

PLANNING FOR THE NINETEENTH LPSC!

The **NINETEENTH LUNAR AND PLANETARY SCIENCE CONFERENCE** will be held at the Johnson Space Center, Houston, TX, March 14-18, 1988. Sponsors of the Conference include: Lunar and Planetary Institute, NASA-Johnson Space Center, the American Association of Petroleum Geologists, the American Geophysical Union, the Division for Planetary Sciences of the American Astronomical Society, the Geological Society of America, International Union of Geological Sciences, and the Meteoritical Society. Chairmen of the Conference are Dr. Michael Duke, JSC, and Dr. Kevin Burke, LPI.

The Lunar and Planetary Science Conference is recognized as a leading international conference for the presentation of new results in planetary science, bringing together a group of specialists in petrology, geochemistry, geophysics, geology and astronomy. Scientists in all lunar and planetary programs are invited to submit abstracts and to participate in the conference.

Welcome Social: The conference will open with registration and a social at the Lunar and Planetary Institute on Sunday evening, March 13th. Light refreshments will be served from 7:00 to 10:00 p.m. Conference participants are encouraged to come and mingle with old friends, register, and receive abstract volumes, packets and badges. The Galveston Limousine vans will provide shuttle service between LPI and the local hotels during these hours.

Abstracts: Abstracts are to be short papers that can be cited in the literature. Abstracts will be limited to two pages. For readers of the *BULLETIN* who did not receive the first announcement for the conference and wish to submit an abstract, please contact the Publications Office for abstract forms (713-486-2143). **THE DEADLINE FOR RECEIPT OF ABSTRACTS AT THE LPI IS 20 JANUARY 1988.** There will be no late fees because any abstracts arriving after January 20 will be returned to the author.

Abstracts of papers submitted to the conference will be published in *Lunar and Planetary Science XIX*. Abstract volumes will be available to registrants at the Conference. Copies of the Abstracts remaining after the conference will be available for a small handling charge plus postage. Watch the February *BULLETIN* for order form and price list.

Pre-registration: Please plan to pre-register. Pre-payment is preferred, but since this is difficult for non-US participants, sending in the pre-registration form included with the second announcement of the Conference without payment will still help to have your badge ready in advance. The fee for conference participation is \$40 for all attendees except students with student ID's, who may register for \$20.00. Pre-registration will be accepted through March 7. A receipt will be included in your packet at registration. If you need a form to pre-register, call the LPI Projects Office at 713-486-2166.

Program: There will be no more than three concurrent sessions during the five-day period devoted to presentations of research papers in both topical symposia and in problem-oriented sessions. A strict eight-minute limit will be placed on each oral presentation; an additional seven minutes per speaker will be allowed for discussion and for transition from one speaker to the next.

Special Sessions: Some evenings will be set aside for special sessions. These sessions may be impromptu or may be devised and structured by members of the lunar and planetary science community as desired. To make arrangements for special sessions, please contact Ms. Pam Jones, LPI, 713-486-2150 to reserve time and space. These sessions will not be considered part of the formal program.

Poster Sessions: Poster sessions continue to grow in importance at LPSC. Poster presenters will be asked to be available at a designated time to discuss their results with interested parties in the poster area. Poster presentations must be supported by informative abstracts. The program committee will employ the same criteria to govern allocation of space and time in poster sessions as for other forms of presentation.

Proceedings: The Proceedings of the Nineteenth LPSC will be published as a hard-cover book. This is planned to be a joint venture between the LPI and a major book publisher. The deadline for submission of manuscripts to the 19th Proceedings is May 31, 1988. Questionnaires regarding intent to publish and guidelines for submitting will be distributed at the Conference.

LPSC ABSTRACT DEADLINE JANUARY 20, 1988!

The following schedule lists dates important to the submission of abstracts, to attendance at the conference, and to the submission of papers for the Proceedings:

Immediately

Request abstract forms and/or pre-registration forms if you do not have them

November 10, 1987

Abstract forms mailed to respondents

January 20, 1988

Deadline for submission of abstracts

March 14-18, 1988

Nineteenth Lunar and Planetary Science Conference

May 31, 1988

Deadline for submission of papers to the 19th Proceedings

Program: In addition to having the preliminary program in the February issue of this *BULLETIN*, the program will be on-line for easy access through SPAN or remote communications. See directions for accessing the on-line program elsewhere in this Bulletin.

LUNAR AND PLANETARY SCIENCE CONFERENCE "FORUM"

During the 15th Lunar and Planetary Science Conference, a meeting was organized by a group of participants who were concerned about the organization of the LPSC. Several issues and possible solutions were discussed during that meeting. The consensus was that steps should be taken to provide a mechanism for airing opinions, problems and needs concerning the annual conference and publications relating to it.

The group voted to initiate an annual Lunar and Planetary Science Conference *Forum*, to be held during the conference each year, where meeting participants could openly express and discuss mutual concerns.

Suggestions for issues to be placed before the *Forum* are hereby solicited. The questions, comments, and suggestions which you send in will be summarized and will serve as the basis for the *Forum* agenda.

Please send all comments to the LPSC Forum, LPI Projects Office, 3303 NASA Road 1, Houston, TX 77058.

ALL YE AUTHORS, PLEASE NOTE— PUBLISHERS' EXHIBIT

The Library Information Center (LIC) at the LPI will again sponsor a *Combined Publishers' Exhibit* at the XIXth Conference. We do query a number of publishers to submit items for the exhibit, **BUT** if you have a new book coming out, and would like to have a copy on display, or brochures describing it, be sure to either alert your publisher to send a display copy to Fran Waranius, at the LPI, or send one yourself. If you will send it or give us information about the

publication before the conference, we will be able to include the information in our catalog of the exhibit. Deadline for materials to be included in the catalog is February 28, 1988.

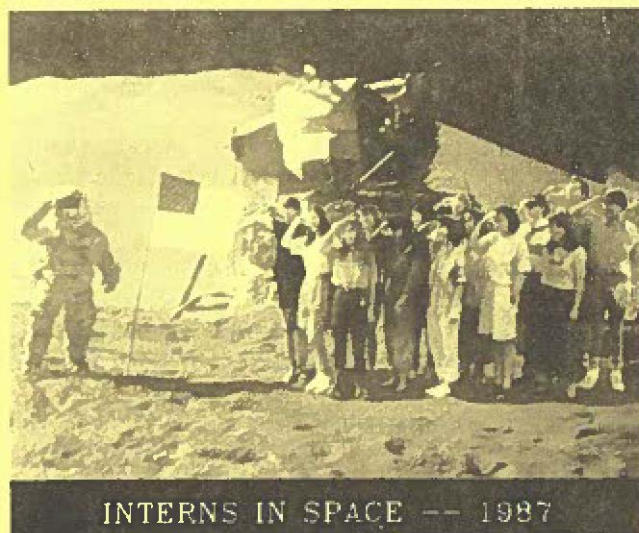
A Reminder to Non-U.S. Citizens Planning to Visit the Johnson Space Center

Non-U.S. citizens who wish to visit laboratories at the NASA Johnson Space Center are reminded that certain actions are required well in advance of the planned visit. NASA rules and procedures require that non-U.S. citizens wishing to make an official visit to JSC (or any other NASA center) should contact their embassy in Washington DC and ask the embassy to request authorization for the visit from the International Affairs Division at NASA Headquarters. NASA Form 1589 "Visit Request and Authorization" which is available from International Affairs Division should be used in making the request.

