



## Preface

# Prelude to The Moon: Science, Technology, Utilization and Human Exploration

### Abstract

A COSPAR 2-day symposium was dedicated to “The Moon: Science, Technology, Utilization and Human Exploration” at the COSPAR assembly in Paris, on 22–23 July 2004, sponsored by Planetary (B0.3), Life Sciences (F0.1) and Planetary Protection (PPP3) commissions, and ILEWG International Lunar Exploration Working Group. This was very timely to present the first results from SMART-1, the status of upcoming missions, and the interdisciplinary, technical, programmatic aspects of future international lunar exploration.

### Programme

This event provided an update on lunar results and missions, compared to previous COSPAR or ILEWG symposia (see <http://sci.esa.int/ilewg/>). It included solicited and contributed presentations, in eight topical sub-sessions:

- I. New science of the Moon: a keystone for planetary research
- II. First results from the SMART-1 mission
- III. Upcoming international lunar missions
- IV. Robotic landers and rovers on the Moon
- V. Future exploration technologies, and resources utilisation
- VI. Astrobiology, living and working on the Moon and Mars
- VII. Precursor studies
- VIII. International roadmap

The organizing committee included:

B.H. Foing (Main Scientific Organiser, ESA & ILEWG), C. Pieters (Deputy Organiser, US & ILEWG), A. Basilevsky (Russia), N. Bhandari (India), M. Duke (USA), P. Ehrenfreund (NL), G. Horneck (Germany), H. Mizutani (Japan), J.D. Rummel (USA), and J.P. Swings (Belgium). The symposium was co-sponsored by ILEWG,

ESA, NASA, JAXA, ISRO, IAU. Representations from these organizations also contributed to the round table discussions with the audience.

The programme can be found on the COSPAR website (<http://www.cosparhq.org/>), and online abstracts for 61 oral papers (invited, contributed and short presentations): [http://www.cosis.net/members/meetings/sessions/oral\\_programme.php?p\\_id=64&s\\_id=1128](http://www.cosis.net/members/meetings/sessions/oral_programme.php?p_id=64&s_id=1128) and for 18 poster papers: [http://www.cosis.net/members/meetings/sessions/poster\\_programme.php?p\\_id=64&s\\_id=1128](http://www.cosis.net/members/meetings/sessions/poster_programme.php?p_id=64&s_id=1128).

### Organisation of the proceedings

This set of papers has been edited by P. Ehrenfreund and B.H. Foing. The articles selected after submission and refereeing have been regrouped in three parts: I – Current lunar missions; II – Lunar science results and questions and III – Future exploration. We thank the participants from many disciplines, the session chairs, and the sponsors for their support and contributions. In particular we thank the following referees (at least two per article) for their critical review of the papers: O. Angerer, B. Bills, B. Bussey, J. Chapront, C. d’Uston, P. Ehrenfreund, B. Foing, O. Gasnault, J. Head, III, M. Hirahara, A. Khan, G. Kminek, D. Lawrence, H. Matsuoka, G. Michael, A. Owens, D. Pullan, L. Richter, J.D. Rummel, S. Sasaki, L.A. Taylor, R. Tripathi, M. Vasile and several individuals who wished to remain anonymous.

*Guest Editors*

P. Ehrenfreund

*Astrobiology Laboratory, Leiden Institute of Chemistry,  
P.O. Box 9502, NL-2300 RA Leiden, The Netherlands  
E-mail address: [pascale@strw.leidenuniv.nl](mailto:pascale@strw.leidenuniv.nl)*

B.H. Foing

Chief Scientist

*ESA ESTEC/SCI-SR, Postbus 299, NL-2200 AG  
Noordwijk, The Netherlands*