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*Universities Space Research Association*
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## ADMINISTRATIVE CHANGE AT LSI

Dr. Robert O. Pepin, Director of the LSI, is returning to the University of Minnesota in 1977 to resume his duties as Professor of Physics. He will continue as Director of the Institute until June 1977.

Dr. Alex Dessler, President of Universities Space Research Association, has announced the appointment of Dr. Thomas R. McGetchin to the position of Director of the LSI effective in June 1977. Dr. McGetchin is leader of the Geoscience Group at the Los Alamos Scientific Laboratory, Los Alamos, New Mexico. He received his Ph.D. from the California Institute of Technology in 1968 and has a diverse background in volcanology, geophysics, field geology, petrology, and computer modeling.

Dr. McGetchin served as a member of the Apollo Lunar Geology Experiment Team, the organizing committees for the IUGG International Symposium on the Upper Mantle and the International Symposium on Geothermometry and Geobarometry, NASA's Group for Lunar Exploration Planning, and a NAS Summer Study on Science in the Post-Apollo Period (Woods Hole, 1968). Presently he is a member of the International Geodynamics Committee Working Group on Platform Areas of the World, the U.S. Geodynamics Committee on the Colorado Plateau and Basin-Range Provinces, the executive committee of the Lunar Science Review Panel, the ERDA Hot-Dry-Rock Assessment Panel, and is a Principal Investigator in NASA's Planetology Program. He is on the organizing committees for the Second International Conference on Kimberlites (1977) and the World Rift Conference (1978).

Dr. McGetchin's personal research activities are focused on field, experimental and theoretical investigations of volcanic and igneous processes, especially volcanic eruption phenomenology. He has published on a variety of related topics including kimberlite (diamond) pipes, the composition and thermal state of planetary interiors, impact cratering, and the mineralogy and petrology of the earth's lower crust and upper mantle.

## LUNA 24 SAMPLES INSPECTED BY U. S. LUNAR SCIENTISTS

Three U. S. lunar scientists, Dr. Michael B. Duke, NASA/Johnson Space Center; Dr. G. J. Wasserburg, California Institute of Technology; and Dr. Charles H. Simonds, Lunar Science Institute, visited Moscow on December 13-15 to examine lunar materials returned by the Luna 24 mission last August and to arrange for the transmission of samples for study by U.S. investigators. Luna 24 returned a 2 meter long, 8 millimeter diameter core from southeastern Mare Crisium, which has not been sampled previously by U.S. or Soviet missions. The site may contain material from nearby highlands and material from the ray crater Giordano Bruno some 1200 km away.

A Soviet-American space cooperation agreement provides for the exchange of samples from each of the lunar returns. The U.S. has provided 3 grams of sample from each of the six Apollo missions; the Russians have reciprocated with 3 grams of Luna 16 and 2 grams of Luna 20 samples, plus two small fragments of Luna 20 rock provided separately. Considering the fact that the Russian return has been 100 and 50 grams, respectively, for Luna 16 and 20, their cooperation in this exchange has been exceptional.

It is hoped that the samples will be transmitted to Houston to be available for distribution in the Spring of 1977.

## NASA PERSONNEL CHANGES

Effective 1 October 1976, Dr. Michael B. Duke has been named Acting Chief of the Lunar and Planetary Sciences Division, Science and Applications Directorate at the NASA/Johnson Space Center. He replaces Dr. Larry A. Haskin who has accepted a position at Washington University in St. Louis, Missouri. Duke has served as Curator at JSC since July 1970 and will continue those responsibilities for the processing, storage, and care of lunar samples collected during the Apollo flights.

At NASA Headquarters, Mr. Robert S. Kraemer, director of the Lunar and Planetary program office, on November 15 became special assistant to Dr. Robert S. Cooper, director of the Goddard Space Flight Center. Kraemer will concentrate his activities on applications programs. Mr. Thomas A. Young, Viking mission director and deputy Viking project manager, replaced Kraemer on December 6.

Some Viking project changes have also occurred. G. Calvin Boome will be Viking project manager; Neil A. Holmberg is head of the Viking project office at Langley and deputy project manager for Viking Langley Research Center operations; and W. F. Cuddihy is Viking chief engineer at the Jet Propulsion Laboratory.