The visitor should give the dates of the planned visit, names of the NASA persons to be visited, and the purpose of the visit. NASA approval of the visit should be obtained before arriving at JSC. Under some circumstances, this procedure can be shortened if the visitor is a student or faculty member at a U.S. university.

This procedure does not apply to attendance at scientific sessions at the Lunar and Planetary Science Conference held at JSC but does apply to visits to the analytical and curation laboratories at JSC.

1987 SUMMER INTERN CONFERENCE AT LPI



Digital overlay of the 1987 Interns on the Apollo 15 landing site, originally done in color at the LPI image processing facility by Intern Lisa Henry.

The 1987 LPI Summer Intern program concluded with the Third Annual Summer Intern Conference held at LPI on August 13. Thirteen interns reported on the results they obtained during the ten-week program while they worked on scientific research projects with either LPI or JSC scientists. Each student prepared a 2-3 page abstract, which was distributed to the audience at the time of the conference, and gave a 15-minute oral presentation of his or her work to fellow interns, advisors, and other interested listeners. Following the oral presentation the student answered questions from the audience. Listed below are the titles of the intern presentations along with the names of their advisor(s). Anyone interested in additional information about a particular project should contact the advisor.

Martian crater interiors: Relationships with ejecta, diameter, latitude and terrain. Tracy Bradley. Advisor: Nadine Barlow (LPI).

The potential debris environment of the Space Station. Kimberly Dow. Advisors: Faith Vilas (JSC) and Karl Henize (JSC).

Geochemistry of silicic plutonic rocks from the Adirondacks, New York and speculations on their tectonic setting. Maura Hanning. Advisors: Lew Ashwal (LPI), A.V. Murali (LPI/JSC), and Don Elthon (LPI/U of Houston).

Viking high-resolution thermal inertia investigation of the Oxia Palus and Margaritifer Sinus quadrangles, Mars. Lisa Henry. Advisor: Jim Zimbelman (LPI).

Sodium and potassium in the atmospheres of Mercury. Maggie Lee. Advisor: Tom Morgan (JSC).

Scanning electron microscope study of metallic iron associated with lunar agglutinates. Victoria Levin. Advisor: Dave McKay (JSC).

Hydrogen abundance in lunar soil. Patricia Mannion. Advisor: Everett Gibson (JSC).

A paleoclimatic reconstruction and neotectonic investigation of the pluvial lakes of the eastern Great Basin, USA. Stephen Mojszis. Advisor: Bruce Bills (LPI).

Petrographic analysis of planar features in quartz at the proposed Uvalde impact site. Diane Neilsen. Advisor: Buck Sharpton (LPI).

Refractory dust particles from the Antarctic deep freeze. Aurora Pun. Advisor: Mike Zolensky (JSC).

AC electrical conductivity monitoring of nucleation and crystallization in the diopside-anorthite system. Kevin Righter. Advisor: Gordon McKay (JSC).

MARSTHERM: More than a thermal model for Mars. Eric Rubenstein. Advisor: Steve Clifford (LPI).

Tectonic origin of lunar mare ridges: An analysis of relationships between vertical offset, regional tilt, and mare ridge formation. David Swartz. Advisor: Buck Sharpton (LPI).

1988 LPI SUMMER INTERN PROGRAM

The Lunar and Planetary Institute offers selected undergraduates an opportunity to participate actively in lunar and planetary research with scientists at the Institute and at the NASA Johnson Space Center. The purpose of this program is to expose undergraduate students in planetary and terrestrial studies to an actual research environment to help them examine and focus their career goals, and to encourage their development as planetary scientists. The ten-week program begins June 13, 1988 and ends August 19, 1988 although these dates can be adjusted by up to a week to fit individual schedules. Interns will be paid \$250 per week, plus a maximum of \$300 toward travel expenses. Program personnel will assist Interns in obtaining shared low-cost housing in nearby apartments.

Eligibility and selection criteria

College undergraduates, with at least 50 semester-hours credit who are interested in pursuing a career in the physical sciences are eligible. Eligible applicants will be considered for appointment without regard for race, creed, color, sex, national origin, age, handicap status or other non-merit factor. Selection is based upon the following criteria: (1) scholarship, curriculum and experience, (2) career objectives and scientific interests, and (3) match of interest of applicant with available research projects. Notification of selection will be made by April 11, 1988. Successful applicants should be prepared to accept (or reject) this offer to participate within two days of notification.

Potential areas of research

Typical projects in past years have included studies in cosmic dust and lunar sample characterization, meteorites and their origins, properties of planetary regoliths and atmospheres, planetary volcanism, geophysical data analysis and modeling, geochemistry, petrology, experimental petrology, processing of remote sensing data and images, photogeology, tectonics and tectonic processes, planetary impact cratering, and spectroscopic observations of planetary surfaces. Each project will be directed by an LPI or JSC scientist.

Application deadline is March 14, 1988

Please send by March 14.

1. The following typewritten information:

Name and address at school with day and evening telephone numbers
Permanent address and telephone number
School, class, GPA (4.0=A)
Date on which your spring semester ends
Major field of study, area of speciality or interest
Information regarding relevant work experience or training (summer jobs, research assistantships, computer use or programming, photographic darkroom experience, etc.)

2. A brief biographical sketch

3. A description of academic goals, career plans and scientific interests

4. A brief summary of why you wish to participate in the intern program

5. Official transcripts and three letters of recommendation covering academic achievement, career potential and character. (Ask those providing references and transcripts to mail these directly to LPI to be received by the March 14 deadline.

The application information and any questions concerning the LPI Summer Intern Program should be directed to:

SUMMER INTERN PROGRAM
Attention: Mrs. Pamela Jones
The Lunar and Planetary Institute
3303 Nasa Road I
Houston, TX 77058-4399
Phone: (713)486-2150.

The program is supported by the LPI through funding from NASA Headquarters through the Universities Space Research Association.

SUMMER RESEARCH OPPORTUNITIES IN PLANETARY GEOLOGY

The Planetary Geology and Geophysics Undergraduate Research Program (PGGUR Program) was developed to support and encourage work being done in planetary sciences. It provides undergraduate students with an excellent opportunity early in their careers to think about and consider planetary work.

Students chosen to participate in the program will work under the supervision of Dr. John S. King, SUNY-Buffalo, with a NASA-sponsored research investigator for six to eight weeks during the summer months (June, July, August) at a variety of locations including: NASA Ames Research Center, Jet Propulsion Laboratory, U.S. Geological Survey-Flagstaff, and numerous university campuses.

Competition for these awards is keen and they are limited in number. Each application is closely reviewed and discussed by a panel of space scientists. Criteria of selection include: academic record, career objectives as presented in a statement of purpose, and letters of recommendation.

Interested students should contact:

Mrs. Christine Gibbons, Project Manager
Planetary Geology and Geophysics
Undergraduate Research Program
Dept. of Geology
4240 Ridge Lea Road
State University of New York at Buffalo
Amherst, NY 14226
Phone: 716-877-3724

All application material must be received by January 15, 1988. Successful applicants will be notified in March.

The PGGUR Program is supported by the Planetary Geology and Geophysics Program Office, NASA Headquarters, Washington, DC. Questions concerning this program should be addressed to Mrs. Gibbons or to Mr. Joseph M. Boyce, Planetary Geology and Geophysics Program Office, NASA Headquarters, Code: EL-4, Washington DC 20546.

INTERNATIONAL SPACE UNIVERSITY TO HOLD FIRST SESSION—JUNE 1988

Plans continue towards establishing the International Space University's first summer Session scheduled for 20 June to 20 August 1988 on the campus of the Massachusetts Institute of Technology.

