“Dedicated to Maximizing Planetary Sample Science While Protecting the Integrity of NASA Collected Extraterrestrial Materials”

Report to the Planetary Science Subcommittee
December 21, 2011

A one-kilogram (2.2 lb) Apollo 16 breccia rock formed from meteorite impact. Shiny, black, impact-generated glass was splashed on the side.

Cosmic dust grain 11 micrometers in diameter.
Last meeting of the CAPTEM held September 8-9, 2011
Next meeting to be held in March 24-25, 2012

December 23, 2011
Sample Allocations Since January 2011

• Lunar Allocations:
  • 32 requests: 28 approved, total 366 samples

• Stardust Allocations:
  • 9 requests: 9 approved, total 32 samples

• Genesis Allocations:
  • Flown samples: 2 requests: 2 approved, total 6 samples
  • Reference materials: 2 requests: 2 approved, total 4 samples

• Cosmic Dust Allocations
  • 1 request: 1 approved, total 10 samples
Current Issues

• Hayabusa allocation subcommittee established (S. Messenger, Chair); draft of sample allocation policy completed.

• Report on Mars E2E-iSAG (CAPTEM inputs via S. Symes and C. Allen; See MEPAG report).

• Development of long-term curation plan (in collaboration with JSC Curation Office).

• Planning of other CAPTEM sponsored workshops:
  • The Mantle of Mars: Insights from Theory, Geophysics, High-Pressure Studies, and Meteorites (Sept. 10-12, 2012)
  • Curation and handling of cold samples (TBD)
Hayabusa allocation subcommittee

• JAXA’s Hayabusa spacecraft was launched in May 2003, rendezvous with asteroid Itokawa in Sept 2005, sample collection, return to Earth in June 2010.

• As per the NASA-JAXA MOU, a random subset of the Hayabusa samples (10%) will be transferred to NASA (within 12 months of return as per agreement).
• **Hayabusa allocation subcommittee**: Chair, Scott Messenger (NASA JSC); other members: Conel Alexander (DTM), Rhian Jones (UNM), David Joswiak (UW), Tomoki Nakamura (Tohoku University), Andrew Westphal (UC Berkeley).

• Draft of the curation, handling and allocation policies document has been completed and approved by CAPTEM.
New Initiatives

• Subset of Hayabusa samples to be transferred to NASA JSC early in 2012; first Hayabusa samples expected to be allocated through CAPTEM by spring of next year!

• Initiation of review of JSC Curation and Long-term Curation Plan; report to be completed by Summer 2012.


• JSC Curation Office – in consultation with CAPTEM, the Meteorite Working Group (MWG), and the NASA Office of General Counsel – will be revising and instituting new procedures governing samples loaned to researchers (to be implemented during 2012).
Science Highlights
(Planetary Materials/Cosmochemistry)

Return of the Hayabusa spacecraft with “micro” samples of asteroid Itokawa in June 2010! As per the NASA-JAXA MOU, a representative 10% of Hayabusa samples will be transferred to NASA, to be allocated by CAPTEM.
False-colored backscattered electron image of a small rocky particle, 150 micrometers in size, recovered from the surface of near-Earth asteroid 25143 Itokawa by the Japanese spacecraft Hayabusa. Mineralogy and chemistry of the particle indicate that the asteroid consists of very primitive solar system material and has had a complex formation history.

First results after preliminary examination by the science team (including US members M. Zolensky and S. Sandford) were published in 6 reports in the August 26, 2011, issue of Science (Vol 333).
Other recent research highlights:

1) New data indicate formation of carbonate minerals in martian meteorite ALH 84001 from cool water near the surface of Mars


2) New insights into dynamics and transport of material in the solar nebula