LUNAR SCIENCE INFORMATION BULLETIN

NUMBER 14 December 1977

Universities Space Research Association
LUNAR SCIENCE INSTITUTE
3303 NASA Road #1
Houston, TX 77058
713/488-5200

IT'S CONFERENCE TIME IN HOUSTON

The NINTH LUNAR AND PLANETARY SCIENCE CONFERENCE will be held March 13-17, 1978 at the NASA/Johnson Space Center, Houston, Texas under the joint sponsorship of the Lunar Science Institute and the Johnson Space Center. Co-chairmen for the Conference, Thomas R. McGetchin (LSI) and Michael Duke (JSC) announce that abstracts should be addressed to the following broad, problem-oriented topics:

Constraints on structure, composition, and history of planetary interiors. Studies to determine physical, chemical and thermal models for present states and histories of planetary interiors.

Characteristics and movements of materials on lunar, planetary and asteroidal surfaces. Studies of compositions, chemical reactions, rates of overturn, lateral and vertical mixing, erosion rates, volatile transport at the surfaces of and within regoliths, and other studies of dynamic surface processes.

Characterization and evolution of volcanic landforms. Studies of the origin, fractionation, and emplacement history of volcanic rocks; the characterization and regional distribution of volcanic deposits and studies of volcanic morphologic features; and determinations of ages of volcanic features.

Characterization and evolution of planetary crusts. Studies of the nature, origin, fractionation, emplacement mechanisms, and time scales for development of planetary crusts.

Nature and effects of impact processes. Studies related to the mechanics of impact cratering, the characteristics of impact crater deposits, the processes of formation modification of impact craters and basins, and the physical and chemical effects of impact processes on materials.

Extraterrestrial materials as solar/interplanetary/interstellar probes. Studies of solar and cosmic ray interactions; interactions of cometary and/or meteoritic particles with planetary surfaces; the search for extrasolar system components.

Earliest history of the solar system. Studies of the physical state, chemical composition, and homogeneity of the solar nebula; physics, chemistry and chronology of condensation and accretion processes; early history of solid bodies.

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9th LUNAR AND PLANETARY CONFERENCE (continued)

The program is planned so that there will be no more than four concurrent sessions. One half-day session is planned for special talks to be selected by the Program Committee from submitted abstracts or by special invitation. Another half-day will be set aside for small, informal sessions. It is anticipated that special sessions will be organized on extraterrestrial resources and on geosciences in earth orbit. If anyone would like to structure a special session they should inform the Program Committee so that they can be announced to attendees. The final morning of the Conference will be devoted to the summaries of each of the seven problem-oriented topics.

Anyone desiring abstract forms should contact their Principal Investigator, or the Publications Office at the LSI. Abstract forms from previous years should not be used as they are causing technical difficulties in printing. Deadline for submission of abstracts is January 10, 1978. For more information on the Conference, contact the Symposia Office, LSI.

MR. JOHN R. SEVIER APPOINTED ASSOCIATE DIRECTOR AT THE LSI

Thomas R. McGetchin, Director of the LSI, has announced the appointment of Mr. Sevier to the post of Associate Director. Sevier joins the LSI from the Johnson Space Center where he was Chief of the Integration Division. During the Apollo program Sevier was associated with many of the lunar scientists through his role as Chairman of the Lunar Surface Transverse Planning Team and member of the Science Working Panel. In the development phase of the program, he was responsible for lunar mission planning, including the Apollo interfaces with the Lunar Orbiter and Surveyor Programs for landing site certification. Later, as head of the Operations Analysis Branch, he was closely involved in developing the requirements for the lunar exploration phase of the program, including landing site selection.

Following Apollo, Sevier was Deputy Program Scientist on Skylab, responsible for the scheduling and integration of the various experiments into the day-by-day flight plans.

We anticipate that Sevier's experience working the interface between science and engineering will prove as useful and effective to the community in the future as it was in the past.

RESULTS FROM MARE CRISIUM: LUNA 24 CONFERENCE

A three-day conference on Luna 24 results was held at the Lunar Science Institute 1-3 December 1977. The conference began with a regional overview, including geologic and spectral studies of the Luna 24 site. The program moved to the nature and evolution of the regolith which has some interesting and unusual characteristics. Next, petrologists discussed the nature of the Very Low Titanium (VLT) mare basalts and gabbros and presented models for the evolutionary history of these rocks. The highland components, although volumetrically significant, holds important clues to the terra materials surrounding the Crisium Basin, and were discussed in detail. The last portion of the program emphasized the temporal and chemical nature of the Luna 24 samples. During the wrap-up session on Saturday morning, the discussion focused on the question "How has our thinking about mare basalt petrogenesis changed as a result of the Luna 24 mission?" Summaries integrated the Luna 24 results into a series of reviews.