PLANS FOR NUMBER 8

The Eighth Lunar Science Conference under the joint sponsorship of the Johnson Space Center and the Lunar Science Institute will be held March 14-18, 1977 at the Johnson Space Center.

The Eighth Lunar Science Conference is being organized along lines similar to the Seventh Conference, but with increasing emphasis on comparisons between the moon and other planets. The Conference will consider the following broad, problem-oriented topics:

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

2. 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.

3. Characterization and evolution of maria and other volcanic landforms. Studies of the origin, fractionation, and emplacement history of mare volcanism; the characterization and regional distribution of volcanic types and studies of volcanic morphologic features; and determinations of relative ages of volcanic features.

4. Characterization and evolution of planetary crusts. Studies of the nature, origin, fractionation, emplacement mechanisms, and time scales for development of planetary crusts. Breccia studies relating clasts to the characterization and evolution of lunar and asteroidal surfaces.

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

6. 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 extra-solar system components.

7. 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.

Scientists in all lunar and planetary programs are invited to submit abstracts and to participate in the Eighth Lunar Science Conference. Deadline for submission of abstracts to the conference is 10 January 1977.

For more information about the Conference or Abstracts contact Ms. Carolyn Watkins at the LSI.

## STUDY PROJECT BEGINS AT LSI

An LSI study project entitled "Basaltic Volcanism in the Terrestrial Planets: A Pilot Program in Comparative Planetology," has been funded by NASA and is now underway. The project is focused on the study of one particular planetary process, basaltic volcanism, on all the terrestrial planets. Some 70 scientists, experts in their fields and spanning a broad range of scientific disciplines, are involved in the project. They are organized into ten Study Teams, each addressing one particular aspect of the basalt problem. Over the 34 month duration of the study each Team will hold a series of small workshop meetings to summarize the state of knowledge in the area represented by that Team, to identify gaps in the data base and understanding within that particular area, and to identify key questions that can be explored by Team members during the lifetime of the project. All Teams will meet together at approximately yearly intervals to review and synthesize the work of the individual Teams. The goals of the study are publications, including a comprehensive book as the final product, that express the overview of basaltic volcanism, the unifying concepts, and the new insights arrived at by the participants.

The membership of the Basaltic Volcanism Study Project has met together for the First Inter-Team Meeting of the project, held at the LSI on October 23-26. The sixty attendees met for three days in combinations of individual Team meetings and in joint sessions with other Teams working on closely related scientific aspects of the study. The last day consisted of a plenary session at which Team Leaders presented views of the present and planned activities of their Teams in the context of the overall goals of the project. Following the plenary session, the Team Leaders and Steering Committee met to discuss the activities of the project during the next year of the study.

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*IN MEMORIAM*

DONALD HOWARD MENZEL

April 11, 1901 - December 14, 1976

## LUNAR UTILIZATION ABSTRACTS PUBLISHED

LUNAR UTILIZATION; abstracts of papers presented at a special session of the 7th Annual Lunar Science Conference, 16 March 1976, is now available from the Lunar Science Institute. This special session on the utilization of lunar materials and expertise for large scale operations in space was organized by Dr. David R. Criswell (LSI). The 188-page volume, edited by Dr. Criswell can be obtained by sending a check for $1.00 U.S., $6.00 foreign to cover mailing costs to Ms. Carolyn Watkins at the LSI.

## "EVOLUTION OF THE SOLAR SYSTEM" PUBLISHED BY NASA

A new scientific study dealing with the origin and evolution of the solar system written by Dr. Hannes Alfven and Dr. Gustaf Arrhenius has been published by the NASA Scientific and Technical Information Office. This comprehensive, 599-page volume traces the early history of the solar system, its evolution and describes its present-day characteristics. The book's basic thesis is that the complicated events leading to the present structure of the solar system can be understood only by an integrated chemical-physical approach. The authors state that their purpose is "to make the physics understandable to chemists and the chemistry understandable to physicists." The volume is aimed primarily at upper level physical science majors, graduates and working scientists in the Earth or space sciences who desire a broader perspective of their fields. However, specialists and others interested in the solar system's early history and present-day characteristics will find the volume provides new and challenging insights into the subject.

Evolution of the Solar System, published as NASA SP-345 is available from the Superintendent of Documents, Government Printing Office, Washington, DC 20402 for $11.00. (GPO stock number is 003-000-06613-6.)

