

HIGH SCHOOL STAFF

Rating of Program

1	2	3	4	
<u>1</u>	<u>1</u>			1.
<u>1</u>	<u>1</u>			2.
	<u>2</u>			3.
<u>2</u>				4.
<u>1</u>	<u>1</u>			5.
				6.
				7.

2 checked YES to the question, "If another activity such as this were to be held in the future, would you recommend that people attend it?"

UNIVERSITY STUDENT

Rating of Program

1	2	3	4	
<u>4</u>	<u>3</u>	<u>2</u>		1.
<u>5</u>	<u>4</u>	<u>1</u>		2.
<u>5</u>	<u>4</u>	<u>1</u>		3.
<u>4</u>	<u>2</u>	<u>2</u>		4.
<u>1</u>	<u>5</u>			5.
				6.
				7.

3 checked YES, 6 checked NO to the question, "Do you think the conference will help you in making a career decision?"

11 checked YES, 2 checked NO to the question, "If another activity such as this were to be held in the future, would you recommend that people attend it?"

Comments:

1. Very interesting
2. Excellent program
3. The less formal talks most interesting
4. Dr. Henize very interesting
5. Speaking for junior high students-- too complex
6. Waste of time

HIGH SCHOOL STUDENT

Rating of Program

1	2	3	4
100	71	13	9
125	63	5	5
64	90	23	6
104	62	20	5
24	2		

\*There was no place to rate the session "Women in Aeronautics and Space Technology", but 26 people wrote in ratings.

1. 65 checked YES, 13 checked NO to the question, "If not in college already, do you plan to attend college?"
- 2.
- 3.
- 4.
5. 60 checked YES, 17 checked NO to the question, "Do you think the conference will help you in making a career decision?"
- 6.
- 7.
- 8.\*

69 checked YES, 9 checked NO to the question, "If another activity such as this were to be held in the future, would you recommend that people attend it?"

Recommended for future symposia:

1. Have smaller group sessions.
2. Give more specific information on available jobs.
3. Have more exhibits.
4. Have more films.
5. Restrict attendance to those really interested.
6. Involve students more.
7. Have more question/answer time.

Comments:

1. Very interesting--26
2. Exhibits good--7
3. Excellent program--7
4. Women's workshop highlight of day--6
5. Earl Montoya good--4
6. Vernon Shields good--4
7. Very educational--4
8. Very good--4
9. Very useful--4
10. Dr. Henize interesting--3
11. Enjoyed Sylvia Sainz's presentation--2
12. Enjoyed it--2
13. Some parts boring--15  
(boring was also spelled boreing, boaring)
14. Too complex--5
15. Facility too large--3
16. Exhibits disappointing--1

JUNIOR HIGH SCHOOL STUDENT

Rating of Program

1	2	3	4
190	117	14	5
215	88	13	5
139	147	29	10
149	133	28	14

1. 299 checked YES, 22 checked NO to the question, "If not in college already, do you plan to attend college?"
- 2.
- 3.
- 4.
5. 217 checked YES, 102 checked NO to the question, "Do you think the conference will help you in making a career decision?"
- 6.
- 7.

298 checked YES, 28 checked NO to the question, "If another activity such as this were to be held in the future, would you recommend that people attend it?"

Recommended for future symposia:

1. Have more demonstrations.
2. Make program more exciting and alive.
3. Have more films.
4. Have more exhibits.
5. Have more question/answer time.
6. Have more specific information on jobs available.
7. Have more time for "Women's Session".
8. Have more time to view exhibits.
9. Have more posters.
10. Have more audience participation.

Comments:

1. Very interesting--43
2. Exhibits good--29
3. Dr. Henize interesting--21
4. Enjoyed it--17
5. Earl Montoya good--6
6. Governor Apodaca most impressive--5
7. Need more such programs--5
8. Very good--4
9. Computer Science booth excellent--2
10. Elena Melgares good--1
11. Some parts boring--23
12. Too complex--43
13. Too long--25
14. Too "ethnic"--1
15. "dint unerstand it"

White Sands Junior High required the entire student body (167 students grades 7--9) to attend the Symposium. This evaluation was kept separate from the other participating junior highs because of this.

JUNIOR HIGH SCHOOL STUDENT

Rating of Program

1	2	3	4	
48	69	11	11	1.
67	55	15	5	2.
36	71	27	4	3.
54	53	20	11	4.
				5.
				6.
				7.

120 checked YES, 15 checked NO to the question, "If not in college already, do you plan to attend college?"

50 checked YES, 85 checked NO to the question, "Do you think the conference will help you in making a career decision?"

87 checked YES, 46 checked NO to the question, "If another activity such as this were to be held in the future, would you recommend that people attend it?"

Recommended for future symposia:

1. Have more examples and illustrations.
2. Have better exhibits.
3. Have more time for exhibit viewing.
4. Have more movies.

Comments:

1. Interesting--9
2. Very good--8
3. Dr. Henize good--6
4. Earl Montoya good--4
5. Pamphlets good--4
6. Exhibits good--4
7. Some parts boring--38  
(boring also spelled boaring, boreing, borroing, borning)
8. Too complex--27
9. Too much lecturing--7
10. Food bad--5

Quote from student evaluation form:

"I am not in the least interested in this area and I do not feel that I should have been required to attend."

OTHER (PARENT)

Rating of Program

1	2	3	4	
<u>1</u>			<u>1</u>	1.
<u>3</u>				2.
	<u>1</u>		<u>1</u>	3.
<u>1</u>	<u>2</u>			4.
<u>1</u>				5.
				6.
				7.

Comments:

1. Too complex for junior high students
2. Too much ethnic show rather than career information show
3. Montoya's presentation good
4. Henize's presentation good

## NASA PARTICIPANTS

### Evaluation

#### I. Please answer yes or no to the following:

- | Yes       | No       |   |
|-----------|----------|---|
| <u>13</u> | <u>1</u> | 1. Was the event in your opinion properly coordinated?  |
| <u>12</u> | _____    | 2. Do you think the Symposium had a great impact on the students?   |
| <u>12</u> | _____    | 3. Do you think the students were motivated toward the science and engineering tracts as a result of attending the Symposium? |
| <u>14</u> | _____    | 4. Do you think the Symposium was a success?  |

One evaluation form was answered with "some" on questions 2 and 3.

One evaluation form was answered with "I hope so" on questions 2 and 3.

