

LUNAR SCIENCE INFORMATION BULLETIN

NUMBER 6

Universities Space Research Association
The Lunar Science Institute
3303 NASA Road #1
Houston, TX 77058
713/488-5200

June 5, 1975

LUNAR POLAR ORBITER - ANNOUNCEMENT OF OPPORTUNITY

The National Aeronautics and Space Administration (NASA) has issued an Announcement of Opportunity (AO) providing information and guidelines for prospective investigators who are interested in participating in the Lunar Polar Orbiter (LPO) mission, tentatively planned for a June-1980 launch. The LPO will be a cost-limited geochemical, geophysical, and geological mission capable of extending to the entire Moon, orbital and surface science results obtained from previous lunar missions, especially Apollo. Because of the applicability of LPO objectives and concepts to the exploration of planetary bodies with limited atmospheres, this mission may serve as a scientific prototype for similar missions to Mars and to Mercury.

The AO is a solicitation of proposals for flight experiments and notification of mission definition study efforts prior to program approval. The proposal due date is July 15, 1975. A copy of the AO, which contains details of science objectives and mission concepts as well as details of where and how to propose, may be obtained from Dr. Franklin D. Martin, Program Manager, Advanced Programs and Technology, Lunar Programs Office, Code SM, National Aeronautics and Space Administration, Washington, DC 20546.

NASA LUNAR RESEARCH ACTIVITIES GUIDELINES

The Guidelines for submission of proposals in the three areas of lunar research activity are currently available from the Lunar Programs Office, Code SM, NASA Headquarters, Washington, D.C. 20546. The three areas of activity include: Lunar Data Analysis and Synthesis (DA&S); Lunar Sample Research (Sample); and Lunar Supporting Research and Technology (SR&T). All three lunar programs are open programs in which unsolicited proposals may be submitted at any time. However, the major review effort is scheduled for September/October 1975. All proposals submitted before August 15, 1975 will be included in this review. Proposals submitted after this date will be included if time permits; otherwise they will be held for review later in the year. The results of the review should be announced by the end of December. Several changes are incorporated into the Guidelines this year. Among them is a change in mailing procedure for the proposals. All domestic proposals should be sent to the Lunar Programs Office, Code SM and all foreign proposals to the Office of International Affairs, Code I, at the NASA Headquarters address. Recipients of this Bulletin will be mailed copies of the guidelines by Mid-June. Please contact the Director, Lunar Programs Office if you do not receive your copy or have any questions.

PROPOSALS SOUGHT FOR 1979 URANUS MISSION

NASA is announcing an opportunity for participation in scientific investigations to be performed on the Mariner Jupiter/Uranus 1979 (MJU79) flyby mission which is under consideration for launch during the 1979 launch opportunity. This is a unique opportunity to explore the planet Uranus and generally extend our exploration of the outer solar system. This opportunity permits studies of the planets and their satellites by remote sensing during flyby and both in situ and remote measurements of the near-planet and the interplanetary-interstellar environment. Requests for the AO or a letter of intent to propose should be directed to Dr. M. A. Mitz AO #OSS-1-75, National Aeronautics and Space Administration, Office of Space Science, Code SL, Washington, D. C. 20546; phone 202/755-3790. An information packet which is essential in preparing a proposal will be sent to all those submitting a letter of intent. Deadline for proposals is 2 September 1975. Any questions concerning this AO should be directed to Dr. Mitz.

SHORT COURSE IN LUNAR GEOLOGY

An experiment in educating educators was conducted at the Lunar Science Institute, May 24-26, 1975. Twenty-five junior college earth science teachers were exposed to an intense introduction to lunar science through a four-day program of lectures, laboratory experiments and exercises. The course was designed to enable these teachers to incorporate the findings of lunar exploration into the courses which they are presently teaching. The course, organized by R. B. Merrill, R. Greeley and P. H. Schultz was received enthusiastically by the teachers. It is anticipated that similar such courses may be organized in the future.