The International Space University was founded as an educational institution devoted to international collaboration in space education and research. Guiding the institute is its board of advisors which includes: Dean Burch, Director General of the INTELSAT Organization; Arthur C. Clarke, Chancellor of the University of Moratuwa in Sri Lanka; Dr. Yasuhiro Kuroda, Co-founder, National Space Development Agency of Japan; Professor Reimar Lust, Director General of the European Space Agency; Professor Hermann Oberth, Space Science and Rocket Pioneer; Dr. Gerard K. O'Neill, Founder of the Space Studies Institute in Princeton, New Jersey; Professor U.R. Rao, Chairman of the Indian Space Research Organization; and, Academician Roald Z. Sagdeev of the USSR Institute for Space Research.

The ISU's graduate-level course program will be created and taught by the world's top space experts, and includes studies in eight disciplines: Space Engineering, Space Sciences, Space Arts and Architecture, Space Policy and Law, Space Resources and Manufacturing, Human Performance in Space, Satellite Applications, and Space Business and Management. In addition to the core curriculum, all students will participate in a Design Project to establish an International Lunar Facility for research and industry. This project will give students the opportunity to work directly with leaders in industry and academia and will occupy approximately 40% of their Summer Session time.

ISU is a non-profit institution which has received support from the National Aeronautics and Space Administration and the European Space Agency, as well as from private individuals, foundations and corporations. Students and faculty are solicited from all nations.

The postmark deadline for completed applications is 31 January 1988. The notification date for the 1988 Summer Session is 31 March 1988.

For more information contact:

ISU Administrative Offices
636 Beacon Street, Suite 201
Boston MA 02215
Phone: 617-247-1987 or 703-379-7190

MEETINGS ON MARS

If you are interested in the planet Mars, there are several meetings which will beckon to you to attend.

MEVTV WORKSHOP: "THE NATURE AND COMPOSITION OF SURFACE UNITS ON MARS"

The first workshop of the MEVTV (Mars: Evolution of Volcanism, Tectonism and Volatiles) Study Project will be held on Friday and Saturday, December 4 and 5 (the weekend before the Fall AGU meeting), at the Clarion Inn in Napa, California. This workshop is intended to provide a forum for discussion of issues related to the study of the compositional and physical makeup of the martian surface. The topics included within the MEVTV Study Project cover such a broad spectrum of specialties that the workshop will include tutorial presentations to familiarize the entire community on the current state of affairs in Mars research. Forty-three contributed abstracts have been received at LPI, as of September 27, and these abstracts will be distributed to all who attend the workshop. As an experiment to foster interdisciplinary discussions at the workshop, all contributed papers will be presented as posters so that the workshop sessions can concentrate on the tutorials and open discussion. Anyone interested in obtaining additional information on either the workshop or the accommodations should contact the LPI Projects Office (713-486-2150). Listed below is a preliminary program for the workshop:

Friday, December 4

- a.m. ***SNC Meteorites and Implications for the Composition of Mars***
J. Longhi and E. Stolper, Chairmen
Tutorial: J. Longhi
- p.m. ***Remote Sensing of the Martian Surface***
J. Adams and R. Greeley, Chairmen
Tutorial: J. Adams, R. Singer, and R. Arvidson
- eve. ***Poster Presentations of Contributed Papers***

Saturday, December 5

- a.m. ***Photogeological Inferences on Martian Surface Composition***
J. Guest and J. Adams, Chairmen
Tutorial: R. Greeley
- p.m. ***Volatiles and Surface-Atmosphere Interactions***
F. Fanale and S. Clifford, Chairmen
Tutorial: F. Fanale

- Jim Zimbelman

MARS SAMPLE RETURN SCIENCE WORKSHOP

This workshop with an expected attendance of between 125-150, will be held at the Nassau Bay Hilton Hotel on November 16-18, 1987. Eighty-six abstracts addressing such topics as Geophysics; Martian Magmatic History; Quarantine Issues; Surface Modifying Processes; Climate, Atmosphere, and Volatile Inventory; Life Sciences; and Sampling Sites and Strategies, were submitted to the workshop and comprised the basis for the program which is structured around keynote speaker, invited talks, and contributed talks. The first session on Monday morning will be an overview and discussion of previous missions to Mars.

The conveners of the workshop are Michael J. Drake, University of Arizona; Ronald Greeley, Arizona State University; and Gordon McKay, NASA Johnson Space Center.

An LPI Technical Report volume will be prepared containing the abstracts and summaries of the sessions. Availability of the volume will be announced in an issue of the *Lunar and Planetary Information Bulletin*.



MECA WORKSHOP: "POLAR PROCESSES ON MARS"

A workshop will be sponsored by NASA's Planetary Geology program and Ames Research Center as part of an effort to encourage work on climate issues raised during the now completed MECA project (Mars: Evolution of its Climate and Atmosphere). Members of the organizing committee are Bob Haberle (NASA Ames), Bruce Jakosky (LASP), Steve Squyres (Cornell), and Dave Paige (UCLA). It is planned to hold the workshop in May 1988 at a West coast site.

The purpose of the workshop will be to assess our current understanding of Martian polar processes and what those processes tell us about the planet's climate. Some specific examples include: the transport of dust, water and carbon

dioxide into and out of the polar regions; the composition, origin, and evolution of the layered deposits; the role of quasi-periodic orbital changes; and the heat balance of the polar regions in general. A second goal of the workshop will be to identify outstanding issues and the kind of observations needed to resolve them. This latter goal will help define observational strategies for Mars Observer, as well as science issues for a possible Sample Return Mission.

Further information on the workshop may be obtained by contacting:

Bob Haberle
M.S. 245-3
NASA Ames Research Center
Moffett Field CA 94035
Telephone: 415-694-5491

MECA/LPI WORKSHOP: "DUST ON MARS, III"

This workshop will be sponsored by National Aeronautics and Space Administration and the Lunar and Planetary Institute. It will be held September 21-23, 1988, at the Stanley Hotel in Estes Park, Colorado.

Two previous "Dust on Mars" workshops have been held, and led to numerous productive discussions and cooperative research projects among the participants. There are still many untouched topics which could provide vital background information prior to the Mars Observer mission. To stimulate such research, the workshop will be organized to address the following general questions: (1) How many components of dust are there on Mars, and what are their properties? (2) How is dust ejected from the surface into the atmosphere? (3) How does the global atmospheric circulation affect the redistribution of dust? (4) Are there sources and sinks of dust? If so, where are they and how do they vary with time?

Each workshop participant will be invited to make an informal presentation and lead a discussion on his or her "dust-related" research. Short abstracts of each presentation should be sent to the LPI Publications Office by July 15, 1988. A mailing including abstract forms and additional information will be made in April 1988 to all those indicating interest in attending this workshop.

To preserve this meeting as an interactive workshop rather than a formal conference, the number of oral presentations will be limited. Depending on the number of abstracts received, this may require the program committee to assign some abstracts to a poster session.

To be included in the April mailing, or if you have any questions please contact Lebecca Turner, LPI Projects Office (713-486-2158) or Steve Lee, University of Colorado, 303-492-5348.

OTHER MEETINGS - HERE AND THERE

JOINT ASTRONOMY MEETING

The Astronomical Society of the Pacific (ASP), Royal Astronomical Society of Canada (RASC) and the Western Amateur Astronomers (WAA) will hold a joint annual meeting for the first time in their histories. The conference, to be titled *Universe '88* will be held from June 29 to July 2, 1988 at the University of Victoria, in Victoria, British Columbia.

