

Space Imagery Center University of Arizona Tucson

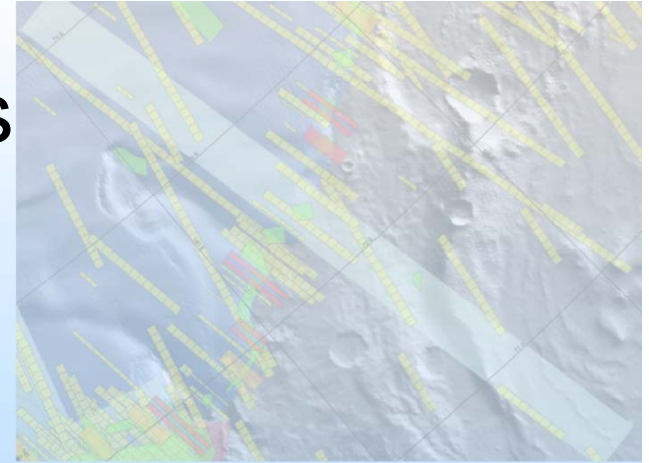
Director:
Shane Byrne

Data Manager:
Maria Schuchardt

- Archiving and Services
- Mission and Research Support
- Education and public Outreach

- Established in 1977, one of the original RPIF
- Library is 1200 sq. ft (with extra storage in basement)
- Personnel: Director, Shane Byrne
Data Manager, Maria Schuchardt
Student Assistant, Elizabeth Moreno
Student Programmer, Eli Vinal
- Prints/Negatives/CDS of the following missions (~400,000)
Lunar Orbiter, Surveyor, Ranger, Apollo, Gemini,
Mariner 6 - 10, Pioneer 10 & 11, Voyager, Viking,
Pathfinder, Mars Global Surveyor, Magellan
- Maps: 1,900, not including duplicates
- Equipment: 2 Macs, 2 PC, flatbed scanner, film scanner,
document scanner, large format scanner, color printer, access to
large format printer, large format scanner
- Special Software: ArcGIS

- Arc GIS software for researchers

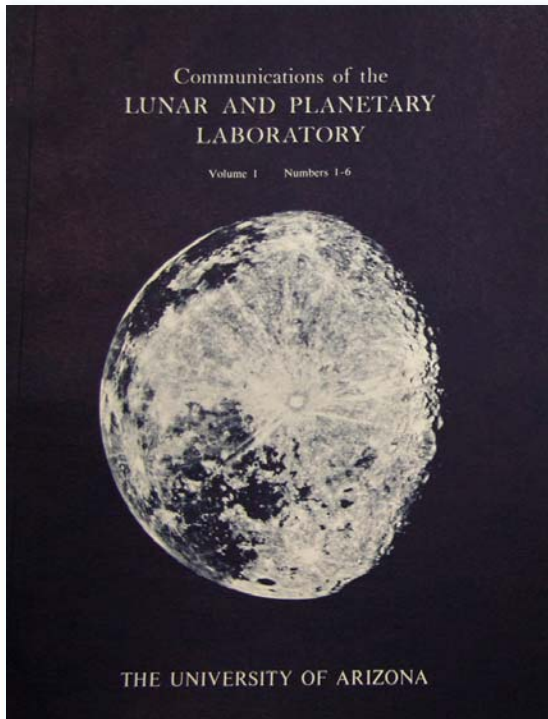


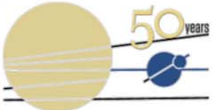
- Earth based images of planets



- LPL Communications Journals





 DEPARTMENT OF PLANETARY SCIENCES * LUNAR AND PLANETARY LABORATORY
Space Imagery Center

Home Services Collection Education History About Us Lunar & Planetary Laboratory

COMMUNICATIONS OF LUNAR AND PLANETARY LABORATORY

These Communications contain the shorter publications and reports by the staff of the Lunar and Planetary Laboratory. They may be either original contributions, reprints of articles published in professional journals, preliminary reports, or announcements. Tabular material, too bulky or specialized for regular journals is included if future use of such material appears to warrant it. The Communications are issued as separate numbers, but they are pagged and indexed by volumes.

Gerald P. Kuiper

Each article is in PDF format.

Volume 1: [1962-1963](#)
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Volume 8: [1970](#)
Volume 9: [1969, 1972-1973](#)
Volume 10: [1973](#)

Author/Title Search

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Other Resources

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[Lunar and Planetary Institute, Houston TX: Exploring the Moon](#)
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[The Apollo Program \(1963 - 1972\)](#)

Space Imagery Center
Lunar and Planetary Laboratory
1629 E. University Blvd.
Tucson AZ 85721
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Authors: [Turner, R. J.](#); [Kuiper, G. P.](#); [Wood, C. A.](#); [Hartmann, W. K.](#)
Publication: Communications of the Lunar and Planetary Laboratory, Volume 8, Part 4, p.203-234
Publication Date: 00/1970
Origin: [ARI](#)
Bibliographic Code: [1970CoLPL...8..203T](#)