Papers Presented to the Conference on Luna 24 have been published. They are available by sending $1.00 (continental U.S.) or $6.00 (foreign) to the Administrative Office, Attn: Luna 24 Abstracts, at the Lunar Science Institute.

FIRST ANNOUNCEMENT - CONFERENCE ON LUNAR MAPPING

On the occasion of the centenary of the publication of the first detailed lunar map by J. Schmidt, directory of the Observatory of Athens at that time, a Symposium will be held at Lagonissi near Athens, Greece from May 25 to May 27, 1978. The Symposium, jointly sponsored by COSPAR and the IAU will cover the progress on lunar mapping with emphasis on modern techniques. For further information apply to: Prof. M. Moutsoulas, Astronomy Department, University of Athens, Athens 621 GREECE.

AGU SPRING MEETING PLANS - CALL FOR PAPERS

The 1978 Spring Meeting of the American Geophysical Union will be held at the Deauville and Carillon hotels in Miami Beach, Florida April 17-21. Contributed papers are solicited in all areas of interest to AGU. Send abstracts to Meetings, AGU, 1909 K Street NW, Washington, DC 20006 by January 19. Complete details and instructions for submission of abstracts is published in E⊕S: TRANSACTIONS OF THE AGU 58, 1044-1049 (Nov. 1977).

LSI SUMMER INTERN PROGRAM

In the spring of 1977, the Lunar Science Institute offered students nationwide an opportunity to work closely with scientists active in lunar and planetary research. Out of about 75 highly qualified applicants, ten undergraduate or newly graduated students were chosen to take part in the Summer Intern Program. Twelve scientists from the Lunar Science Institute and the Johnson Space Center directed the interns in a variety of projects using such equipment as a mass spectrograph, petrographic microscope, scanning electron microscope, transmission electron microscope, electron microprobe, gas-mixing furnace, ion-etcher, atomic absorption spectrometer, and computers. The Data Center facilities at the Institute were widely used. Students were involved in experimental as well as theoretical research.

The participants, their advisors, and their projects were:

Karen J. Franczyk Senior, Univ. of Illinois	Everett K. Gibson, JSC	Analysis of volatile elements and compounds in basalts
Ann Cochran Senior, Bryn Mawr College	William C. Phinney, JSC Jeffery L. Warner, JSC	Petrography of lunar plutonic rocks and of rocks from the Duluth complex
Donald E. Singleton Junior, Univ. of Connecticut	Anthony J. Irving, LSI Russell B. Merrill, LSI	Experimental determination of trace element partition coefficients for Ilmenite/liquid and Armalcolite/liquid by β-track methods
David B. Freeman Senior, Guilford College	David S. McKay, JSC Uel S. Clanton, JSC	Regolith Studies
E. Lanier Poland Junior, Yale University	W.W. Mendell, JSC	Thermal mapping of impact melts
Erik Aaboe Senior, Yale University	Douglas P. Blanchard, JSC	Atomic absorption microanalysis
Peter I. Nabelek Senior, Univ. of Tennessee	Gary Lofgren, JSC	Study of dynamic crystallization processes basalts
Frederick R. Schult Sophomore, MIT	John Minear, JSC	Erosion by lava flows
Mary Ann Ferrante Senior, Lehigh Univ.	Peter H. Schultz, LSI	Distribution of mare and nonmare surface elevations
John Harvey Senior, Texas A&M	Thomas R. McGetchin, LSI Leonard Srnka, LSI	Computer modelling of hydrodynamic processes associated with motions of magmas in planetary interiors

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Arriving in early June, the students quickly involved themselves with their specific projects and with community and social activities. Weekly seminar sessions at both JSC and the LSI provided each intern with an opportunity to share his or her research progress and to be exposed to the areas of research of their fellow interns. Thursday afternoon volleyball sessions and excursions to Houston provided release from the concentrated weekly research studies.

The majority of projects resulted in publishable results; six publications are in progress with interns as sole or contributing authors. Two interns will deliver oral presentations at topical conferences.

Because of the success of this year's exercise, plans for a similar program for 1978 are being made. Students in their sophomore-junior-senior years should contact the Lunar Science Institute, Summer Intern Program, during early February 1978 for further information.