The program includes a scientific symposium on the distance scale of the universe, papers on a variety of subjects by professional and amateur astronomers, nontechnical lectures on new developments in astronomy, exhibits, seminars, and tours.

The meeting will be preceded by a weekend credit workshop June 25-26 on teaching astronomy in grades 3-12, designed for teachers, school administrators, and youth group leaders.

Very reasonable dormitory accommodations will be available. You do not need to be a member of the sponsoring groups to attend. For more information, write to:

Summer Meeting
A.S.P.
1290 24th Avenue
San Francisco CA 94122
Phone: 415-661-8660

51st ANNUAL METEORITICAL SOCIETY MEETING

The 51st Annual Meeting of the Meteoritical Society will be held at the University of Arkansas, Fayetteville, July 18-22, 1988. General and topical sessions will be held dealing with new results from meteorite, lunar and planetary research. The scientific sessions will take place from 18 July with morning sessions only on 21 and 22 July. There will be space available for poster displays. Abstracts must be received at the Lunar and Planetary Institute by May 2, 1988.

The first circular for this meeting has already been circulated. Additional information will be sent only to those indicating an interest in attending. If you wish to receive information about this meeting, please contact:

Derek Sears
Cosmochemistry Group
Department Chemistry and Biochemistry
University of Arkansas, Fayetteville
Fayetteville AR 72701

SPACE 88—ENGINEERING, CONSTRUCTION & OPERATIONS IN SPACE

SPACE 88 will be held in Albuquerque, New Mexico, August 29-31, 1988. The program will include technical sessions for presentation of contributed papers and plenary sessions for invited papers. The focus of the conference is



on the engineering, construction, and operations of facilities and bases in space and on other planetary bodies rather than vehicles such as the shuttle or orbital transfer vehicles. The facilities and bases will be permanently or fairly continuously occupied. They may be located in Earth orbit, at a Lagrangian point, or on the surface of another planetary body such as the Moon, Mars, or the asteroids. The time scale of the Conference is intended to cover the next 20 to 30 years as described and illustrated in the National Commission on Space report "Pioneering the Space Frontier." The purpose of this first international conference on the engineering, construction, and operations of facilities and bases in space is to encourage and stimulate the transfer of skills, expertise and techniques of engineers, constructors, and operators of facilities and bases here on Earth. It is thought that many of the lessons learned in designing, constructing, and operating such diverse systems as mines, tall buildings, sanitary systems, submarines, offshore drilling rigs and platforms, and Antarctic research stations will be, with modifications, applicable to building the infrastructure in space necessary to achieve the goals outlined in "Pioneering the Space Frontier."

For further information, contact:

Dr. Stewart W. Johnson
c/o The BDM Corporation
1801 Randolph Rd, SE
Albuquerque NM 87106
Phone: 505-848-4013

LUNAR BASE SYMPOSIUM IN HOUSTON, APRIL 5-7, 1988

The book entitled *Lunar Bases & Space Activities of the 21st Century*, published by the IPI, contains papers presented at the first symposium which was held at the National Academy of Science in October, 1984. The first meeting laid the groundwork for some of the future plans now under consideration in the new NASA Office of Exploration. The resurgence of long-range vision in the U.S. space program argues for another look at the issues surrounding human exploration and settlement of the solar system.

The NASA Johnson Space Center, the Lunar and Planetary Institute, the American Institute of Aeronautics and Astronautics, the Space Studies Institute, the American Geophysical Union, the American Nuclear Society, and the American Society of Civil Engineers will co-sponsor a second Lunar Base Symposium to be held in Houston, Texas, at the Westin-Galleria Hotel on April 5-7, 1988. The broad suite of topics to be addressed includes scientific research at a lunar base, space technologies required to establish and support a permanent surface facility, and the programmatic and policy issues associated with future space initiatives.

The Program Committee is reviewing more than 230 abstracts submitted to the conference. A preliminary program will be published in the December issue of *Aerospace America*, published by the AIAA. If you are not now on the mailing

list for further information on the symposium and wish to be, please contact the Projects Office at the IPI (713-486-2150), Barney B. Roberts, Mail Code ED13, Phone: 713-483-6605 for administrative details of the conference, or Wendell W. Mendell, Mail Code SN3, Phone: 713-483-5064 for technical details. The address for Roberts or Mendell is: NASA Johnson Space Center, Houston TX 77058.

Lunar Bases and Space Activities of the 21st Century is available from the Order Department at the IPI for \$20.00. Please enclose check with your order.

UNIVERSITY OF ARIZONA MEETING SCHEDULE FOR 1988

Three meetings of interest to the planetary and space sciences community are planned by the University of Arizona, Lunar and Planetary Laboratory for 1988.

ASTEROIDS II will be held on March 8-11, 1988 in Tucson, Arizona. The dates immediately precede the 19th Lunar and Planetary Science Conference to be held in Houston, Texas, March 14-18. The primary purpose of the meeting is to make a comprehensive source and textbook on the asteroids, a completely new version of *Asteroids*, dated 1979. The book will be published in the Space Science Series of the University of Arizona Press. The deadline for abstracts is January 15, 1988. Contact for this meeting is Rick Binzel, Planetary Science Institute, 2030 E. Speedway, Tucson AZ 85719.

URANUS COLLOQUIUM was postponed for a year to permit the Voyager science teams and investigators who proposed for the Uranus Data Analysis Program, to bring their analyses of the Voyager 2 encounter data to maturity. This colloquium is now scheduled for June 28-30, 1988 at the Pasadena Convention Center, in Pasadena, California. Abstract deadline for the colloquium will be April 1, 1988. Contact for the meeting is Jay T. Bergstralh, Jet Propulsion Laboratory, MS 183-301, 4800 Oak Grove Drive, Pasadena CA 91109.

INTERIOR AND ATMOSPHERE OF THE SUN will be held November 15-18, 1988 in Tucson, Arizona. The subject matter of the conference and book has been divided into six areas: Heliosphere, Corona, Chromosphere, Photosphere, Interior and Topical Subjects. Abstracts for all papers (review, contributed, or poster) must be received by September 1, 1988. Co-Chairmen of the conference are Arthur N. Cox, Los Alamos Natl. Lab, Group T-6, MS B288, P.O. Box 1663, Los Alamos, NM 87545 (Phone: 505-667-7648); and William C. Livingston, National Solar Observatory, P.O. Box 26732, Tucson AZ 85726 (Phone: 602-325-9374).

Information on all University of Arizona LPL meetings and books may be obtained by contacting:

Mildred S. Matthews
Lunar and Planetary Laboratory
University of Arizona
Tucson AZ 85721
Phone: 602-621-2902

NEW PUBLICATIONS



Some of the following publications are available from the Superintendent of Documents, Government Printing Office, Washington DC 20402. Although this agency requires prepayment on all orders, they will accept Mastercard or VISA credit cards. Just include the account number and expiration date on your order to them. Some of the publications may be available from the GPO bookstores which are found in major cities around the U.S. Check your city directory for a local listing.

Several of the GPO publications are being offered by other distributors at widely varying prices. It pays to shop and compare.

PLEASE do not send orders for these publications to the I.P.I. We are not a distribution center for SOD documents and this will only delay your order. If you are interested in obtaining any of the items in the **New Publications List** do contact the publisher or supplier listed with each item.