Abstract

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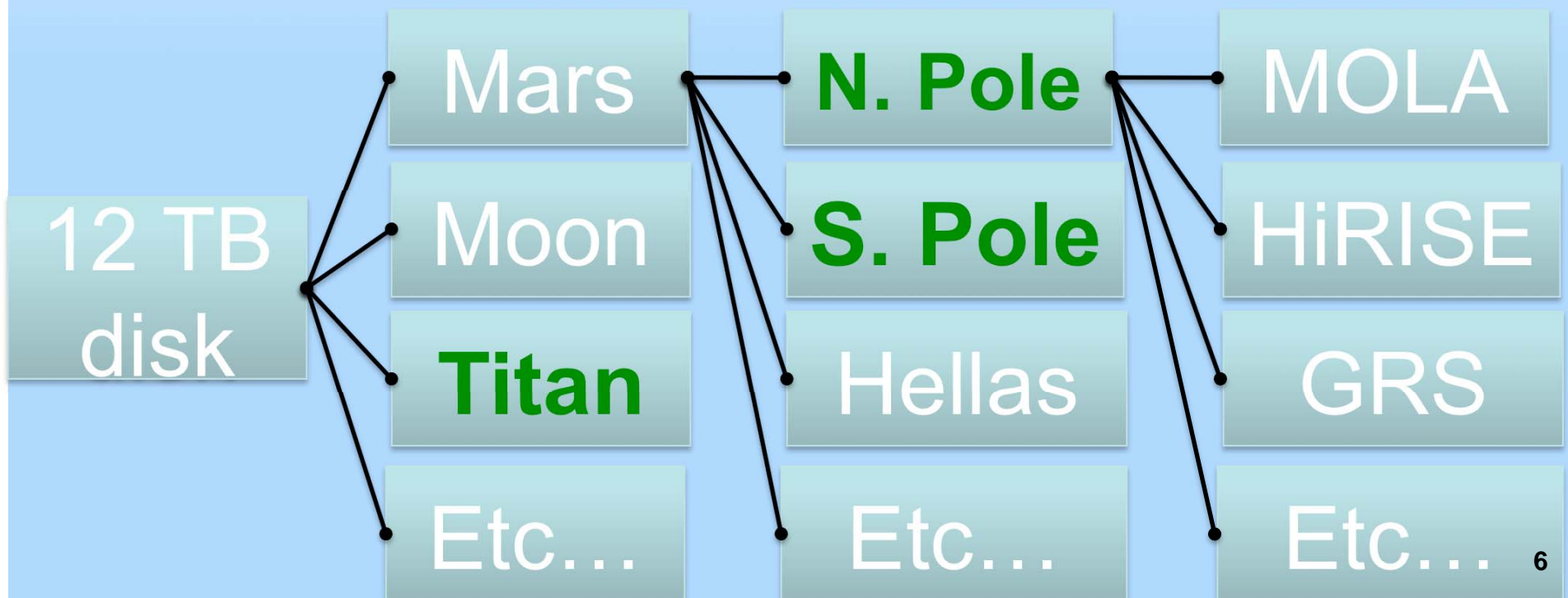
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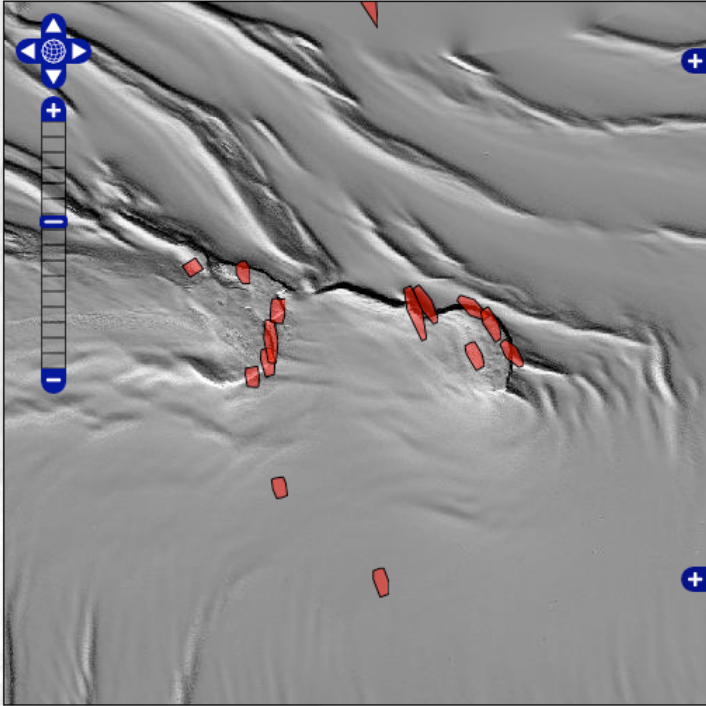
- Now searchable on NASA ADS as well as our webpage
- <http://adsabs.harvard.edu/>
- These guys are very enthusiastic about including more material

- Space Imagery Center assists many researchers with digital data analysis through use of GIS.
- Such investments of work have typically not been preserved (except as publications)
- We're employing a Space Grant student (Eli Vinal) to set up an archive of digital GIS-ready products.
- Sample GIS project files can ship with the data



- Space Imagery Center now runs Geoserver to serve up geographic information
- Focus on things that PDS does not provide
- Initial example of HiRISE stereo pair locator

Choose the map you want: North Pole



Mouse over map for position
HIRISE_STEREO_OGRAPHIC

| FID | RELATION | STER_SEP | ILLUM_SEP | AREA | TITLE | SUGGESTER | THEME | IMAGE_1 |
|-----------------------------|----------|----------|-----------|---------|--|-----------|---------------|---------------------|
| hirise_stereo_ographic.1186 | 4512 | 15.528 | 16.824 | 126.043 | Stratigraphic relationships west of Tenuis Cavus | Byrne | Polar Geology | PSP_009166_2650 PSP |