## CONFERENCE ON COMPARISONS OF MERCURY AND THE MOON

A two-and-a-half day conference devoted to the Comparisons between Mercury and the Moon was held at the Lunar Science Institute 15-17 November 1976. Seventy-five attendees representing 35 institutions discussed topics including crater morphology, processes of basin formation, flux histories, surface chemistry, regolith processes, plains formation tectonics, interior structure and planetary magnetism. Special sessions were held to discuss rationales for potential future space flights to the Moon and Mercury, and to view the film, "The Search for the Tunguska Meteor," a 1965 Russian film with English soundtrack. A volume of one-page abstracts submitted by conference contributors was distributed at the Meeting. A copy of this volume may be obtained by writing Ms. Carolyn Watkins at the LSI and enclosing $1.00 (U.S.) and $6.00 (foreign) to cover mailing costs. A formal proceedings of the conference is being prepared by the Publications Office. It is to be published in PHYSICS OF THE EARTH AND PLANETARY INTERIORS, Elsevier, by Fall 1977.

## SPACE MANUFACTURING FACILITIES CONFERENCE

The Third Princeton/AIAA Conference on Space Manufacturing Facilities will be held at Princeton University, New Jersey, 9-12 May 1977. Some of the general session topics include: material resources, rocketry and trajectories, chemical processing, industrial operations in space, human factors, and social system interactions. The meeting will be limited to less than 200 participants on a first-apply, first-accepted basis. Inquiries should be addressed to: Conference Office, Princeton University, 5 Ivy Lane, Princeton, New Jersey 08540. Phone: 609/425-3371.

## METEORITICAL SOCIETY - 40th ANNUAL MEETING

The annual meeting of the Meteoritical Society will be held at the University of Cambridge, England 25-29 July 1977. The program will include scientific sessions, a field trip to the Lake District prior to the meeting, and a variety of entertainments and excursions. The deadline for Abstracts is 13 May 1977. If you wish to receive information about this meeting please contact Ed Scott, Department of Mineralogy and Petrology, Downing Place, Cambridge CB2 3EW, England.

## SYMPOSIUM "THE SEARCH FOR EXTRATERRESTRIAL INTELLIGENCE (SETI)

A special symposium on "The Search for Extraterrestrial Intelligence (SETI) sponsored by the Forum for the Advancement of Students in Science and Technology (FASST) and the student programs division of the American Institute of Aeronautics and Astronautics (AIAA), will be held at the Ames Research Center, February 24-25, 1977. The program directed primarily toward college and university students, welcomes participation by interested professionals and faculty. A wide cross section of disciplines will be involved, i.e., anthropology, theology, life science, engineering, sociology, physics, and astronomy. For further information, contact: FASST/SETI, 1785 Massachusetts Avenue, N.W., Washington, DC 20036. Phone: 202/483-2900 or the Ames Center 415/965-5543.

# CALENDAR

## 1977

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| 10 January | Eighth Lunar Science Conference Abstracts DEADLINE<br>See Page 3 this Bulletin |
| 19-22 January | Division for Planetary Science, American Astronomical Society, 8th Annual Meeting, Honolulu, Hawaii<br>CONTACT: Dr. Carl Pilcher<br>Institute for Astronomy<br>2680 Woodlawn Drive<br>Honolulu, Hawaii 96822 |
| 1 February | Manuscript DEADLINE for proceedings of the conference, "Comparisons of Mercury and the Moon"<br>See Page 5 this Bulletin |
| 24-25 February | FASST/AIAA Symposium, "Search for Extraterrestrial Intelligence"<br>Ames Research Center<br>See Page 6 this Bulletin |
| *14-18 March* | EIGHTH LUNAR SCIENCE CONFERENCE<br>Johnson Space Center<br>Houston, Texas<br>See Page 3 this Bulletin |
| 18 April | DEADLINE for manuscripts for Eighth Lunar Science Conference |
| 9-12 May | Third Princeton/AIAA Conference on Space Manufacturing Facilities<br>Princeton University<br>See Page 6 this Bulletin |
| 30 May-3 June | American Geophysical Union Spring Meeting<br>Washington, DC<br>CONTACT: AGU<br>1909 K Street, N.W.<br>Washington, DC 20036 |
| 25-29 July | Meteoritical Society Annual Meeting<br>University of Cambridge, England<br>See Page 6 this Bulletin |

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