NASA PUBLICATIONS

Space Pioneers and Where They Are Now

A concise history of the achievements of the Pioneer spacecrafts is described in this 24-page booklet, a volume in the NASA Educational Publications series (NASA EP-264). E.J. Montoya and R.O. Fimmel have reported the achievements of these spacecraft whose flights have carried them from the space environment beyond the fringes of Earth's atmosphere, into the space between Earth and the orbit of the Moon, into the inner solar system and finally into the outer solar system and beyond. The booklet is beautifully illustrated and merits being a part of the library collection of everyone interested in solar system exploration. It would be particularly applicable to classroom use particularly at the junior and senior high school levels. It is available from the Superintendent of Documents as S/N 033-000-01003-6 \$1.75.

To Uranus and Beyond

This relatively short (24 pages) publication contains a biography of the planet Uranus beginning with its discovery by Herschel to some beautiful photographs of the planet and its moons recovered by the Voyager encounter in January 1986. This booklet is also one in the NASA Educational Publications series (NASA EP-260) and can be obtained from the Superintendent of Documents as S/N 033-000-01004-4 for \$2.00. It can serve as a ready reference to information about the planet Uranus and its moons in an attractive and readable format.

Other Publications to Note

ASTRONOMICAL SOCIETY OF THE PACIFIC NEW RELEASES

A new 16-page **Selectory** (catalog) of educational materials on astronomy has been published by the non-profit Astronomical Society of the Pacific. The international Society has been a source of nontechnical information about the Universe since 1889.

The Society is particularly known for its sets of astronomical slides, combining beautiful celestial images with extensive background and caption information. The new catalog includes recently developed slide sets on Supernova 1987A, Mars, Venus, and the Search for Extraterrestrial Intelligence.

Among the other interesting materials in the catalog are posters and maps, videotapes, astronomical software, audiotapes for learning the constellations and other observing aids, and an excellent telescope for beginners. An astronomical board game, a coffee mug showing the expansion of the universe, and such bumper stickers as "Astronomy is Looking UP" complement some of the more serious educational aids.

Many of the items are available only from the Society and several are offered at a discount. To receive a copy of the illustrated Selectory, send a long self-addressed envelope with two first class stamps to A.S.P., Catalog Request Dept (address below).

A set of 20 slides **Solar System Portraits** by William Hartmann is a current offering of A.S.P. This set features scientifically accurate paintings of the solar system by Dr. Hartmann. A noted astronomer specializing in the origin and evolution of the planets, Dr. Hartmann is also an accomplished artist who paints scenes predicted by modern research but not yet seen by either the human eye or spacecraft instruments.

Included in the set are paintings showing the swirling nebula from which the solar system formed, an asteroid hitting the Earth, the view from inside Saturn's rings, lava flows from a Martian volcano, and the breakup of a comet. Each color slide has been carefully produced from originals provided by the artist and explanatory captions accompany the set.

Dr. Hartmann, a senior scientist at the Planetary Science Institute, is the author of two major textbooks in astronomy and two popular books on the solar system and space exploration. His paintings hang in galleries and private collections around the U.S. and have received enthusiastic praise from scientists and astronomy buffs for their precision and beauty.

The set is available for \$21.00 (which includes postage and handling).

This set and/or the Selectory are available from:
A.S.P.

CATALOG or SLIDES DEPT.
1290 24th Avenue, San Francisco CA 94122

NEW POPULAR ASTRONOMY JOURNAL

ASTRONOMY NOW is a new magazine published in the UK by Intra Press, 16 Garway Road, London W2 4NH. The premier issue is dated April-June 1987 and promises to be a monthly publication starting with January 1988. *Astronomy Now* is devoted to astronomy in general and to British astronomy in particular. It aims to present news and features which are both topical and of lasting value, and to co-ordinate the various astronomical organizations which exist throughout the U.K. *Astronomy Now* encourages amateur societies to use its columns to give information about their activities, announce meetings, and exchange news items. The magazine will contain reviews, sky maps, and articles written by leading astronomers.

The first two issues contained some excellent articles on Miranda, Mars, the William Herschel Telescope, and a guide to astrophotography. The magazine is attractively illustrated with photographs in black and white and color. The regular features include news items, book reviews, and advertisements.

The editorial board consists of Patrick Moore, Peter Cattermole, Ron C. Maddison, John Mason, Iain Nicolson, Paul Doherty, and Nicholas Booth. Subscription rate for the first 6 issues is listed as £ 7.50 U.K., Overseas surface mail £8.50. Please contact the publisher at the above address for more information about availability and subscription rates.

OMNI SPACE ALMANAC

Subtitled "A complete guide to the space age" this new book by Neil McAleer packs a great deal of information about the things which have taken place in space and the dreams that today's engineers, astronauts and technicians are still chasing. Beginning with the early prophets and pioneers, the almanac traces the history of the conquest of space from the launch of Sputnik 1 in October 1957, through the Mercury and Gemini years and the triumph of the Apollo moon landing to the devastation of the Challenger explosion and its impact on the space shuttle flights and the U.S. space program.

The almanac's major focus is on the space exploration currently underway and what's yet to come, much of which still reads like science fiction and truly boggles the mind.

Thoroughly researched and beautifully illustrated, the *OMNI Space Almanac* is a definitive and complete guide to the space age on, above, and beyond the earth. It contains an appendix listing the names and addresses of several space organizations and places designated as "On-Earth Space Exhibits" by broad geographic locations. Not a definitive list but certainly a good place to start for information. The book is adequately indexed making it easy to find information on a specific topic. Although published as a World Almanac Book, it is distributed in the U.S. by Ballantine Books. The price is \$24.95. . . . could be a nice Christmas present for your favorite space buff.

CLASSIC "SHOCK METAMORPHISM" BOOK STILL AVAILABLE

Scientists who are following the current furor about large meteorite impacts, environmental effects, and the extinctions of dinosaurs and other species at the Cretaceous-Tertiary boundary will be interested to learn that the much-referenced 1968 conference volume, *Shock Metamorphism of Natural Materials* is still available. The book, edited by Bevan M. French and Nicholas M. Short and published by Mono Book Corp (Baltimore MD) is the proceedings volume for the 1966 Conference on Shock Metamorphism of Natural Materials that was held at the NASA Goddard Space Flight Center. The book contains 30 well-illustrated articles on shock-wave mechanics, petrographic shock effects, and the identification of ancient terrestrial meteorite craters. Since its appearance, *Shock Metamorphism* has become a standard sourcebook for workers in the field; many of its articles are still frequently cited in current research publications.

The 644-page book is available from Jewelcore, Inc., 72 North Franklin Street, Wilkes-Barre, PA 18773. The price is \$20.00 per copy plus shipping costs. Send all orders to the attention of Mr. Joe Patterson at Jewelcore; for more information call him directly at 717-824-8761, extension 209.

LPI BEGINS MARS SLIDE SET SERIES WITH VOLCANOES

A new slide set series is currently in preparation at the LPI. This series will deal with various geological features on Mars. Each set will focus on a specific topic and will show relevant features that have been identified in Viking Orbiter images. Among the topics being considered for development are martian craters, geomorphic indicators of subsurface volatiles, and tectonic features on Mars.

The first set "Volcanoes on Mars" will be available after January 1. Approximately half of the slides deal with the large shield flows on the flanks of the volcanoes. The remainder of the slides shows various constructs (classified as Mons, Patera, or Tholus) from the Tharsis, Elysium, and Hellas regions as well as the km-sized mounds that are interpreted to be of volcanic origin.

This is a 20-slide set, with an explanatory booklet. The prepublication cost is \$10.00 and the set is available from the LPI Order Department. After January 1, the cost will be \$13.00.