SIXTH LUNAR SCIENCE CONFERENCE

The Sixth Lunar Science Conference held in Houston, March 17-21, 1975, was attended by approximately 600 people from 12 countries. Participants in the Conference have submitted 234 manuscripts to the Symposia Office at the Lunar Science Institute for inclusion in the Proceedings of the Sixth Lunar Science Conference. It is anticipated that the Proceedings will be published by December 1, 1975.

AGU SPECIAL SESSION--COMPARATIVE PLANETOLOGY OF THE TERRESTRIAL PLANETS

This special session to be held Tuesday afternoon June 17, 1975 at the American Geophysical Union Annual Meeting, will be chaired by Carl Sagan and Noel Hinners. Among the papers to be presented are: *Mercury--characteristics and history* by Newell Trask, USGS; *Venus--characteristics and history* by R. M. Goldstein, JPL/CIT; *Moon--characteristics and history* by John Wood, SAO/Harvard; *Mars--characteristics and history* by Michael Carr, USGS; *Origin of the terrestrial planets* by John Lewis, MIT; *Impact history of the terrestrial planets* by George Wetherill, Carnegie; *Thermal evolution of the terrestrial planets* by M. Nafi Toksoz, MIT; *Atmospheres of the terrestrial planets* by Michael McElroy, Harvard; and the *Seven ages of a planet* by William Kaula, UCLA. The introduction will be given by Noel Hinners, NASA/HQ and the summary and overview by Carl Sagan, Cornell. For more information about this session contact James W. Head, Department of Geological Sciences, Brown University, Providence, RI 02912, phone: 401/853-2526. Abstracts of the papers have been published in *EOS* 56, 388-389, (June 1975).

INTERNATIONAL COLLOQUIUM ON MERCURY

The California Institute of Technology and the Jet Propulsion Laboratory will host the first International Colloquium on Mercury to be held in Pasadena, CA, on June 25-27, 1975. The sponsoring organizations are the National Aeronautics and Space Administration, the International Astronomical Union, the American Astronomical Society, and the American Geophysical Union. The intent of the Colloquium is to focus broad scientific attention on the interpretations of Mariner 10 and pertinent Earth-based observations and to evaluate them with regard to theoretical speculations concerning the origin and evolution of Mercury and the terrestrial planets. Persons who wish to attend should contact the Executive Secretary for the Colloquium, Dr. James A. Dunne, Jet Propulsion Laboratory 180-401, 4800 Oak Grove Drive, Pasadena, CA 91103. (Phone: 213/354-6904)

CONFERENCE: ORIGINS OF MARE BASALTS: THEIR IMPLICATIONS FOR LUNAR EVOLUTION

A three day conference is scheduled to be held at the Lunar Science Institute, Houston, TX, November 17-19, 1975. A series of formal and informal discussions will include the selenographic distribution of mare basalts, their petrography and chemistry, experimental studies, implications for lunar evolution, and future research plans. Orbital and Sample geochemists, photogeologists, petrologists, and geophysicists will have the opportunity to present short papers. Attendance limit: 80. For further information, contact the Symposia Office, Lunar Science Institute, 3303 NASA Road 1, Houston, TX 77058. (Phone: 713/488-5200)