Participants were asked to comment on the following:

1. Were the objectives of stimulating the interest of minorities and women in NASA and the space industry accomplished, and how could they have been better accomplished?

I feel the objectives were accomplished. The space facet was emphasized almost entirely. We stimulated interest but on only one side of the house.

Bad vibrations with above underlined in red (space industry). NASA is AERONAUTICS (and the associated industry). . . .NASA also is SPACE (and the associated industry). Otherwise, the objectives were believed accomplished. To better accomplish the objective, NASA still needs to reduce the understanding level of most of its presentations. Most were too technical.

My only criticism of an otherwise excellent program was on the poor response of parents. A greater emphasis has to be placed in publicizing this type of operation in such a way that the parents' interest and participation is raised.

The objectives of the Symposium were met. The students were informed about NASA in general and also what people are doing in NASA. They were oriented in regard to the type of careers available within NASA and the qualifications and requirements needed to qualify for these positions. Their questions proved that they were interested in what we had to say.

Yes, objectives were accomplished.

I believe the idea of using examples as role models for minority students is a good one.

Yes, future symposia should have more workshops with smaller groups where students will feel more at ease to ask questions.

By the comments and questions I received from the kids I think all of the kids were interested. The women's workshop was extremely successful. The girls shared their fears with us and I think we really did convince them that there is a place for women in engineering. I think similar workshops could have been held for minorities in general, thus enabling the kids to get their own fears and questions out in the open. If we can talk to these kids while they are still in high school and guide them as to which preparatory courses they need for college and let them know that if they have trouble in math, for instance, they can take college algebra, etc., prior to taking calculus. They should also be made aware of the fact that many colleges do offer tutorial sessions in math, science, etc. and that just because they take advantages of these opportunities does not mean that they are dumb or below anyone.

Yes.

I believe the objectives were accomplished. Future seminars should devote more time to inter-relating science and engineering curricula as a basis or foundation to advance into a S&E career.

There was no obvious sign in this direction. Minorities/women were interspersed throughout the audience; but they were not in the "majority." We could have picked schools/districts where these minorities were more in abundance. We also needed more interaction with audience--questions/answers.

I believe that the objectives were accomplished and at this time I cannot think of a better way.

What I think we accomplished was stimulate awareness in non-traditional career fields for minorities and women. Availability of large numbers of minority and models was effective. There is a need to continue to reinforce new career options by developing continuing interfaces with participating secondary educational systems. More time for one-on-one discussions in an informal atmosphere would have left a longer lasting impression.

Yes, I believe so; and I sincerely hope that teachers, counselors, and administrators followed up with the students on what was initiated by this effort.

2. How would you improve future meetings of this nature?

Limit number of presenters to a few who can give a more unified story of NASA. It's good to have NASA minorities as a showcase, but too many representative speakers dilute the message. Not enough time was devoted to the subject of "personnel related matters"; i.e., job opportunities, training, promotion policies, location of assignments, etc. Select 3 principal speakers: (1) On the R & T programs (general) (2) On some specific NASA mission (timely) who can "wow" the students--like the astronaut (3) On personnel/careers development matters. Resource people on EEO, etc., should be available for consultation or for leading workshop sessions.

Devote more time in seminars relating to curricula development, i.e., defining future aerospace needs with a definite study tract.

Perhaps future symposia could be improved by soliciting more counselors and parents for special sessions. Also there may be more lasting impact to have both counselors and university student groups involved in the planning.

I would attempt to get more parents involved and committed to certain actions following the experience.

Planning and sufficient lead time are critical. In addition, institutions must develop ways to bring out the parents, to involve them in the awareness process.

Future meetings of this nature could possibly be improved through special invitations to student groups as well as to community groups interested in employment opportunities for their people, i.e., IMAGE.

More emphasis on community participation.

Coordinate with each "presenter" and request adherence to a strict time budget. Some presentations were not made because of time constraints. Presentations should give "big picture" in terms of program requirements and objectives. Technical details should be simplified and/or avoided when an understanding of high order math or physics is required.

I would plan on several workshops where both NASA speakers and students would sit on panels. Have students conduct mini symposia within their schools both before and after the NASA Symposium--object--before, to gather questions; after, to answer questions.

General presentations should be made (as was done) "en masse," however, small workshops or small one-on-one rap sessions would be very beneficial. Perhaps the Symposium would have to be a little longer, but I would not mind working late some days to help the kids out.

I noticed the small number of college level students who attended the activity. Maybe more publicity geared to their interest would have stimulated them more positively. Small workshops on career orientation, special programs within agency for college students, e.g., what is the Co-op Program, "learn while you earn" experiences while in college. Before activity is planned, a questionnaire can be distributed among students to find the areas in which their interest lie.

Increase publicity campaign aimed at parents and other adults in position to influence students. Be more precise on the specifications for speakers time. In this manner, speakers will be able to prepare their material without overplanning allotted times.

Organize meeting such that mornings were with the entire group. However, afternoon sessions should contain smaller parallel ongoing presentations with attendees moving from one to another presentation as their interests dictate.

Utilize the workshop practice more. We seemed to be more effective and productive in the smaller groups. Perhaps a forum the first half of the day then repeating workshops the next half.

3. Were displays and exhibits adequate, and are there ways in which this area could have been improved?

Cooperation in this area was excellent.

The exhibits available were adequate because of the limited viewing time. More hands-on exhibits will have a greater impact. NASA has to develop exhibits specially designed to enrich minority and female experiences in the sciences, technology and engineering.

They were adequate in some ways, but I wish many more of the NASA "hands-on" exhibits had been available, and would recommend a broader array in the future.

Yes, adequate for DFRC. No improvements that would be practical economically.

Yes, there was a good balance between AERONAUTICS and SPACE exhibits. Not sure how to improve the exhibits without increasing costs considerably.

Exhibits were very adequate. Improvement in this area could be achieved by scheduling time for observation of exhibits in such a manner that schools can remain for it. I noticed that open exhibit time, when students could have wandered at leisure without a press to return to the auditorium were not used by most schools. They seemed to leave immediately after the presentations ended.

The exhibit area was fine.

Adequate yes--but how does the university see it?

Yes, displays were adequate.

No, the displays should use more "touchable" hardware and models. Perhaps one full mock-up of a specific item should be included in each exhibit.

I think that in this area there could have been a couple more displays with NASA people giving short pitches. The kids really enjoyed this part, I think, and I got a lot of intelligent questions. That was a bright group of kids!