NEW CHAIRMAN OF LPGRP

Sean Solomon, Massachusetts Institute of Technology, is retiring as Chairman of the Lunar and Planetary Geoscience Review Panel (LPGRP) after completing a two-year term. We, at the LPI, take this opportunity to express our appreciation (and surely that of the entire community) to Sean for his very successful performance of a demanding task.

Harry (Hap) McSween, University of Tennessee, has been appointed to succeed Sean as Chairman. His appointment is effective January 1, 1988.

NASA ISSUES MIXED FLEET MANIFEST

The National Aeronautics and Space Administration (NASA) has issued a new, mixed fleet schedule for launching primary payloads for Space Shuttle missions through 1990 and expendable launch vehicles (ELVs) through 1995.

The manifest reflects the high priority assigned to major science payloads. In 1989, five NASA science missions, some with international cooperation, will be launched. Four will fly on the Shuttle.

The four Shuttle missions include — Magellan, which will map Venus with a high-resolution radar, in April; Hubble Space Telescope, one of NASA's highest priorities and a cooperative project with the European Space Agency (ESA), in June; ASTRO-1, a Shuttle-borne ultraviolet observatory, also in June; and Galileo, a cooperative project with Germany to make the first comprehensive survey of Jupiter and its moons, in October.

In addition, the Cosmic Background Explorer, a mission to investigate cosmic background noise, is planned for launch on a Delta in February 1989. NASA also will accelerate deployment of other space science missions by fully utilizing ELVs.

For example, the Roentgen Satellite is planned for launch on a Delta in February 1990, and the Extreme Ultraviolet Explorer is planned for launch on a Delta in August 1991.

In October 1990, the cooperative ESA/NASA Ulysses mission, to observe the polar region of the sun, is scheduled to be launched on the Shuttle.

The reformatted launch schedule released October 22 includes Space Shuttle missions through STS-44; projected ELV flight assignments; flight histories for the Shuttle and ELVs; and a summary of payload requests for flight assignments.

NASA Press Release 87-158, October 22, 1987

REACHING OUT

. . . ELECTRONICALLY

There are a number of ways of communicating with the LPI and with others in the community using electronic mail. Sometimes it gets a bit difficult to sort through all the jargon of nodes, passwords, usernames, pathways, etc. Ms. Carolyn Kohring at the LPI is attempting to plow through the "how-to" information and give us a recipe for accessing through the various systems. She is also trying to develop an electronic mail address directory. If you are willing to have your name included in this list, please complete the form on page 11 and return it to her at the LPI. If you wish to know how to contact someone, you can contact her at 713-486-2192; NASA/SPAN LPI:KOHRLING.

CONTACTING LPI

If you are on NASA/SPAN (Space Physics Analysis Network), the node name for the LPI VAX is **LPI**. You can log on to the LPI computer using the following procedure: (Computer prompts in **bold**)

USERNAME: (your username on your computer)

PASSWORD: (your password)

\$SET HOST LPI:

(This will connect you to the VAX at the LPI and you can then at the **USERNAME** prompt enter one of several accounts at the LPI: PROGRAM (to view the on-line program of the 19th LPSC); SEARCH (to use the Lunar and Planetary Bibliography maintained by the Library Information Center); or PATRON (to use the on-line catalog, journals holdings list, etc., of the Library Information Center). For these three accounts the **PASSWORD** is **LPI**.)

If you wish to use *Direct Dial Access* to the LPI the phone numbers for 300/1200/2400 baud lines are: 713-486-8214 or 713-486-9782. Enter a <return> until you receive the **USERNAME** prompt and then continue as above.

If you are on the *NASA Packet Switching System* (NPSS), after you have typed your user I.D. and password, you may use the following procedure:

ENTER SERVICE> LPI

Network connection in progress

Connected <return> <return>

ENTER NUMBER: MODEM

Calling 6 . . .

Call complete

ATD9,4886967 (ATD must be in capital letters)

USERNAME: Use name (as listed above)

PASSWORD: LPI (or as appropriate)

The Lunar and Planetary now has a **Telex** number. It is associated with an Omnet Telemail account that is read at least once a day. The messages are automatically entered into that account. There is no longer a need to send messages to JSC. The LPI Telex number is 7400832; Answerback is: LAP1UC

ON-LINE 19th LPSC PROGRAM

To make the program for the 19th Lunar and Planetary Science Conference available to the community as soon as possible, the program will be on-line on the LPI computer. We are shooting for a target date of February 10, 1988. This will be at least two weeks before the *Bulletin* with the preliminary program will be mailed. To access the online program, you may use either the NASA SPAN network, NASA NPSS (NASA Packet Switching System) access or dial in direct (see directions for accessing LPI). When connection is made, use the following directions:

USERNAME: Program

PASSWORD: LPI

A menu of options will be displayed:

19TH LPSC PROGRAM ONLINE

(Select routine by entering its letter)

A. AUTHOR/SPEAKER NAME

B. SESSION

C. TOPIC (TITLE KEYWORDS)

Q. QUIT (EXIT ROUTINE)

A series of menus and prompts will cue you to the appropriate way to access the various aspects of the Program. We hope this innovative way of presenting the program to the community almost at the same time it is formed will assist you in planning your travel arrangements, and other appointments which you may wish to make. If you have difficulty in accessing the LPI computer, please call Kinpong Leung LPI Computer Systems Manager at 713-486-2165 or [KLEUNG/NASA] (on NASAMAIL), or LPI::LEUNG (on SPAN).

GTE Telemail Systems

Over the Labor Day weekend, NASA Headquarters moved their Telemail users to a new NASA dedicated computer system using the "Telemail" software. There are several "Telemail" system branches available. The trick is to know which branch a user calls home. The complete address of a user on a "Telemail" branch is:

[username/organization] system branch/country

System Branches

MAIL/USA The branch that OMNET is on
 NASAMAIL/USA The NASA Headquarters branch
 TELEMAIL/USA Include commercial and J.P.L. organizations
 TMII/USA Department of Agriculture
 GSFC/USA Goddard Space Flight Center branch
 TELECOM/CANADA
 ATI/JAPAN
 PIPMAIL/TAIWAN
 TBXSPA/SWEDEN
 ITALMAIL/ITALY
 and some GTE personnel branches

Examples of some "addresses" on telemail are:

[KBURKE/NASA] NASAMAIL/USA

[K.BURKE/OMNET] MAIL/USA

[user/GSFCMAIL] GSFC/USA

[user/J.P.L.] TELEMAIL/USA

You may delete a part of the receiver's address if it is identical to the part of your address. (Two users on NASAMAIL need only specify the username. (Two users on TELEMAIL need to specify the username and organization.)

If you need help understanding the "Telemail" system, please let us know. You contact us at:

[KBURKE/NASA] NASAMAIL/USA

LPI::KOHRRING on the SPAN Network

Carolyn Kohring at 713/486-2192



LUNAR AND PLANETARY INSTITUTE ELECTRONIC MAIL SURVEY

Name _____ Telephone Number _____

Institution _____

Electronic Mail Address (Telemail, Mail, Omnet, etc). _____

Computer Network _____ Node Name _____ Account Name _____

Computer Network _____ Node Name _____ Account Name _____

Computer Network _____ Node Name _____ Account Name _____

CALLING LPI. . .

general information

general information 713-486-2139

commercial or FTS

(COMMERCIAL OR FTS)

Please note: 713-488-5200 is no longer a part of our telecommunications system. It is being answered by a **MACHINE**. If you call 488-5200 you will get a message to call 713-486-2139. You can save yourself time and eliminate unnecessary costs by using the direct dial extension given below. **EVERYONE AT THE LPI** can be dialed direct on both commercial and FTS lines. On commercial lines, dial area code 713-486 and the four-digit extension. On FTS, dial your FTS access code, 713-486 and the four-digit extension.