Development map interface at http://www.lpl.arizona.edu/~shane/hirise_stereo/

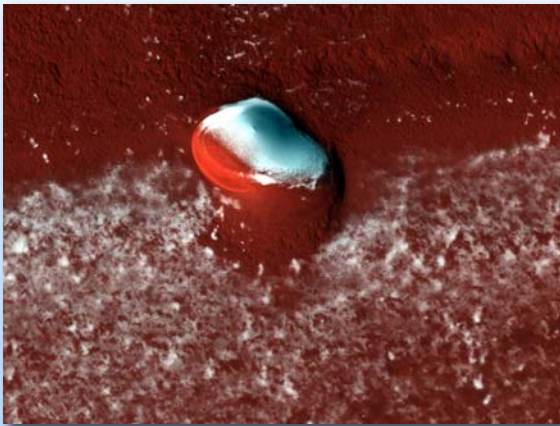
Dismantling the darkroom – Done.
A sad but necessary recoupment of much needed space



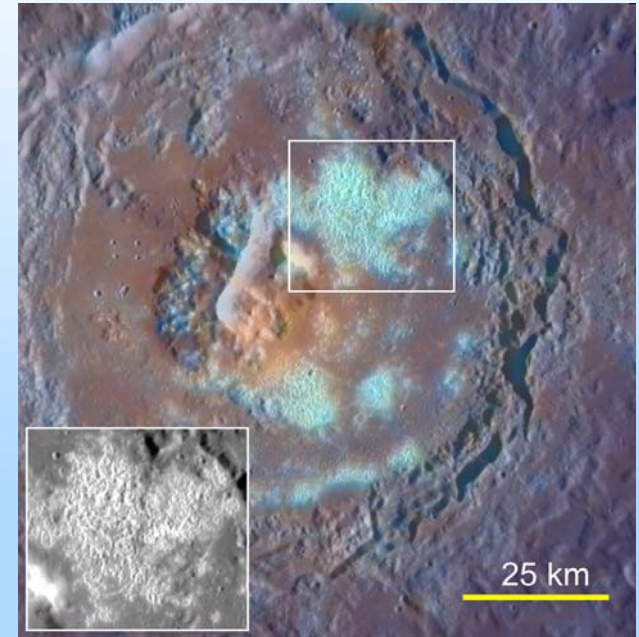
- Archiving and Services
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Space