Yes.

Displays and exhibits were good. More "hands-on" exhibits where students could touch, feel, or operate would be beneficial.

Adequate.

JOE T. DOKE

Joe Doke joined the Army Ballistic Missile Agency in 1958 directly after completing his BS in engineering from Oklahoma University. He worked as a junior engineer with the group that launched the first Explorer satellite and continued as a project engineer on rocket engines with the Von Braun team. Mr. Doke transferred to NASA with the Von Braun team and since has worked on all manned spacecraft flights. He was the project engineer on three of the manned lunar flights including Apollo 14 which carried Allen Shepard to the moon. Mr. Doke was also the project engineer on Skylab 3 and is now working on a part of the Shuttle team. In addition to continuing his college studies, he is active in civic affairs in his local community where he has served as a Director of the Chamber of Commerce, Trustee of his church, and is a member of the National Congress of American Indians, as well as a member of several other technical and civic organizations.

BARBARA K. EANDI

PERSONAL: Born 1942, Bismarck, North Dakota. Married. No children.

EDUCATION: MA, Political Science, University of North Dakota, 1966.

BA, Political Science, University of North Dakota, 1964.

SCHOLARSHIPS: State Scholarship, 1960, 1961, 1962. O'Connor Scholarship, 1963. Chester Fritz Scholarship, 1963--1964. Chester Fritz Graduate Scholarship, 1964--1965, 1965--1966.

HONORS: Alpha Lambda Delta, 1960. Grey Gowns, 1963. Phi Beta Kappa, 1964. Fulbright Fellowship, 1964 (Did not accept). Summa Cum Laude.

EXPERIENCE: 1970 to present--University Programs Coordinator, Administration and Program Support Directorate, NASA Lyndon B. Johnson Space Center, Houston, Texas. Serve as coordinator of the Center's university programs activities with responsibility for developing policies, procedures, and programs for the Center in the area of university relations. Serve as the Center point of contact on academic matters between NASA Headquarters Office of University Affairs, other NASA centers, and the university community. Plan, budget, and administer the National Research Council Postdoctoral Resident Research Associateship Program; the NASA-ASEE Summer Faculty Fellowship Programs in Research and Engineering Systems Design; the Johnson Space Center Summer Faculty Program; and monitor university grants providing for graduate resident research at the Center. Act as Center contact for matters pertaining to a program of research grants to minority institutions. In this capacity, assist the relevant technical organization in soliciting proposals, securing funding, preparing initial grant file documents, and periodically evaluating progress of the Principal Investigators. Act as central reporting individual for Center input to the management information system maintained by the

NASA Headquarters Office of University Affairs on all aspects of Center-university relationships.

1968 to 1970--Contract Specialist, Procurement and Contracts Division, NASA Lyndon B. Johnson Space Center, Houston, Texas. Negotiated and administered a large variety of complex R&D contracts to procure space hardware and associated studies and developmental efforts. Duties included performance of the complete negotiation cycle involving preparation of requests for proposal, selection of type of contract, coordination of efforts of production and engineering personnel in the analysis of costs, and incorporation in the contract of negotiated agreements of the contracting parties. Administration of the contract during its lifetime included analysis, processing, and recommendation of appropriate action in the case of contractor's requests for amendment, changes, clarification or interpretation of contract terms, conditions, or engineering specifications, and close out or termination of the contract.

Notable procurements included a contract in excess of \$1,000,000 for the largest solar array ever developed; large batteries used in space flight; life support systems; and astronaut equipment, garments, and medical supplies.

1967 to 1968--Management Intern, NASA Lyndon B. Johnson Space Center, Houston, Texas. Participated in the Management Intern Program, a Government-wide formal training program for high-potential college graduates. Following a general orientation of the Center's mission, organizational structure, goals, and policies, rotated among Center organizational elements including Management Analysis Division, Financial Management Division, Science and Applications Directorate, and Procurement and Contracts Division. Less routine rotational assignments included managing the logistics of the first conference of Lunar

Sample Principal Investigators to be held at the Center. During the one-year training program, was detailed to the office of the Director of Administration to accomplish special projects such as a survey of attitudes and working conditions of professional women at the Center.

FERNANDO ESPARZA

Mr. Fernando Esparza is originally from San Antonio, Texas. He is married. His wife and four children have lived with him in Florida for the past 14 years.

He has worked for NASA at Kennedy Space Center for 12 years and holds the position of Section Chief in the Computer Systems Division.

He holds a Bachelor of Science degree in Mathematics from Trinity University of San Antonio, Texas, and Master of Science degree in Space Technology from Florida Institute of Technology of Melbourne, Florida.

EARL L. GINYARD

Earl Ginyard has been at NASA for approximately two (2) years. He served as a Program Manager with responsibility for the planning, development, and administration of a national effort to recruit quality minority and women candidates for employment with NASA in scientific, engineering, and administrative professional positions during the period April to September 1974. From September 1974 to the present, he has been the Equal Opportunity Officer at NASA Headquarters and a special assistant to the Associate Administrator for Center Operations.

His career prior to NASA include the following assignments:

December 1970 to September 1974 - Director of the Internal Civil Rights Program at FAA in the National Office of Civil Rights (45,000 employees under his jurisdiction).

March 1969 to December 1970 - Senior Equal Opportunity Specialist, Eastern Region, Federal Aviation Agency (8,700 employees in a 15 state area).

Technically responsible for planning and developing programs designed to further equal opportunity in the Region.

August 1968 to March 1969 - Personnel Staffing Specialist at FAA responsible for the Executive Selection Inventory System and the Foreign Assignment Resource Program of 3,400 employees, GS-14 and above.

February 1959 to March 1967 - Air Traffic Control Specialist at Pittsburgh, PA and Oberlin, OH.

June 1957 to February 1959 - Foreman, Pittsburgh Postal Transportation System.

Education - Graduate of University of Pittsburgh, 1954, did graduate work in Experimental Psychology there. Also did graduate work in Personnel Administration at George Washington University, Washington, D.C.

#### Community Relations

#### Highlights include:

Volunteer work with addiction drug centers and therapeutic communities in New York City, Philadelphia, and Baltimore.

President, Writers & Photographers Guild of Pittsburgh.

Appointment to Oberlin Welfare Council.

Appointment to Oberlin Recreation Commission.

Election as Vice-Mayor of Oberlin.

Selected as Oberlin Man of the Year.