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SCIENTISTS/VISITING FELLOWS

-FALL 1987

Ashwal, Lew 2147
Barlow, Nadine 2156
Bills, Bruce 2167
Burke, Kevin 2138
Burt, Don 2187
Clifford, Stephen 2146
de Silva, Shanaka 2204
Elthon, Don 2142
Francis, Peter 2174
Kennedy, Johnny 2194
Murali, A.V. 2193
Reid, Arch 2167
Ryder, Graham 2141
Sharpton, Buck 2111
Schuraytz, Ben 2141
Williams, Steven 2203
Xu, Dao-Yi 2194
Zimbelman, Jim 2196

Please do use the individual extension numbers. It will save you time in the long run.

The **LUNAR AND PLANETARY INFORMATION BULLETIN** is published by the Lunar and Planetary Institute. There are usually three issues per year. It is distributed free on request to lunar and planetary scientists, educators, students, and their institutions.

The next issue will be in FEBRUARY. Copy deadline is JANUARY 15, 1988. If you have any announcements which you would like to have printed in the **BULLETIN**, please send them to the Editor.

We reserve the right to select and edit copy.

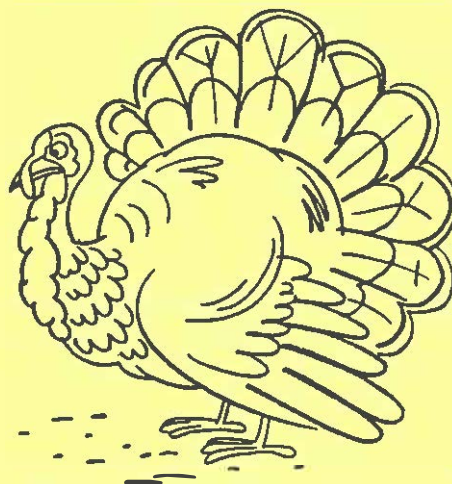
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EMAIL: NASA/SPAN LPI::BULLETIN
TELEMAIL: [FWARANIUS/NASA]
Phone: 713/486-2135

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PLEASE let us know when you move. Each change of address which we get through the postal service costs us \$30-\$80 in return postage costs. Because of the high costs of postage, we will make the address change on our list but we will no longer mail another copy of the LPIB issue or whatever was contained in the envelope that we get back. Since the same mailing list is used for conference announcements and other LPI mailings you will miss whatever is mailed from the LPI in the interval that we do not have your address change.

If you want to be sure that you get all of your mailings from the Institute promptly, be sure to send a change of address to: Mailist, Lunar & Planetary Institute, 3303 NASA Road One, Houston, TX 77058-4399. It often takes the postal service 60-90 days to return an item to us with the address correction. We also often receive a notice on the returned envelope that the "forwarding order is expired." Under that circumstance, we have no alternative than to delete the name from the mailing list. Do yourself and us a service. Remember the LPI Mailing List when you move. Thanks.

ye editor



HAPPY THANKSGIVING

CALENDAR

1987

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- | | | |
|---------------|---|---|
| December 4-5 | MEVTV Workshop: Nature and Composition of Surface Units , Clarion Inn, Napa, California. | Projects Office
Lunar and Planetary Institute
3303 NASA Road One
Houston TX 77058-4399
Phone: 713-486-2150 |
| <hr/> | | |
| December 7-11 | American Geophysical Union Fall Meeting , San Francisco, California. | Fall Meeting
American Geophysical Union
2000 Florida Avenue NW
Washington DC 20009
Phone: 202-462-6903 |
| <hr/> | | |
| December 11 | Planetary Science , Royal Astronomical Society, London. | F.W. Taylor
University of Oxford
Clarendon Laboratory
Parks Road
Oxford OX1 3PU England
Phone: 0865 272933 |
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1988

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|---------------|--|--|
| January 9-23 | ECG Field Workshop "Deep Continental Crust of South India" , Bangalore, India and environs. | Projects Office
Lunar and Planetary Institute
3303 NASA Road One
Houston TX 77058-4399
Phone: 713-486-2150 |
| <hr/> | | |
| January 10-14 | 171st Meeting of the American Astronomical Society , Austin, Texas. | David Evans or Harlan Smith
University of Texas
Astronomy Dept.
Austin TX 78712
Phone: 512-471-4461 |
| <hr/> | | |
| January 20 | LPSC XIX ABSTRACTS DEADLINE | Publications Office
Lunar and Planetary Institute
3303 NASA Road One
Houston TX 77058-4399
Phone: 713-486-2143 |

January 25-29	Second International Symposium on Experimental Methods for Microgravity Materials Science Research , Phoenix, Arizona.	Dr. Robert Schiffman, Chairman c/o Marlene Karl Technical Program Coordinator-TMS 420 Commonwealth Drive Warrendale PA 15086 Phone: 412-776-9050
March 8-11	Asteroids II: Book and Colloquium , Tucson, Arizona.	M.S. Matthews Lunar and Planetary Laboratory Space Sciences Building University of Arizona Tucson AZ 85721 Phone: 602-621-2902
MARCH 14-18	XIX LUNAR AND PLANETARY SCIENCE CONFERENCE Houston, Texas.	Projects Office Lunar and Planetary Institute 3303 NASA Road One Houston TX 77058-4399 Phone: 713-486-2150
April 5-7	Lunar Bases and Space Activities II , Houston, Texas.	Barney B. Roberts Mail Code: ED13 NASA Johnson Space Center Houston TX 77058 Phone: 713-483-6605
April 7-9	Second International Symposium on Experimental Mineralogy, Petrology, and Geochemistry , Bochum, F.R. Germany.	The Bochum Symposium Institut für Mineralogie Ruhr-Universität Postfach 102148 D-4630 Bochum 1, F.R. Germany
April 7-22	NATO Advanced Study Institute on Geomagnetism and Palaeomagnetism , University of Newcastle upon Tyne, England.	Anne Codling Dept. of Geophysics and Planetary Physics School of Physics University Newcastle upon Tyne NE1 7RU England
April 11-14	Fiber Optics in Astronomy , Tucson, Arizona.	Sam Barden NOAO/KPNO P.O. Box 26732 Tucson AZ 85726-6732 Phone: 602-325-9263
May 11-13	V.M. Goldschmidt Conference for Geochemistry , Baltimore, Maryland.	Goldschmidt Conference Coordinator Pennsylvania State University 410 Keller Building University Park PA 16802
May 16-20	American Geophysical Union , Spring Meeting, Baltimore, Maryland.	Spring Meeting American Geophysical Union 2000 Florida Avenue NW Washington DC 20009 Phone: 202-462-6903