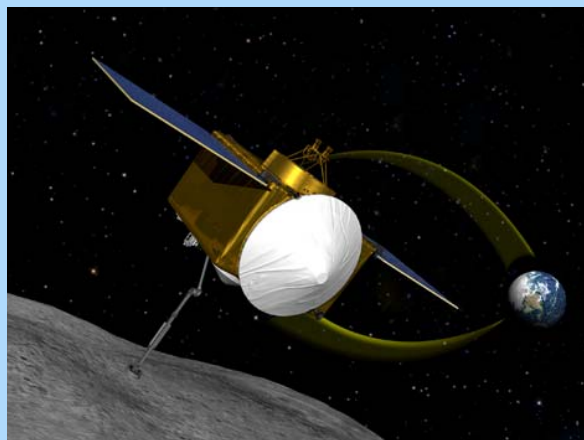
Present Missions



Crater on North Polar Layered Deposits
HiRISE



Tyagaraja Impact Crater
MESSENGER

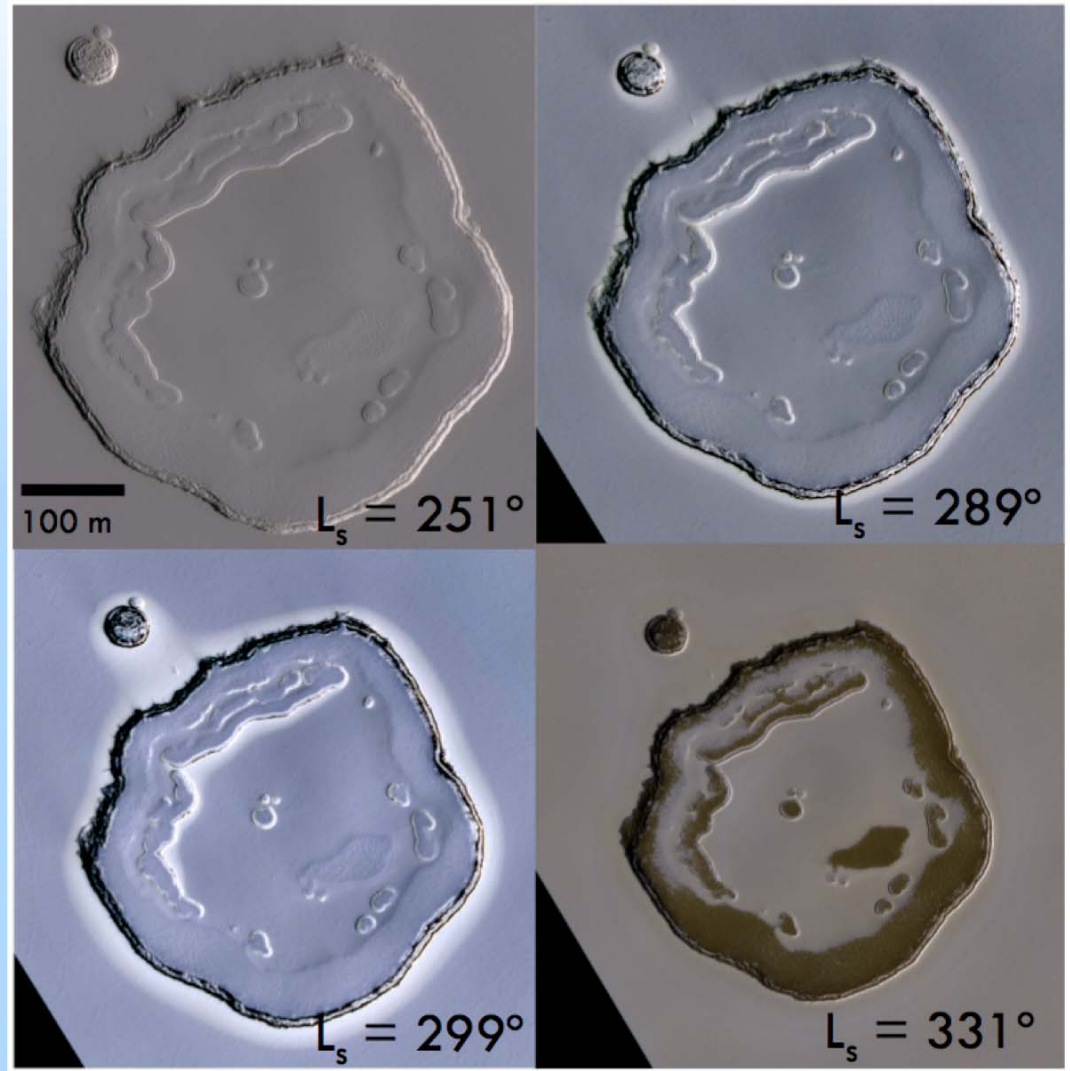
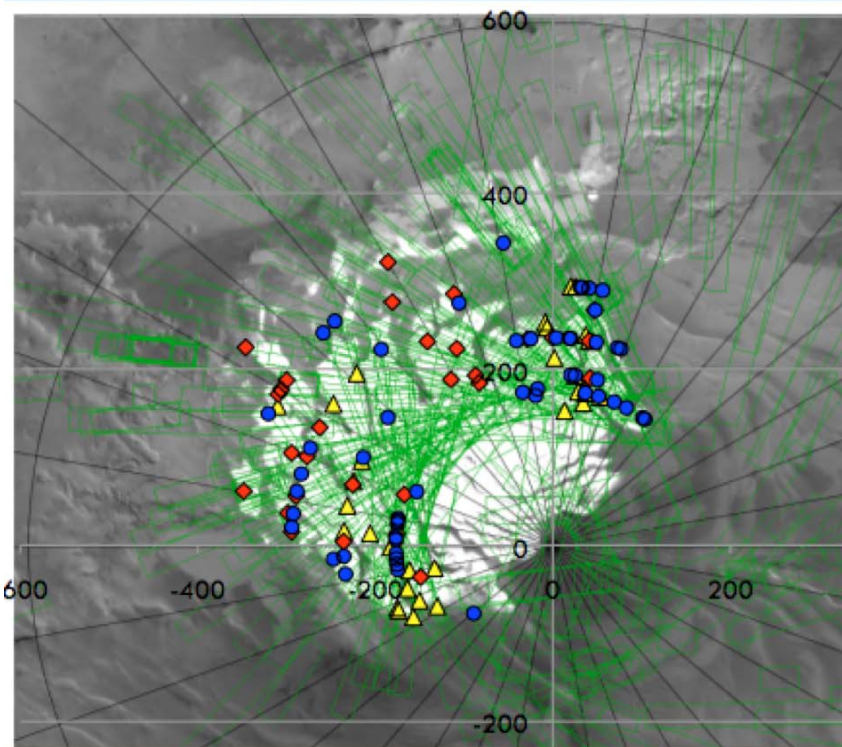


OSIRIS-Rex Spacecraft

- HiRISE
 - Shane Byrne
- MESSENGER
 - Robert Strom
- HiSCI
- OSIRIS-REx

• Martian polar halos

- Occur in only 1/3 MRO years
 - Dust-storm effect?
- Search of older MOC data underway



- Comparing Titan's lake shorelines to Earth's
 - Using SRTM and Cassini RADAR data and GIS
 - Sharma et al. - Under Review at GRL