Writer of 15-minute television script for \$150,000 fund-raising drive by the Washington Opportunities Industrialization Center, Inc.

Member of numerous civic, fraternal, and religious organizations.

ORLANDO A. GUTIERREZ

Orlando Gutierrez is presently with NASA at Lewis Research Center in Cleveland, Ohio. Mr. Gutierrez works with research on noise pollution and energy development.

KARL G. HENIZE

NAME: Karl G. Henize (PhD), NASA Astronaut

BIRTHPLACE AND DATE: Born on October 17, 1926, in Cincinnati, Ohio. His brother, Mr. Wilson C. Henize, resides in Cincinnati.

PHYSICAL DESCRIPTION: Brown hair; brown eyes; height: 5 feet, 7 inches; weight: 170 pounds.

EDUCATION: Attended primary and secondary schools in Plainville and Mariemont, Ohio; received a Bachelor of Arts degree in Mathematics in 1947 and a Master of Arts degree in Astronomy in 1948 from the University of Virginia; and awarded a Doctor of Philosophy in Astronomy in 1954 by the University of Michigan.

MARITAL STATUS: Married to the former Caroline Weber of Bay City, Michigan. Her mother and stepfather, Mr. and Mrs. Martin Urban, reside in Bay City. Her father, Mr. John Weber, lives in Pasadena, Texas.

CHILDREN: Kurt Gordon, February 27, 1955; Marcia Lynn, October 3, 1956; Skye Karen, June 5, 1961; Vance Karl, September 1, 1969.

RECREATIONAL INTERESTS: His hobbies include sailing, stamp collecting, and astronomy; and he also enjoys handball, tennis, baseball, skin diving, and mountain climbing.

ORGANIZATIONS: Member of the American Astronomical Society; the Royal Astronomical Society; the Astronomical Society of the Pacific; the International Astronomical Union; and Phi Beta Kappa.

SPECIAL HONORS: Presented the Robert Gordon Memorial Award for 1968; recipient of a NASA Group Achievement Award (1971); awarded the NASA Exceptional Scientific Achievement Medal (1974).

EXPERIENCE: Henize was an observer for the University of Michigan Observatory from 1948 to 1951, stationed at the Lamont-Hussey Observatory in Bloemfontein, Union of South Africa. While there he conducted an objective-prism spectroscopic survey of the southern sky for stars and nebulae showing emission lines of hydrogen.

In 1954 he became a Carnegie post-doctoral fellow at the Mount Wilson Observatory in Pasadena, California, and conducted spectroscopic and photometric studies of emission-line stars and nebulae. From 1956 to 1959 he served as a senior astronomer at the Smithsonian Astrophysical Observatory. He was in charge of photographic satellite tracking stations for the satellite tracking program and responsible for the establishment and operation of a global network of 12 stations for photographic tracking of artificial earth satellites.

Dr. Henize was appointed associate professor in Northwestern University's Department of Astronomy in 1959 and was awarded a professorship in 1964. In addition to teaching, he conducted research on planetary nebulae, peculiar emission-line stars, S-stars, and T-associations. During 1961 and 1962, he was a guest observer at Mt. Stromlo Observatory in Canberra, Australia, where he used instruments ranging from the Uppsala 20/26-inch schmidt to the 74-inch parabolic reflector.

Henize also engaged in studies of ultraviolet optical systems and astronomical programs suited to the manned space flight program. He became principal investigator of experiment S-013 which obtained ultraviolet stellar spectra during the Gemini 10, 11, and 12 flights. He also became principal investigator of experiment S-019 in which a 6-inch aperture objective-prism spectrograph was used on Skylab to obtain ultraviolet spectra of faint stars. Spectra

were obtained of hundreds of stars and these are being studied at the University of Texas where Dr. Henize now holds an adjunct professorship. He is the author and/or co-author of 45 scientific publications dealing with astronomy research.

He has logged 1,540 hours flying time in jet aircraft.

CURRENT ASSIGNMENT: Dr. Henize was selected as a scientist-astronaut by NASA in August 1967. He has completed the initial academic training and the 53-week jet pilot training program at Vance Air Force Base, Oklahoma. He was a member of the astronaut support crew for the Apollo 15 mission and for the Skylab 2, 3 and 4 missions. He is currently concerned with the operation of payloads on Space Shuttle and is the leader of the NASA Facility Definition Team for a proposed 1-meter general-purpose Shuttle telescope for ultraviolet and optical astronomy.

## HARRIETT G. JENKINS

Dr. Harriett G. Jenkins has assumed her new duties as Assistant Administrator for Equal Opportunity Programs at NASA, effective August 12.

She was formerly the Deputy Assistant Administrator for Equal Opportunity Programs, under Dr. Dudley G. McConnell.

Dr. Jenkins will report directly to NASA's two top officials, Dr.'s James Fletcher and George Low, where her input and advice will have the greatest impact on NASA's Equal Opportunity Policies.

Before joining NASA, Dr. Jenkins was educational consultant for the Response to Educational Needs Project of the Anacostia District, of Columbia Schools. She served earlier as Assistant Superintendent for Instruction in the Berkeley School District in California, culminating a long tenure as a district school official.

Dr. Jenkins entered the Berkeley school system in 1952 as a teacher and served as vice-principal, principal, and Director of Elementary Education before being named to the assistant superintendency in 1971. She has served as an officer in several professional education organizations and has been a leading participant in civil rights and human relations programs at local and national levels.

During her professional career, Dr. Jenkins has written articles for professional publication. She was an editorial consultant for the Holt, Rinehart and Winston Urban Social Studies series, published in 1966.

As a professional expert on matters including desegregation and integration of schools and in-service programs for teachers, Dr. Jenkins consulted with Clark County, Nevada Schools; Seattle and Tacoma, Washington; Sequoia Union High School District, San Francisco, Santa Brabara, Pittsburgh and Stockton, California.

Dr. Jenkins participated in national conferences, including one sponsored by the Civil Rights Commission on Equal Educational Opportunity in America's Cities, 1967, the Conference on Problems of Education of Children in the Inner City, sponsored by the President's Committee on Mental Retardation in 1969, and those sponsored by the National Association for African American Education and the Association of Supervision and Curriculum Development, 1969 and 1970.

She was a forum member of the 1970 President's White House Conference on Children, a leader and participant in the University of California Institute on Desegregation Problems in 1970 and 1971; and a participant in the August, 1971, Civil Rights Institute which was sponsored by Boise State College, Idaho, and Region 10 Offices of Education.

