UNIVERSITIES SPACE RESEARCH ASSOCIATION

THE LUNAR SCIENCE INSTITUTE

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October 13, 1976

CONFERENCE ON

COMPARISONS OF MERCURY AND THE MOON

Dear Colleague:

A three-day conference on the Comparisons of Mercury and the Moon will be held at the Lunar Science Institute November 15-17, 1976. Logistical details for the meeting are enclosed. Please fill out and return the pre-registration form, together with your $30.00 registration fee, as soon as possible. Pre-registration will greatly facilitate preparations for the conference. The fee will be waived for all students active in a degree-granting program.

CONFERENCE OUTLINE - Previous conferences concerned with Mercury dealt primarily with first inspections by principal investigators and subsequent rebuttals by selected researchers. This conference represents the logical third phase: scientific results from studies by a larger scientific community. More than this, the workshop atmosphere will permit both formal and informal discussions centered on the comparison of two similarly evolved planetary bodies. Discussion will key on fundamental questions: How do crater formation and modification differ on Mercury and the Moon? Differences in gravitational attraction are clearly illustrated by different impact crater morphologies on the two planets, but the full implications of these differences for surface processes are just beginning to be understood. What is the effect and manner of major basin formation? Comparison of mercurian and lunar basins may provide new data for recognizing both remnants of the transient crater cavity and the effect such impacts have on crustal history. What evidence exists for mercurian volcanism? Although both surface morphology and philosophy have been applied to the interpretation of the mercurian smooth plains, the problem of origin remains unclear. How and why is the tectonic history of Mercury different from that of the Moon? Both planets exhibit wrinkle ridges and scarps that cross highland terrains, but mercurian global tectonics curiously seem more evolved. What differences in surface chemistry and internal structure exist between the planets? Surface composition represents a fundamental link in understanding the geochemical evolution of two planets with large differences in bulk density. This seems to be a particularly appropriate time to review such differences and similarities as

Viking transmits data from Mars, the next order of complexity among the terrestrial planets.

The conference will have six sessions, mornings and afternoons on Monday and Tuesday, and a morning session only on Wednesday. On Monday evening a special session devoted to the scientific aspects of possible future unmanned missions to Mercury and the Moon will be followed by a cocktail party at the Institute. The topics to be discussed are as follows:

Monday morning - Crater Morphology
Monday Afternoon - Basin Formation and Flux Histories
Monday Evening - Future Missions and Cocktail Party
Tuesday Morning - Surface Chemistry and Regolith Processes
Tuesday Afternoon - Plains Formation and Tectonics
Wednesday Morning - Interior structure and Planetary Magnetism

In order to promote discussion during the meeting, some sessions will begin with a 20 minute keynote address to summarize the session topic. All other speakers will limit remarks to ten minutes. Each session will have only five to eight presentations, and thus ample time will be available for discussion of observations and interpretations, with limited use of slides or viewgraphs as appropriate. A detailed outline of the program will be mailed prior to the meeting.

REGISTRATION - Participants may register at the Institute Sunday evening between 5:00 p.m. and 8:00 p.m., or Monday morning from 8:00 a.m. to 8:30 a.m., prior to the first session.

SEATING - Eighty chairs will be available on a first come, first seated basis in the Berkner Room. Additional seating will be available in the Hess Room, with the proceedings of the sessions monitored via closed-circuit television.

HOTELS - A list of local hotels and their various rates is enclosed. Reservations will be left to each individual. Information on travel and a map of the local area are also enclosed.

AUDIO VISUAL AIDS - Projection of lantern slides, viewgraphs, 16mm movies, and dual screen presentation of 35mm slides will be available. Please prepare your slides as instructed on the enclosed form, and turn them in to the projectionist prior to the beginning of the session in which you are scheduled to speak.

POST-CONFERENCE PROCEEDINGS - Proceedings of this conference will be published as a dedicated volume of *Icarus* in the Summer or Fall of 1977. It is expected that all who contribute formal presentations to the conference will contribute to the proceedings volume as well. Complete instructions will be supplied to potential contributors at the conference, or may be obtained from the Publications Office, Lunar Science Institute. Deadline for receipt of completed manuscripts is *JANUARY 17, 1977.*

MESSAGES - Messages will be taken by the LSI switchboard during sessions and posted on a bulletin board outside the Berkner Room.

(713)488-5200; FTS: 525-3436

CONFERENCE PROGRAMS - A schedule of the program will be sent at a later date to all registered attendees. Programs also will be available at Conference registration.

CONFERENCE ABSTRACTS - *Papers Presented to the Conference on Comparisons of Mercury and the Moon* will be mailed to all speakers prior to the conference. Copies will be distributed to all attendees during registration. For those who may wish to have copies of the abstracts but do not plan to attend the conference, abstracts may be obtained by sending $1.00 (Continental U. S.) or $6.00 (foreign) to the Administrative Office, Attn: Moon/Mercury Abstracts, here at the Institute.

Please feel free to contact any member of the Program Committee, or Ms. Pam Jones for additional information. We look forward to seeing you in November.

Sincerely yours,

Peter H. Schultz
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Committee

Charles H. Simonds
for the Organizing
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