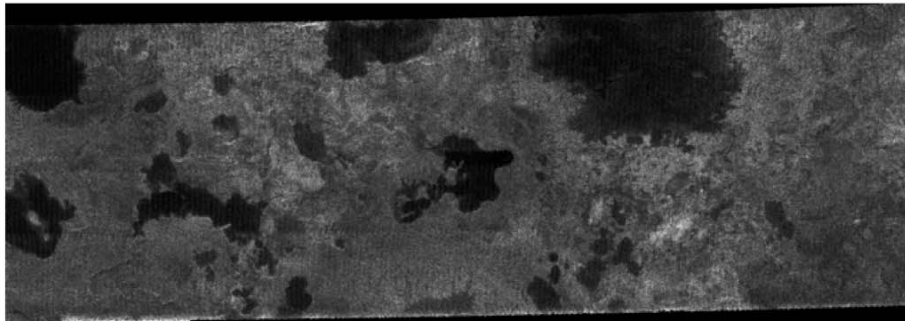
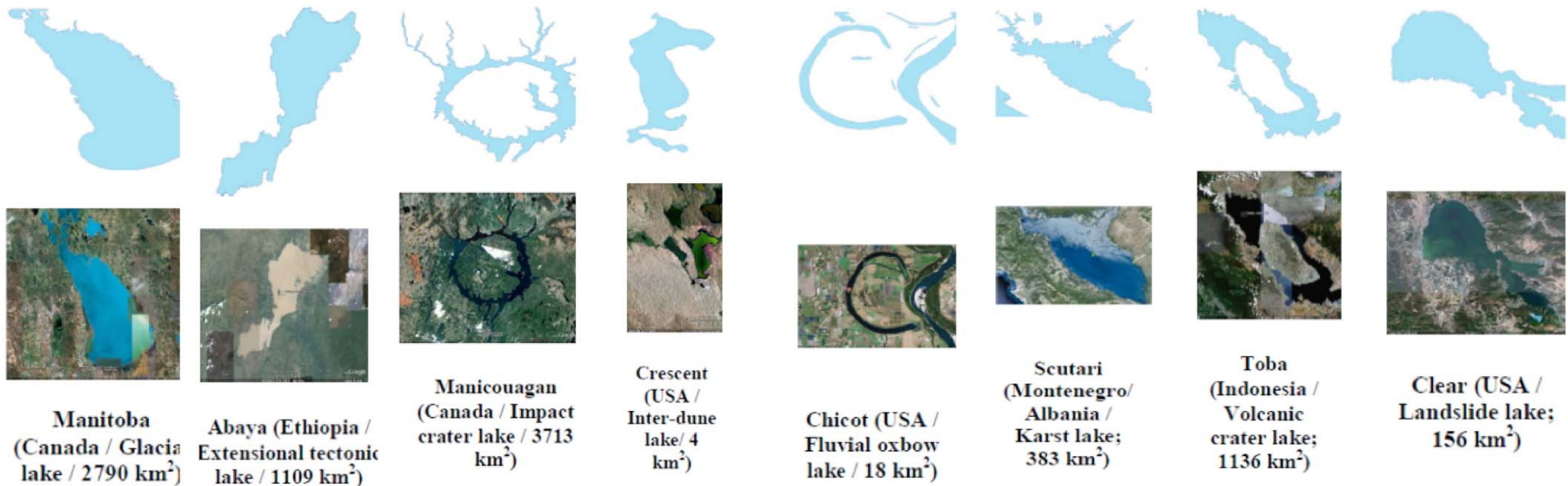
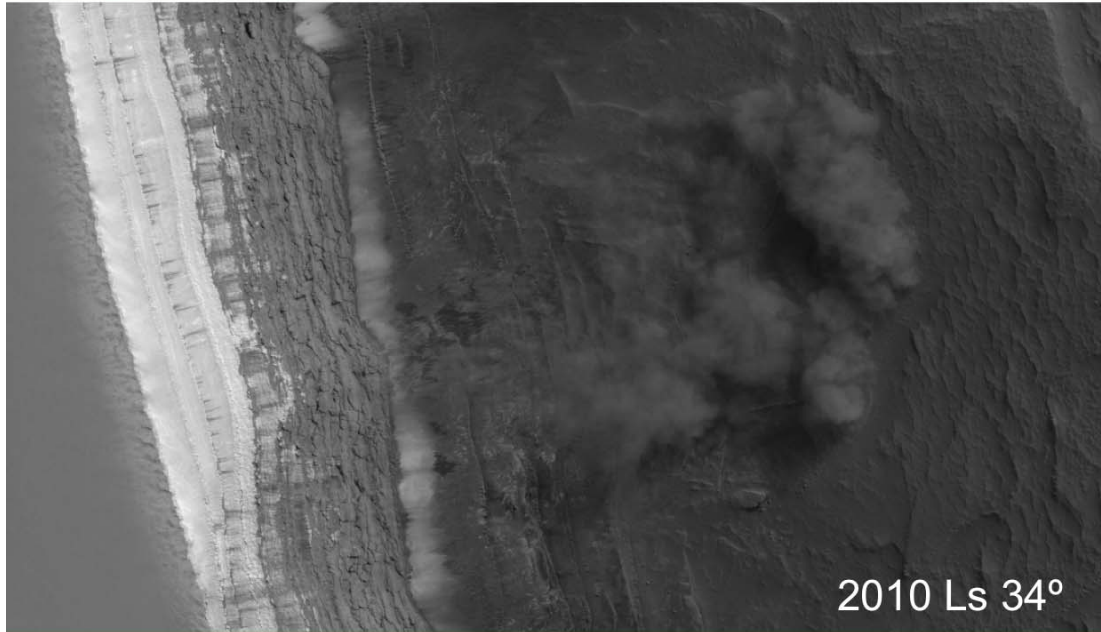


Figure 1. (Left Panel) Radar-dark hydrocarbon Lakes in Cassini SAR swath (T16 flyby, 80°N, 92°W, 420 km across). (Lower Panels) Terrestrial lakes formed by different processes (SRTM Water Body Data (SWBD) and Google Earth imagery).