Dr. Jenkins served as a Technical Assistant to the National Right to Read Program through the Northwest Regional Educational Laboratory and the California State Department of Education.

She was awarded the Honorary Service Award Certificate in special recognition of outstanding service to children and youth by the California Congress of Parents and Teachers, January 10, 1973, and commended by the California State Assembly for an outstanding record in the field of public education, July 2, 1973.

Born in Fort Worth, Texas, Dr. Jenkins received her AB degree with a major in mathematics from Fisk University, her MA in education from the University of California and also her doctorate in education, with concentrations in policy planning and administration. Dr. Jenkins and her husband, George, reside in Silver Spring, Maryland.

## M. STANLEY KELLY

M. Stanley Kelly was appointed Director of the Community, Agency and Institutional Outreach Division for NASA's National Office of Equal Opportunity Programs in July, 1975. Mr. Kelly had previously served as Deputy Director of Equal Opportunity Programs at the Agency for International Development for five years and as a Decision and Interpretations Analyst at the Equal Employment Opportunity Commission Headquarters for three years. He is a graduate of Howard University's School of Liberal Arts. Mr. Kelly is on the Board of Directors of the Washington Urban League.

Mr. Kelly resides in Washington, D.C. with his wife, Norma Hairston Kelly, and three children, Stanley, age 20, a student at Brown University; Brian, 19 years, a student at Howard University; and Joan, 16 years.

ALFONSO J. LUDI

Alfonso J. Ludi was selected as the NASA Spanish Speaking Program Coordinator in April 1974. Mr. Ludi previously worked in the Personnel Programs Division of the Department of Transportation and as Personnel Officer in Region One of the Federal Highway Administration. He is a native of Las Vegas, New Mexico and a graduate of New Mexico Highlands University, 1963.

Mr. Ludi is President of the Virginia IMAGE Chapter and Executive Board Member of the Washington, D.C. State GI Forum. He presently resides in Sterling Park, Virginia with his wife, Sally A. Ludi and three children: Clinton, Paul, and Tony.

ELENA MELGARES

Attended University of Houston and graduated Magna Cum Laude in May 1975 with a BS in Biophysics and a minor in chemistry. While at the University, I was a member of Mortar Board (National Senior Women's Honor Society), Iota Sigma Pi (Professional Chemical Society), Phi Kappa Phi (National Honor Society), and Cuban Association for Professionals and Students.

I was employed by NASA at the Johnson Space Center in September 1975, as an Aerospace Engineer in the Bioengineering Systems Development Branch of the Life Sciences Directorate. My first assignment was as a junior project engineer to the joint USA/USSR Kosmos project in which the Life Sciences Directorate was responsible for providing an experiment to be flown on the Russian Kosmos Biosatellite in mid-November. My part in the project was to assist in developing the hardware and perform the engineering tests on it; to prepare a complete set of procedures for use by the United States and USSR personnel and to participate in making a training film for the Russian technicians.

My second task is being a project engineer responsible for three experiments to be conducted during the Life Sciences Shuttle payload simulations. I have responsibility for development of experiment hardware plans; equipment interfaces with the Spacelab mock-ups; integration of hardware in the Spacelab; integrated testing; assisting in crew training; and test operations and post test evaluations.

Assisted in writing a Statement for Work for the Life Sciences Spacelab CORE (common operational research equipment).

Participated in the engineering evaluation of the Life Sciences OFT (Orbital Flight Test) experiment proposals.

Will be a test subject for the Zero "G" flights, on the KC 135 aircraft.  
Have taken aerospace physiological training and have passed my Class III  
physical.

EARL MONTOYA

Earl Montoya is presently at the Dryden Flight Research Center in Edwards, California. His assignment is Advanced Medium STOL Transport (AMST) Project Manager. In this capacity he also serves as the NASA Deputy Test Director on the AMST joint test force with the Boeing Company, McDonnell Douglas Company and the United States Air Force.

Mr. Montoya was born in New Mexico and raised in Silver City, New Mexico. He received a degree in Chemical Engineering from the College of Engineering, New Mexico State University, Las Cruces, New Mexico.

FRANK E. PENARANDA

A native of Cuba, at the age of ten he moved to New York City where he attended school. He received a Masters Degree in Physics from Marquette University, Milwaukee, Wisconsin. A four-year U. S. Air Force veteran, nuclear research officer, he remained with the Air Force as a civilian nuclear research physicist at the Armed Forces Radiobiology Research Institute, Bethesda, Maryland.

In 1969 he joined NASA as a technical program analyst in the Office of Advanced Research and Technology where he branched out into the fields of resource management and administration and two years later became Chief of the Resources and Management Division of OART. In 1974, at age 34, Mr. Penaranda became the youngest division director ever in the Office of Aeronautics and Space Technology.

In his capacity as the principal staff arm of the Associate Administrator for OAST, his responsibilities include: directing the entire R&D budget process of OAST from its formulation and defense through its implementation; managing and controlling all the resources and financial activities of OAST's Aeronautics and Space Technology programs; directing the overall system of procedures and controls for the documentation, reporting, review and analysis of these programs; and supervising the overall administrative operations of OAST Headquarters, including clerical and administrative services, procedures and regulations, personnel, and sundry "housekeeping" activities.

## DORA PULEO

Dora Puleo is an EEO Specialist and Spanish Speaking Program Coordinator in the Office of Equal Opportunity Programs at the Goddard Space Flight Center. She was born and reared in Puerto Rico. A graduate from the University of Puerto Rico, Ms. Puleo obtained a BA in English and psychology, and has done graduate work in Vocational Rehabilitation. In 1967 after college graduation, she came to the United States to work as a translator for a private company.

Her Federal Government career started in the Department of Labor, Manpower Administration, Office of Personnel, where she worked as a Classification Specialist. In December, 1973, she transferred to NASA, to the Goddard Space Flight Center in Greenbelt, Maryland. Her work involves EEO affirmative action plans, coordination of Special Programs, recruitment, Upward Mobility, and other activities designed to increase the number of minorities and women in NASA's workforce. She is very enthusiastic about her position at Goddard at what she calls 'minority engineering' in effecting improved employment situations for women and minorities.

Ms. Puleo lives in Clarksville, Maryland with her husband, Vincent, and her daughter, Isabelle.

SYLVIA SAINZ

Sylvia Sainz is a co-op student from New Mexico State University working at Dryden Flight Research Center in Edwards, California.

