

* Designates speaker
[] Abstract number

PRELIMINARY PROGRAM
NEAR-EARTH ASTEROID SAMPLE RETURN WORKSHOP
December 11–12, 2000
Lunar and Planetary Institute, Houston, Texas

To view an abstract, use the hand tool of your Reader to click on the title of the presentation.

Monday Morning, December 11, 2000

8:00 Continental Breakfast and Registration

THE SCIENTIFIC CASE FOR SAMPLE RETURN

Chairs: D. W. G. Sears
C. M. Pieters

- 9:00 INVITED REVIEW Sears D. W. G.* Pieters C. M. Brownlee D. E. Lindstrom M. M. Britt D.
The Case for Near-Earth Asteroid Sample Return [#8025]
- 9:30 Scott E. R. D.* Bell J. F. Taylor G. J. Keil K. Goldstein J. I.
Near Earth Asteroid Sample Return: How, When and Why? [#8019]
- 9:45 Rietmeijer F. J. M.* Nuth III J. A.
The Scientific Case for Sample Return from a Primitive Near-Earth Asteroid [#8005]
- 10:00 Nishiizumi K.* Herzog G. F. Reedy R. C.
Measurements of Cosmogenic Nuclides in and Their Significance for Samples Returned from Asteroids [#8001]
- 10:15 Glavin D. P.* Ehrenfreund P. Botta O. Cooper G. Bada J. L.
Amino Acid Chemistry as a Link Between Small Solar System Bodies and Carbonaceous Chondrites [#8003]
- 10:30 Franchi I. A.* Baker L. Wright I. P. Pillinger C. T.
High Precision Light Element Characterisation of Asteroidal Material [#8018]
- 10:45 Pieters C. M.*
Choosing for Maximum Value: The Aladdin Experience [#8030]
- 11:00 Fujiwara A.* Mukai T. Abe M. Yano H. Kawaguchi J. Uesugi K.
MUSES-C: Mission Scenario and Science [#8012]
- 11:15 Brownlee D. E.*
Stardust: Lessons Learned for NEA Sample Return
- 11:30 Lindstrom M. M.*
The Importance of Education, Public Outreach, and Risk Communication in Asteroid and Comet Sample Return Missions [#8028]
- 11:45 LUNCH

Monday Afternoon, December 11, 2000

**THE NATURE OF ASTEROID SURFACES AND IMPLICATIONS
FOR SAMPLE RETURN**

**Chairs: D. E. Brownlee
A. F. Cheng**

- 2:00 INVITED REVIEW Cheng A. F.*
Surface Properties of 433 Eros: Results from NEAR [#8029]
- 2:30 Chapman C. R.* NEAR MSI-NIS Team
Implications from NEAR-Shoemaker Imaging of Eros for Small-scale Structure and Surface Sampling [#8024]
- 2:45 Britt D. T.*
Surface Processes and Sample Return: What Can We Learn About Asteroid Regoliths? [#8007]
- 3:00 Kochan H. W.* Feibig W. Kretschmer M. Möhlmann D. Arnold W. Gebhardt W. Licht R.
Investigation of Planetary Surfaces by Acoustic Sounding [#8008]
- 3:15 Economou T. E.*
Sample Characterization on Asteroid Sample Return Missions by the Alpha X-Ray Spectrometer [#8017]
- 3:30 Whiteley R. J.* Tholen D. J. Bell J. F. Hergenrother C. W.
Sample Return from Small Asteroids: Mission Impossible? [#8026]
- 3:45 Kochan H.* Feibig W. Möhlmann D. Horneck G. Gerasimov M. V. Speth B. Köhler U.
The Planetary Simulation Facility of DLR — Design, Operational Performance, Perspectives [#8011]
- 4:00 Hoffman J. H.* Hedgecock J. Nienaber T. Cooper B. Allen C. Ming D.
Regolith Evolved Gas Analyzer for Asteroid Mineralogy Studies [#8016]
- 5:00 – 6:30 RECEPTION