CALENDAR

- June 16-20, 1975 Fifty-Sixth Annual Meeting of the American Geophysical Union, Washington, D. C.
Contact: American Geophysical Union
 Suite 1000, lower level
 1909 K Street, N. W.
 Washington, D. C. 20036
 202/331-0370
- June 25-27 First International Colloquium on Mercury, Pasadena, CA
(For more information see page 3 this Bulletin)
- July 1 ABSTRACT DEADLINE FOR GEOLOGICAL SOCIETY OF AMERICA NATIONAL MEETING. Abstract forms available from:
 Abstracts Secretary
 Geological Society of America
 3300 Penrose Place
 Boulder, CO 80301
- July 28-Aug. 1 Thirty-Eighth Annual Meeting, The Meteoritical Society, Tours, France
Contact: P. Pellas
 Laboratoire de Mineralogie
 de Museum
 61 rue de Buffon
 75005 Paris, France
- Aug. 26-Sept. 6 XVI General Assembly of the International Union of Geodesy and Geophysics, Grenoble, France
Contact: American Geophysical Union
 1909 K Street N. W.
 Washington, D. C. 20006
(Details and Program published in EoS 56, March 1975)
- September 17-19 American Institute of Aeronautics and Astronautics Conference on the Exploration of the Outer Planets, St. Louis, MO
Contact: Noel Hinners
 Office of Space Science
 NASA Headquarters/Code S
 Washington, D. C. 20546
- October 20-22 Geological Society of American Annual Meeting, Salt Lake City, Utah
Contact: Mr. M. Dane Picard
 Department of Geological & Geophysical Sciences
 University of Utah
 Salt Lake City, UT 84112
 or
 Geological Society of America
 3300 Penrose Place
 Boulder, CO 80301
- November 17-19 Origins of Mare Basalts: Their implications for Lunar Evolution, Lunar Science Institute, Houston, TX
(For more information see page 3 this Bulletin)

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NEW NASA SPECIAL PUBLICATION

"Mars as Viewed by Mariner 9; a Pictorial Presentation by the Mariner 9 Television Team and the Planetology Program Principal Investigators." NASA SP-329. 1974. 225 pp. Available as Stock No. 3300-00522 from the Superintendent of Documents, U. S. Government Printing Office, Washington, D. C. 20402, \$8.15 prepaid.

"The pictures in this volume have been selected from the more than 7,000 images which Mariner 9 sent back to the Earth. They provide in their view of canyons and giant crevasses, craters and volcanoes, a new and exciting understanding of the red planet."

USGS EDITED VOICE TRANSCRIPTS OF APOLLO MISSIONS

The *Apollo 12* and *Apollo 14* voice transcripts pertaining to the geology of the landing sites by N. G. Bailey and G. E. Ulrich (USGS, Branch of Astrogeology, 601 East Cedar Avenue, Flagstaff, AZ 86001) are now available from National Technical Information Service (NTIS), Springfield, VA 22151. (Apollo 11 - \$3.75; Apollo 12 - \$6.25; other prices on request to NTIS). The Apollo 15 transcript is in press and it is anticipated that the entire six-volume set will be available by July 1. (See LSIB #5 for information about the Apollo 11 transcript).

These documents are an edited record of the conversations between the astronauts and Mission Control pertaining to the geology of the landing site. They contain discussions and observations documenting the lunar landscape, its geologic characteristics, the rocks and soils collected, and the lunar surface photographic record along with supplementary remarks essential to the continuity of events during the mission. The transcripts are derived from audio tapes and the NASA Technical Air-to-Ground Voice Transcriptions and include time of transcription, and photograph and sample numbers.

REVISIONS TO THE APOLLO SCIENTIFIC EXPERIMENTS HANDBOOK

The Apollo Scientific Experiments Data Handbook which describes in detail the orbital and surface geophysical experiments of the Apollo missions has been distributed. Revisions of sections of the Handbook will be published as up-dated information becomes available. If you have the Handbook and wish to receive the up-dates, please return page vii (page following the Foreword) to W. F. Eichelman, TN-3, NASA/Johnson Space Center, Houston, TX 77058. Some copies of the Handbook are still available and may be requested from Mr. Eichelman.

PROCEEDINGS OF THE APOLLO 11 AND 4TH LUNAR SCIENCE CONFERENCES DISCOUNTED

Through a special arrangement with the publisher, the LSI can provide copies of the Proceedings of the Apollo 11 and the 4th Lunar Science Conferences at discounted prices. The Apollo 11 Lunar Science Conference Proceedings are available for \$40.00 per set, or \$15.00 per volume; the Proceedings of the 4th Lunar Science Conference are \$65.00 per set or \$22.00 per volume. These prices apply only to orders from individuals and are not applicable to library or institution orders. Please send your prepaid orders to the Symposia Office, Lunar Science Institute.