Her assignment at the center is in the Personnel Division where she is becoming acquainted with several facets of the division.

## VERNON SHIELDS

For the past ten years Mr. Shields has worked at the Johnson Space Center as a project engineer in areas ranging from the design and test of space hardware to the design and analysis of basic electrical utility systems. His present position is project engineer with the Subsystems Engineering Group of the Urban Systems Project Office.

Prior to coming to JSC, Mr. Shields worked as the Assistant Plant Engineer at Todd Shipyards, Galveston, Texas, and later as an electronics test engineer for the Department of Defense at Holloman Air Force Base, New Mexico.

Mr. Shields received a BSEE degree from Prairie View A&M College of Texas in 1964. He has participated in management development programs at the University of Houston, Clear Lake Graduate Center, sponsored by NASA.

Mr. Shields is a member of the ETA KAPPA NU Engineering Society, and is a registered Professional Engineer in the State of Texas.

L. J. (LEO) VILLARREAL

Education:

BS in Electrical Engineering, Texas A&I University, 1963.

Presently attending the University of Houston at Clear Lake pursuing a MA degree in Public Administration.

Experience:

October 1973 to Present - Equal Employment Opportunity Specialist, Equal Opportunity Programs Office, NASA Lyndon B. Johnson Space Center, Houston Texas. Serves as the Johnson Space Center coordinator for the Spanish Speaking Program and as coordinator for the Center's Affirmative Action Plan including the processing of complaints based on age, color, race, sex, religion, and national origin. Participated in a recruitment effort for the center and numerous community activities.

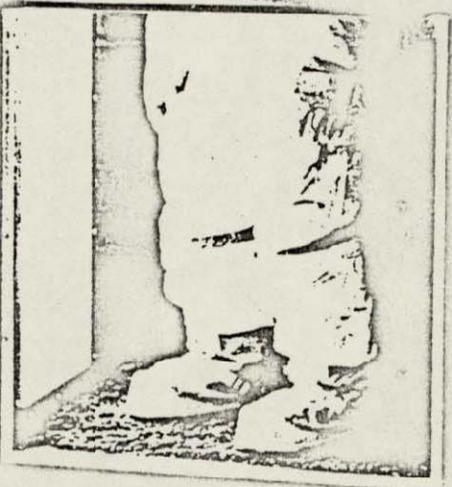
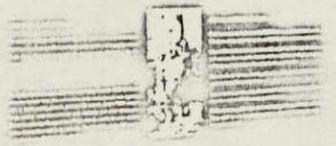
January 1972 to October 1973 - Aerospace Technologist, Science and Applications Directorate, Experimental Facility, Curator's Office. Was responsible for constructing and operating Curatorial Facility. Was engineering contract monitor for a contractor group which processed all the lunar samples. The processing of these samples included slicing, chipping, weighing, packaging, and storing them in a pristine nitrogen atmosphere.

October 1968 to January 1972 - Science and Applications Directorate, Aerospace Technologist, Experimental Facilities, Lunar Receiving Laboratory. Was electrical project engineer for the construction and operation of the facility in which the Apollo astronauts were quarantined and the lunar samples were stored. Was responsible for all facets of the laboratory's electrical power, audio, and video systems.

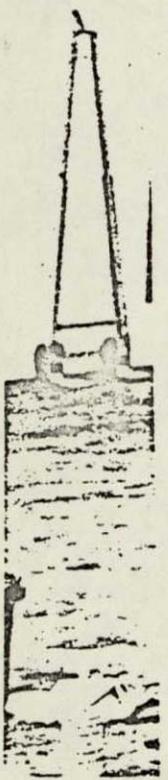
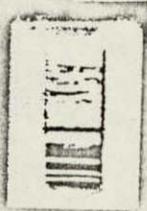
September 1963 to October 1966 - Langley Research Center, Virginia,  
Electrical Engineer, general. Initial training as electrical engineer  
in construction of unique research facilities for the center.