Tuesday Morning, December 12, 2000

**SAMPLE COLLECTION DEVICES, SAMPLE CONTAINMENT, AND
PLANETARY PROTECTION ISSUES**

**Chairs: M. Lindstrom
B. H. Wilcox**

- 9:00 INVITED REVIEW Clark B. C.*
Sample Containment Options for Planetary Protection [#8032]
- 9:30 INVITED REVIEW Race M. S.*
Planning for NEA Sample Return: Planetary Protection Controls and Non-Scientific Factors [#8038]
- 10:00 Sears D. W. G.*
Sample Collection Devices for Near-Earth Asteroid Sample Return [#8036]
- 10:15 Yano H.* Fujiwara A. Hasegawa S. Abe M. Higuchi K. Kawaguchi J. Tsuchiya K. Okano K.
Yoshida K.
MUSES-C's Impact Sampling Device for Small Asteroid Surfaces [#8021]
- 10:30 Kochan H.* Hamacher H. Richter L. Hirschmann L. Assanelli S. Nadalini R. Pinna S. Re E.
Nista A. Brighenti A. Coste P. Ylikorpi T. Gromov V. V. Matrossov S. Mitskevitch A. V.
Yudkin E. N.
Development of Small Sampling Systems for the Investigation of Planetary Surfaces [#8010]
- 10:45 Nygren W. D.*
Rapid Remote Sample Collection Mechanism for Near-Earth Asteroid Sample Return [#8031]
- 11:00 Rafeek S. Gorevan S.*
NEA Touch-and-Go Surface Sampler (TGSS) [#8033]
- 11:15 Rafeek S.* Kong K. Y. Shadick S. Porter C. C.
NEA Multi-Chamber Sample Return Container with Hermetic Sealing [#8034]
- 11:30 Garry J. R. C.*
Generalised Cutting Tool Temperatures for a Spacecraft Payload [#8022]
- 11:45 Allen C. C.* Lindstrom M. M.
Near-Earth Asteroid Sample Curation [#8027]
- 12:00 LUNCH

Tuesday Afternoon, December 12, 2000

SPACECRAFT MANEUVERS IN THE VICINITY OF SMALL ASTEROIDS

Chair: D. K. Yeomans

- 2:00 INVITED REVIEW Williams B. G.* Miller J. K. Antreasian P. G. Bordi J. J. Carranza E. Chesley S. R. Helfrich C. E. Owen W. M. Wang T. C.
Orbit Operations at 433 Eros: Navigation for the NEAR Shoemaker Mission [#8037]
- 2:30 INVITED REVIEW Scheeres D. J.*
Trajectories in Close Proximity to Asteroids [#8009]

**IMPLICATIONS OF NEA SAMPLE RETURN FOR RESOURCE UTILIZATION,
IMPACT HAZARD MITIGATION, AND HUMAN EXPLORATION
AND DEVELOPMENT OF SPACE**

**Chairs: B. C. Clark
D. T. Britt**

- 3:00 INVITED REVIEW Lewis J. S.*
Utilization of Resources from NEA [#8035]
- 3:30 INVITED REVIEW Speaker to be determined
Implications of NEA Sample Return for Human Exploration and Development of Space
- 4:00 Dahlstrom E. L.*
Initiating Exponential Growth in NEA Exploration with NEA Science Missions [#8023]

OPEN DISCUSSION

**Chairs: J. Preble
L. Gefert**

- 5:30 CLOSE OF WORKSHOP

PRINT-ONLY PRESENTATIONS

- Ipatov S. I. Mardon A. A.
Delivery of Trans-Neptunian Objects to the Earth [#8004]
- Vid'machenko A. P. Steklov A. F. Primak N. V.
Space Technospheres [#8006]
- Mardon A. A. Greenspon J. A.
Near Earth Asteroid Sample Return and Threat Mitigation Within a Comprehensive Global Defense System [#8013]