May 22-25	Geological Association of Canada/Mineralogical Association of Canada/Canadian Society for Petroleum Geologists — Joint Annual Meeting , St. John's, Newfoundland.	John Fleming Newfoundland Dept. of Mines and Energy P.O. Box 4750 St. John's, Newfoundland Canada A1C 5T7 Phone: 709-576-2768
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June 13-Aug.19	LPI Summer Intern Program , Houston, Texas.	Ms. Pamela Jones Summer Intern Program Lunar and Planetary Institute 3303 NASA Road One Houston TX 77058-4399 Phone: 713-486-2150
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June 28-30	Uranus Colloquium , Pasadena, California.	Jay T. Bergstralh Jet Propulsion Laboratory MS 183-301 4800 Oak Grove Drive Pasadena CA 91109 or M.S. Matthews Lunar and Planetary Laboratory University of Arizona Tucson AZ 85721 Phone: 602-621-2902
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June 29-July 2	Universe '88 , University of Victoria, Victoria, British Columbia.	Summer Meeting A.S.P. 1290 24th Avenue San Francisco CA 94122 Phone: 415-661-8660
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July 18-22	51st Annual Meeting of the Meteoritical Society , University of Arkansas, Fayetteville, Arkansas.	Derek Sears Cosmochemistry Group Dept. of Chemistry and Biochemistry University of Arkansas Fayetteville AR 72701
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August 24-Sept. 3	Joint Varenna-Abastumani Workshop on Plasma Astrophysics , Varenna, Italy.	Prof. E. Sindoni International School of Plasma Physics 16, Via Celoria I-20133 Milano, Italy Phone: (2) 2392267-2665005
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August 29-31	Space 88 Conference: Engineering, Construction, and Operations in Space , Albuquerque, New Mexico.	R.S. Leonard c/o Ad Astra Ltd. Rt. 1, Box 92LL Santa Fe NM 87501 Phone: 505-455-3484
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September 21-23 **MECA LPI Workshop "Dust on Mars III"**, Stanley Hotel,
Estes Park, Colorado.

Lebecca Turner
Lunar and Planetary Institute
3303 NASA Road One
Houston TX 77058-4399
Phone: 713-486-2158

September 25-30 **Spectroscopic Methods for Mineral and Mineral Surface
Characterization**, Los Angeles, California.

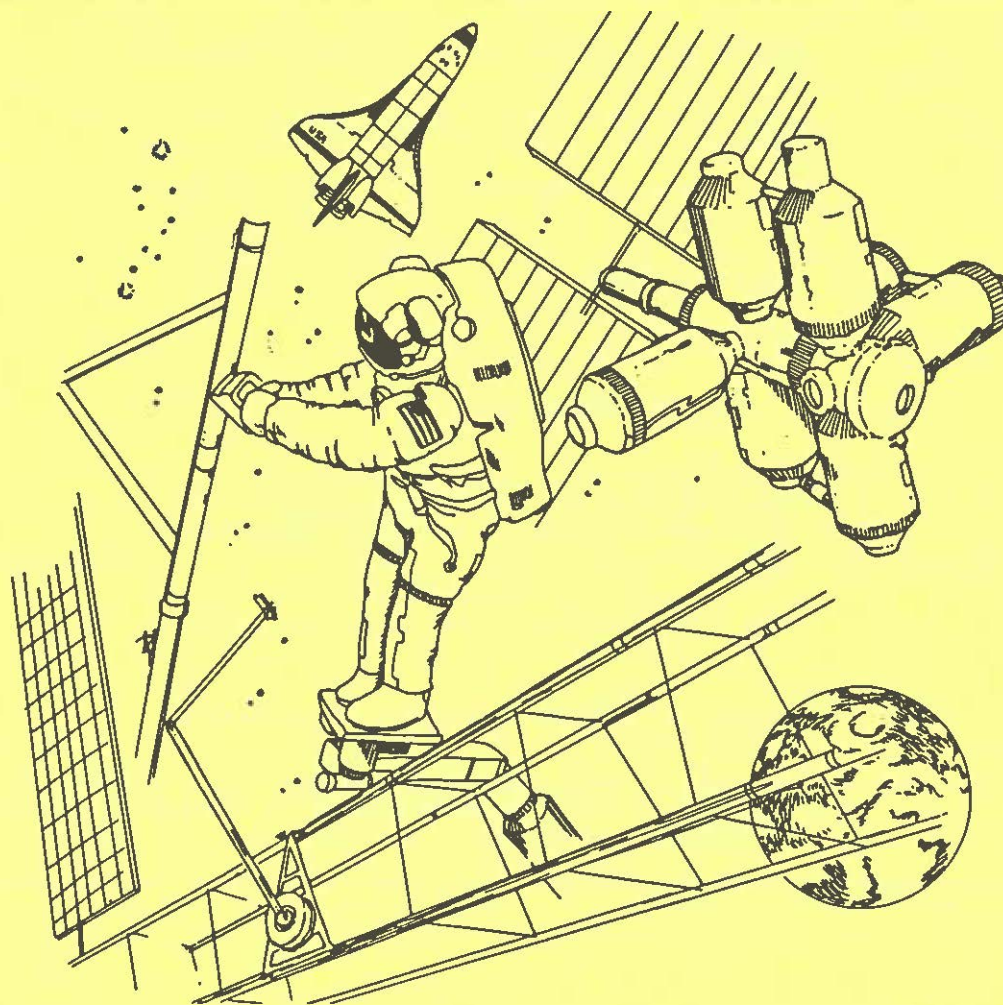
Lelia M. Coyne
Mail Stop 239-4
NASA Ames Research Center
Moffett Field CA 94035

October 31-Nov.3 **Geological Society of America Annual Meeting**, Denver,
Colorado.

Jean Kinney
GSA
P.O. Box 9140
Boulder Colorado 80301
Phone: 303-447-2020

November 15-18 **Interior and Atmosphere of the Sun**, Tucson, Arizona.

M.S. Matthews
Lunar and Planetary Laboratory
University of Arizona
Tucson AZ 85721
Phone: 602-621-2902



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_____	Origin of the Moon \$25.00 per copy; \$50.00 for foreign air mail.	_____
_____	Planetary Science: A Lunar Perspective \$30.00 per copy; \$50.00 for foreign air mail.	_____
_____	Chondrules and their Origins. \$25.00 per copy; \$40.00 for foreign air mail.	_____
SLIDE SETS		
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_____	Shuttle Views the Earth: Geology from Space (40 slides & booklet) \$15.00 U.S.; \$20.00 Foreign.	_____
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_____	Volcanoes on Mars (20 slides & booklet) \$10.00 per set U.S.; \$20.00 Foreign. ★New and Available January 1	_____
TECHNICAL REPORTS		
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_____	LPI TR-86-07 Carr, M. James, P. Leovy, C. Pepin, R. Pollack,J. MECA WORKSHOP ON THE EVOLUTION OF THE MARTIAN ATMOSPHERE. 52 pp. U.S. \$3.00; Foreign Air Mail: \$6.00 Surface: \$3.50	_____
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_____	LPI TR-86-10 De Wit, M.J. Ashwal, L.D. WORKSHOP ON TECTONIC EVOLUTION OF GREENSTONE BELTS. 227 pp. U.S. \$3.00; Foreign Air Mail: \$9.50 Surface: \$4.50	_____
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NOTES

TABLE OF CONTENTS

Planning for the XIX LPSC	page 1
LPSC Forum	page 2
Author Alert - Publishers Exhibit	page 2
Instruction to non-US visitors	page 2
1987 LPI Summer Intern Conference	page 2
1988 LPI Summer Intern Program	page 3
Summer Research Opportunities in Planetary Geology	page 4
International Space University - First Session	page 4
Meetings on Mars	page 5
Other Meetings - Here and There	page 6
New Publications	page 8
LPI Begins Mars Slide Set Series	page 9
New Chairman - LPGRP	page 9
NASA Issues Mixed Fleet Manifest	page 10
Reaching out - Electronically	page 10
Calling LPI (Telephone Directory)	page 12
Calendar	page 14
Order Form - LPI Publications	page 18
Lunar and Planetary Bibliography	page 20



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