APPENDIX H

# man on the moon

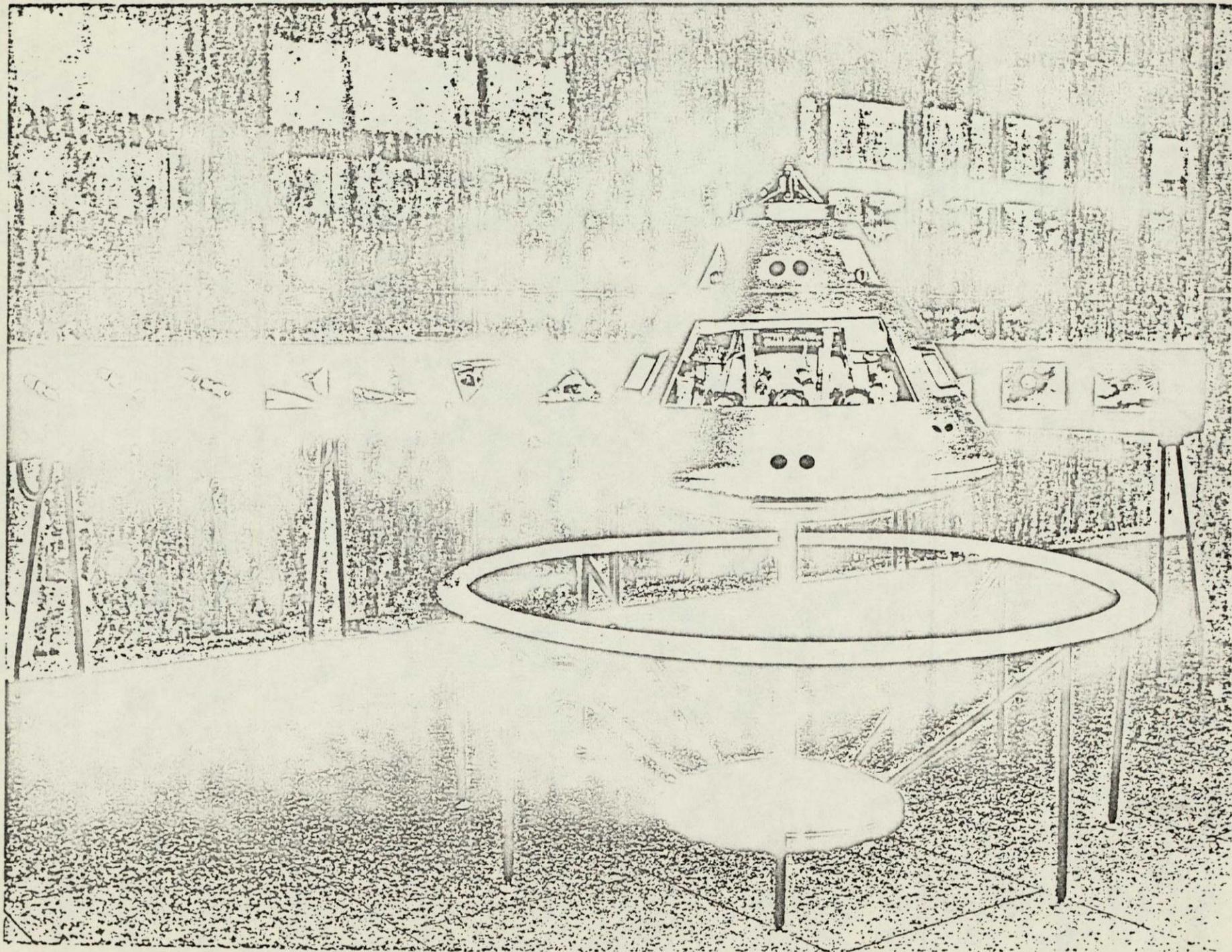


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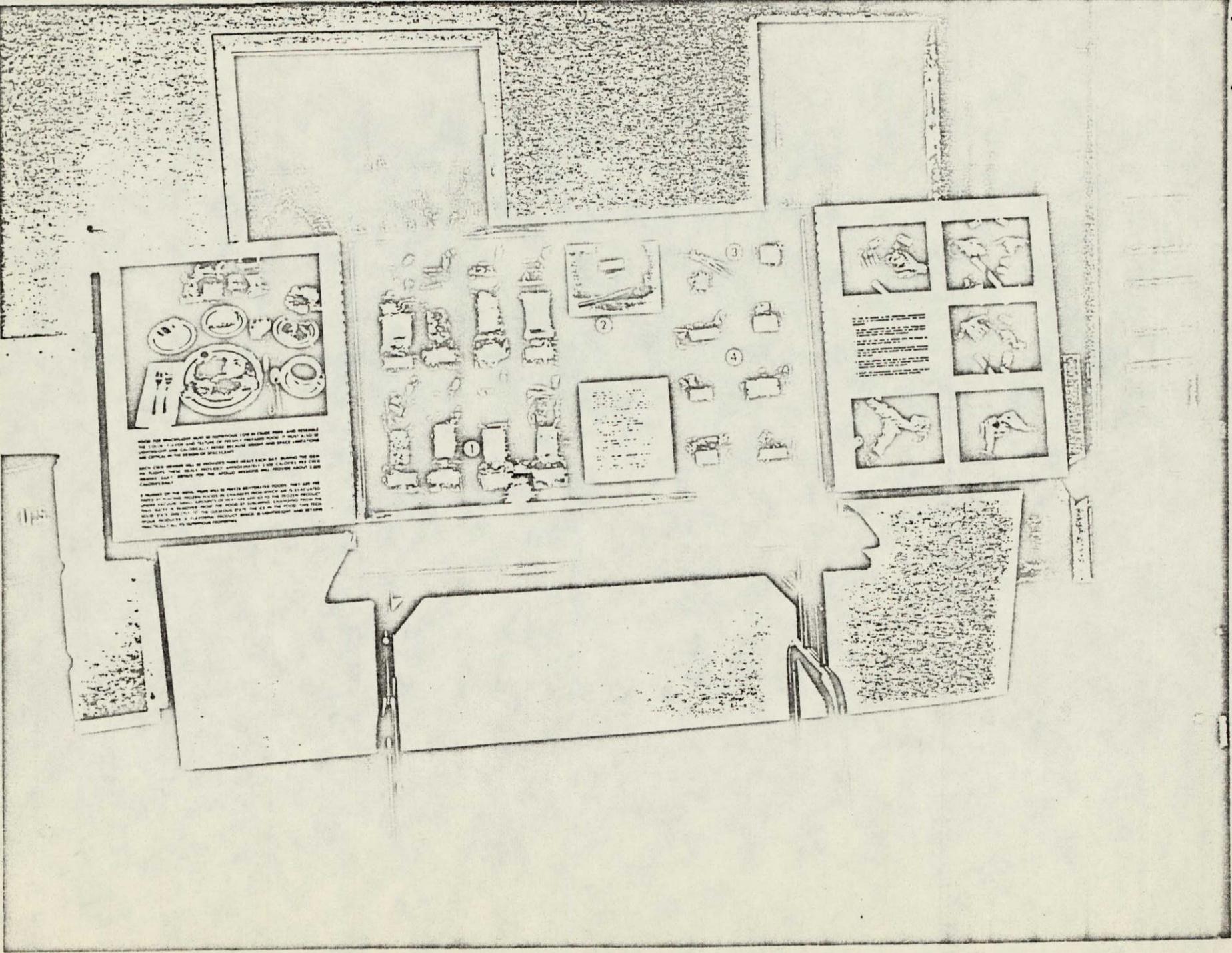
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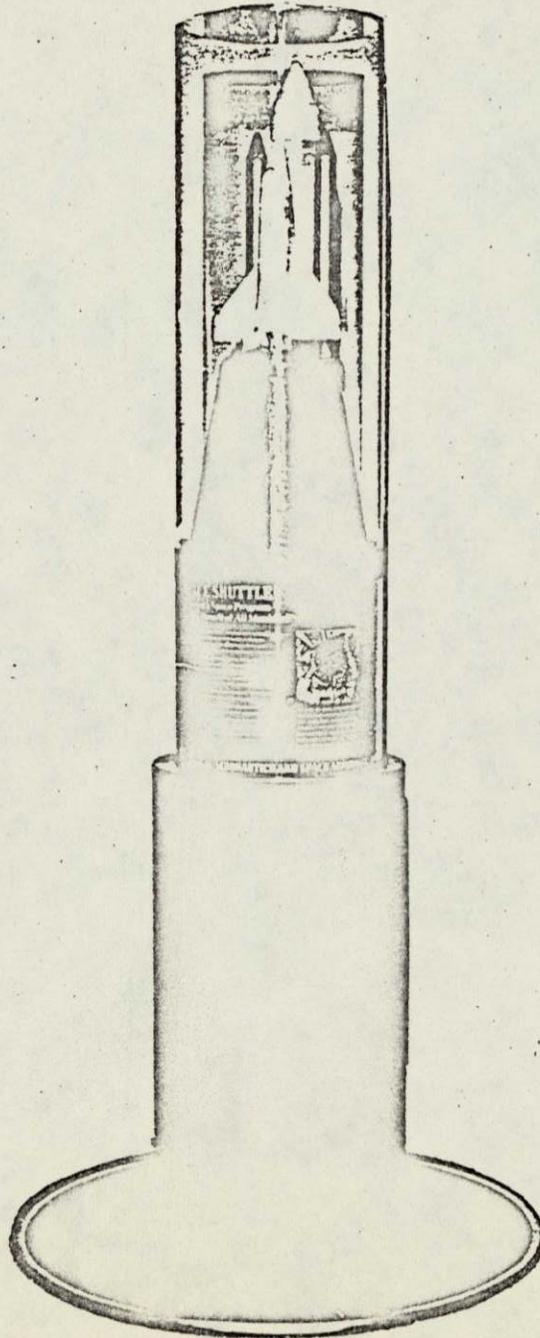