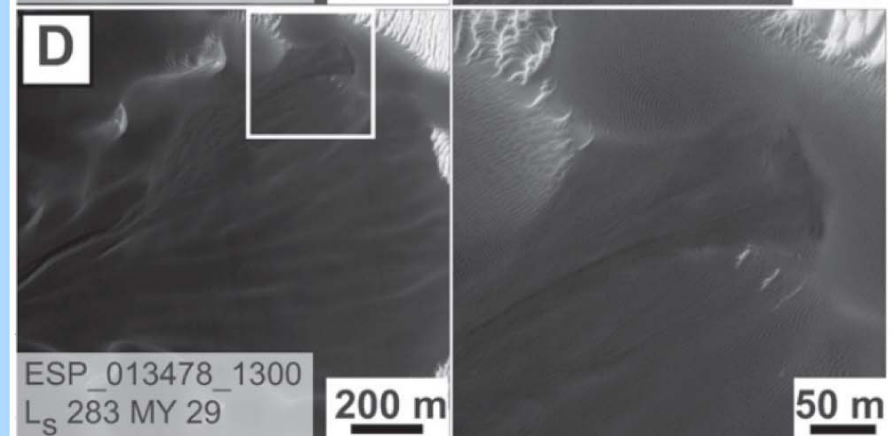
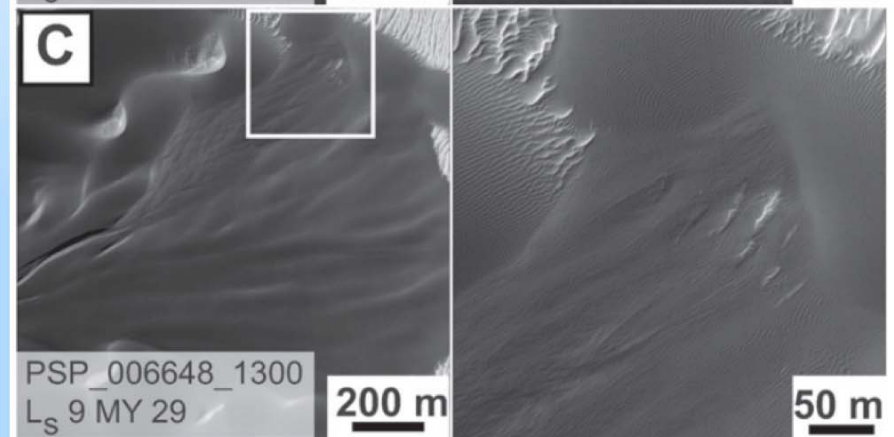
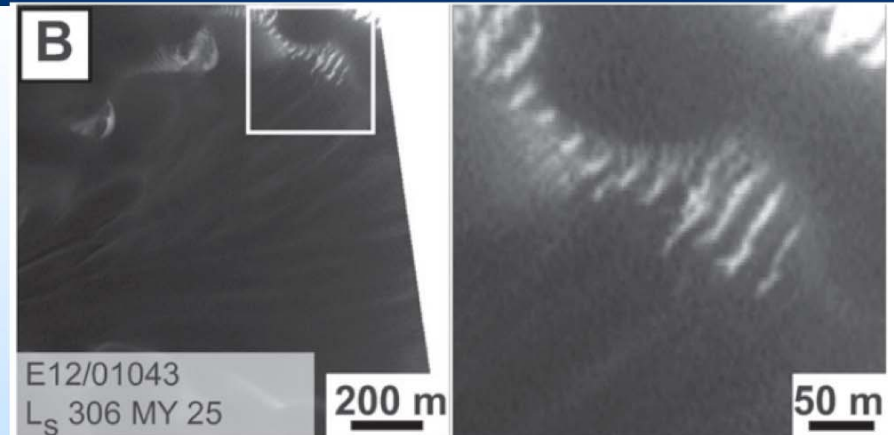
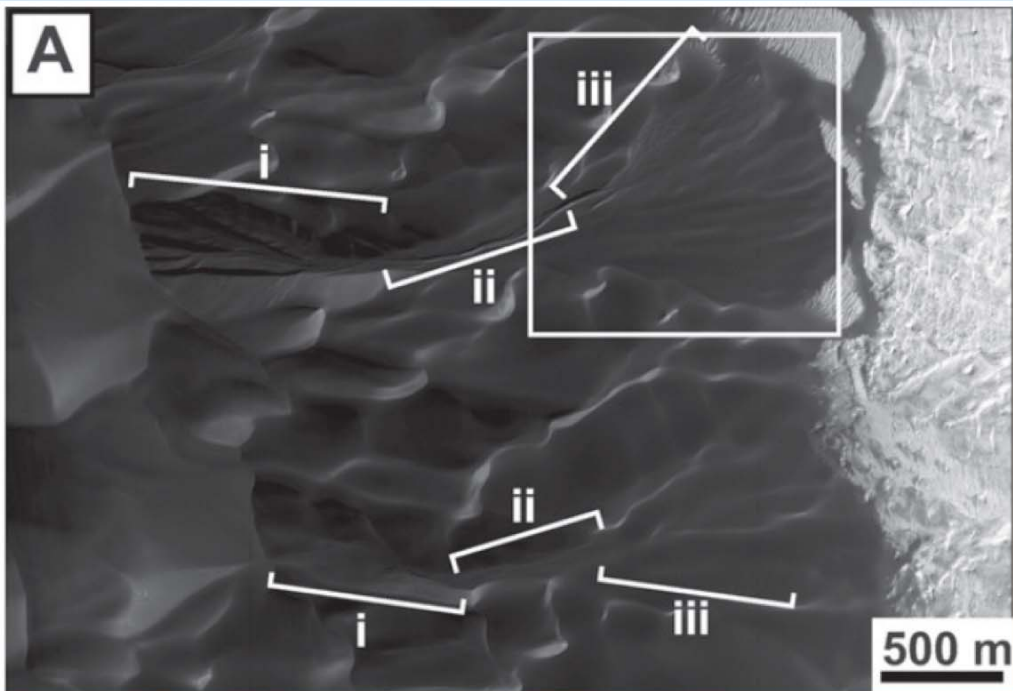