LUNAR THIN-SECTION PACKAGES AVAILABLE FOR EDUCATOR'S USE

This educational package consisting of a 96-page text by Jeffrey L. Warner plus 11 polished thin-sections of lunar rocks and soil are available on loan to any educational institution offering graduate or undergraduate work in the geosciences. Any faculty member may apply, giving name and address of institution, phone number, department involved, approximate number of students, uses planned, and date desired (at least 2 months' notice is needed). Loan time is usually 1 month, including time in the mail. About 25 sets are available; about 125 colleges and universities in the U.S. have borrowed them.

The rock samples consist of plutonic rocks, volcanic rocks, and polymict breccias; the soil consists of fragments of rocks and glasses derived from remote sources, agglomerates of fine particles with dark glass formed by rapid heating by small meteorite impacts on regolith material, and various glasses resulting in the fusion of rock material.

Interested teachers should write to the Lunar Sample Curator, Lyndon B. Johnson Space Center, Code: SL, Houston, TX 77058. Phone: 713/483-3274.

PUBLICATION NEWS

"Skylab, Our First Space Station" (NASA SP-400) is the first in a series of books to be issued by the Scientific and Technical Information Office in recognition of the historic US Skylab mission. The abundantly illustrated, 180-page book provides a general introduction and overview of the Skylab mission, its problems and its triumphs. Later volumes will deal with detailed results of the scientific experiments and other facets of the Skylab mission, in which numerous manned space records were set. The first volume is for sale for $7.00 by the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402. Stock number is 033-000-00670-5.

USGS Open-File Reports are available at last. Effective October 1, 1977, the U.S. Geological Survey will fill direct-mail orders for USGS open-file reports. Requests should be directed to: Open-File Services Section, Branch of Distribution, U.S. Geological Survey, Box 25425, Federal Center, Denver, CO 80225 (Telephone: 303/234-5888) The service was initiated to furnish microfiche or paper-duplicate copies of open-file reports from a single, centrally-located facility; to provide faster order-filling service to the public; and to increase the availability of earth-science information to the scientific community. Price information will be published in the monthly *New Publications of the Geological Survey*. Reports must be ordered by series, number, and complete title. Checks or money orders, in exact amount for open-file reports ordered, should be made payable to the U.S. Geological Survey. Prepayment is required.

"Moon, Mars and Meteorites" is a fine new booklet issued by the Institute of Geological Sciences, London. This well-illustrated booklet with text by Peter Adams, gives a short summary of current findings from the Apollo and Mars missions. The booklet is available from Her Majesty's Stationery Office, for 70p net. It is obtainable in the U.S. from Pendragon House Inc., 200 University Avenue, Pal Alto, California 94301 for $2.80.

"Impact and Explosion Cratering: Planetary and Terrestrial Implications. The proceedings of the Symposium on Planetary Cratering Mechanics, held at Flagstaff, Arizona September 13-17, 1976, edited by D.J. Roddy and R.O. Pepin and compiled by the Lunar Science Institute is available from Pergamon Press. This 700 pp. book is the first to present a unified view of the parallel research and current trends in both the impact and explosion research communities. The price of this volume is $125.00, ISBN 0-08-022050-9.

CALENDAR

3-7 January	Protostars and Planets Conference, University of Arizona, Tucson. Contact: M.S. Matthews, Lunar Laboratory University of Arizona, Tucson, AZ 85721 Telephone 602/884-2902 or 1222
10 January	DEADLINE - Abstracts for 9th Lunar and Planetary Science Conference. Send to Publications Office LSI (see page 1 this bulletin)
19 January	DEADLINE - Abstracts for AGU Spring Meeting due. See page 3 this bulletin
12-17 February	American Association for the Advancement of Science, 1978 Annual Meeting, Washington, D.C. Contact: AAAS, 1515 Massachusetts Avenue NW, Washington, DC 20005 For more details see: Science, November 4, 1977
6-10 March	Earth Observation from Space and Management of Planetary Resources, Toulouse, France. Contact: OST, B.P. 4130, 31030 Toulouse CEDEX France For more details see: COSPAR Information Bulletin No. 79, August 1977, p. 18-21
13-17 March	9TH LUNAR AND PLANETARY SCIENCE CONFERENCE Houston, Texas See page 1 this Bulletin
17 April	DEADLINE - Manuscripts for the Proceedings of the 9th L&PSC
17-21 April	AGU Spring Meeting, Miami Beach, Florida Contact: AGU, 1909 K Street, N.W., Washington, DC 20006 (See page 3 this bulletin)
25-27 May	Conference on Lunar Mapping, Athens, Greece Contact: Prof. M. Moutsoulas, Dept. of Astronomy, University of Athens, Athens, 621 Greece. See page 3 this bulletin

CURRENT LUNAR ARTICLES

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

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