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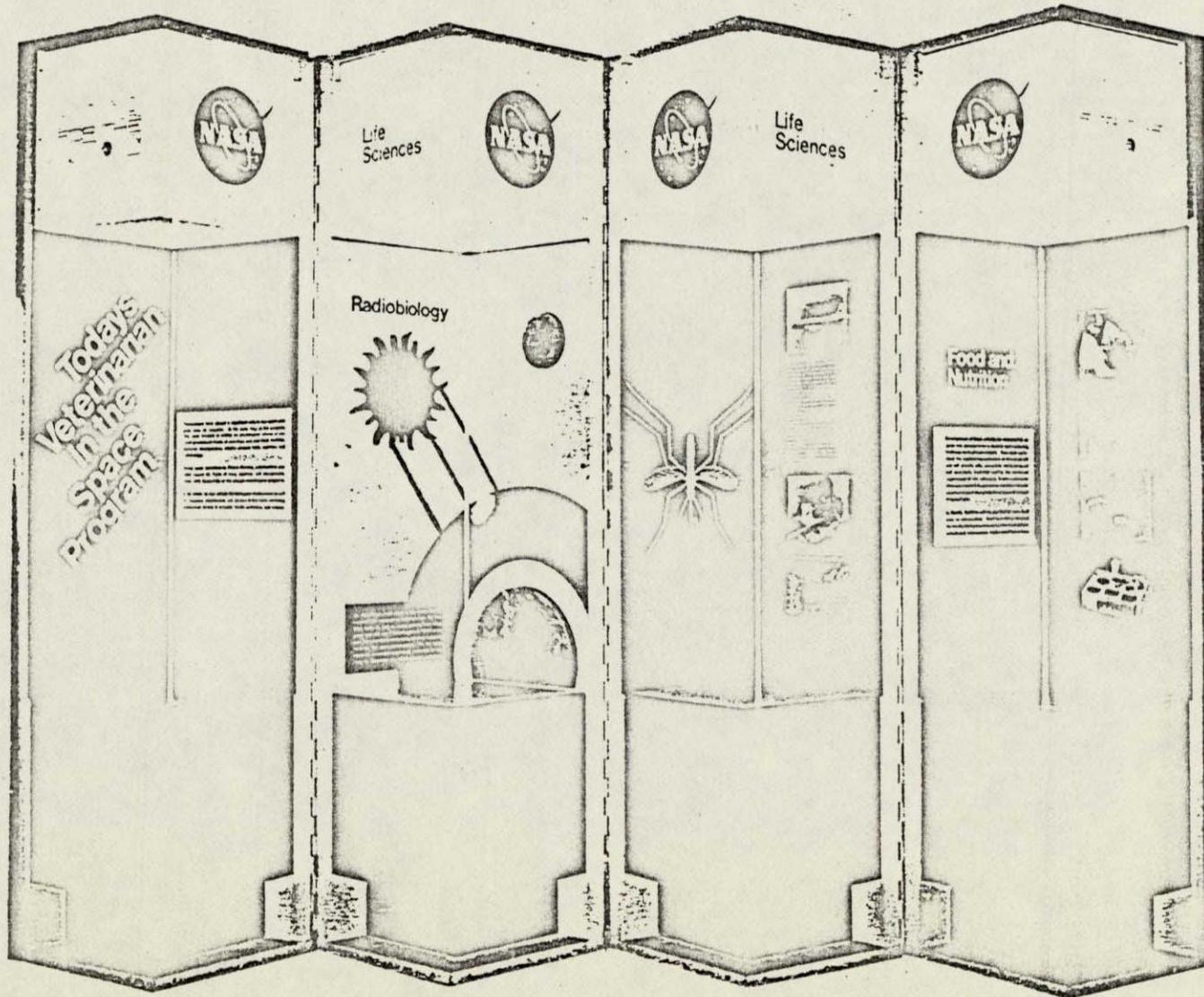
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LIST OF PUBLICATIONS  
DISTRIBUTED AT THE NASA SYMPOSIUM  
ON AERONAUTICS AND SPACE TECHNOLOGY

NEW MEXICO STATE UNIVERSITY

April 21-23, 1976

EP-117 NEW HORIZONS  
NF-46 NASA FACT SHEET ON AERONAUTICS (POSTER)  
NF-54 NASA FACT SHEET ON THE ELECTROMAGNETIC SPECTRUM (POSTER)  
NF-56 NASA FACT SHEET ON OBSERVING EARTH FROM SKYLAB (POSTER)  
NF-59 MARS AND THE SOLAR SYSTEM  
NF-60 MARS THE PLANET  
NF-61 MARS AND THE EARTH  
NF-62 THE VIKING MISSION  
106 FILM LIST (NASA), 1976  
401 SPACE BENEFITS, MEDICINE  
411 VIKING MISSION TO MARS  
425 QUESTIONS ABOUT AERONAUTICS AND SPACE  
EP-124 SKYLAB - NATIONAL GEOGRAPHIC REPRINT  
JSCL-130 SPACE SHUTTLE LIFTOFF  
JSCL-132 SPACE SHUTTLE PAYLOAD  
JSCL-135 SPACE SHUTTLE LANDING APPROACH  
426 NASA REPORT TO EDUCATORS, VOL. 4, NO. 1