- North polar Spring avalanches

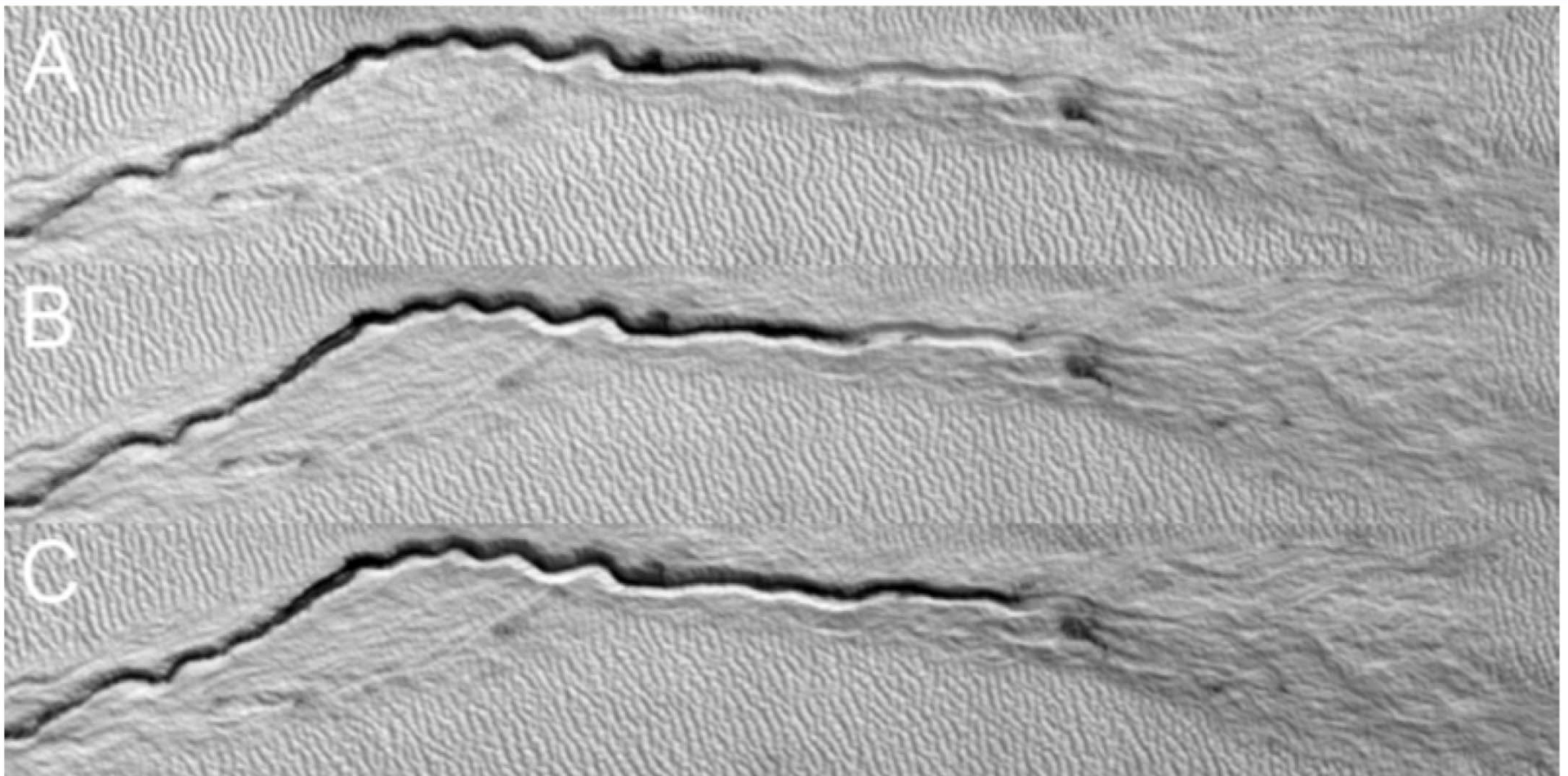
- Seen in 3/3 years
- Ls range limited to 8 - 48
- Search of previous data by P. Becerra
- No hits unfortunately

- Martian Gully activity

- Diniega et al. (Geology, 2010)



- Searches for activity continue
 - Dundas & Diniega, In preparation.



- Archiving and Services
- Mission and Research Support
- Education and public Outreach

- NATS 101, Planet Earth: Evolution of a Habitable World
- NATS 102, The Universe and Humanity: Origin and Destiny
- PTYS 206, Golden Age of Exploration
- PTYS 214, Astrobiology: A Planetary Perspective
- PTYS 416, Asteroids, Comets and Kuiper Belt Objects
- PTYS 554, Planetary Surfaces
- PTYS 594, Planetary Geology Fieldtrip (Spring/Fall 2011)



4 to 5 classes per semester
Total students: 2,500 a year

PTYS 594, Planetary Geology Fieldtrip Shoreline Processes, Spring 2011



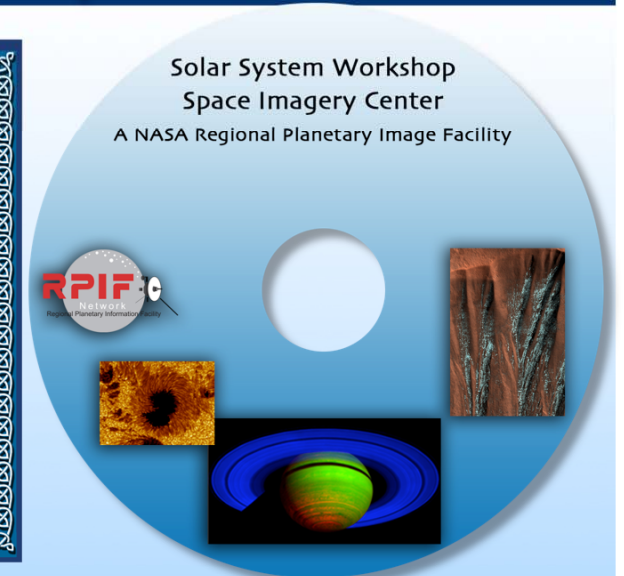
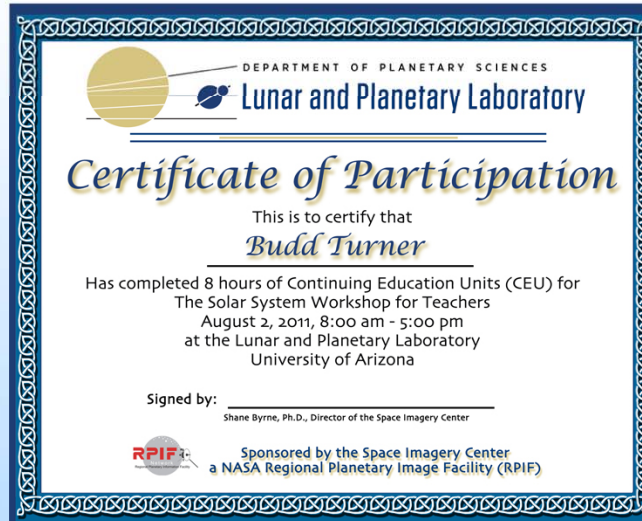
PTYS 594, Planetary Geology Fieldtrip
Canyon de Chelly, Petrified Forest, Fall 2011



- Talks from people at LPL on various planetary topics
- Continuing Credit hours provided
- DVD of talks and other material to take back to the classroom

Future:

- Two per year?
- A two-day event?
- Question for Mike: Can we charge a deposit or fee to ensure attendance?

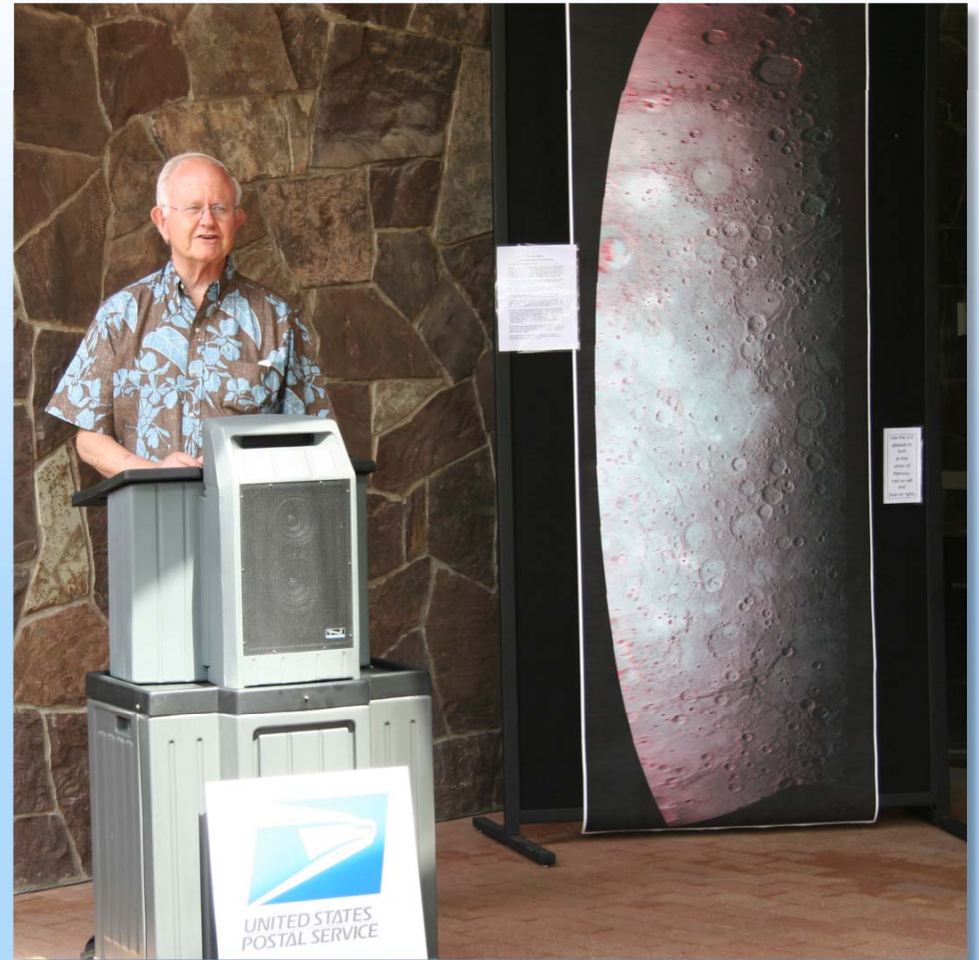


Tour of the testing lab for the Thermal and Evolved Gas Analyzer (TEGA)



Meteorite Lab

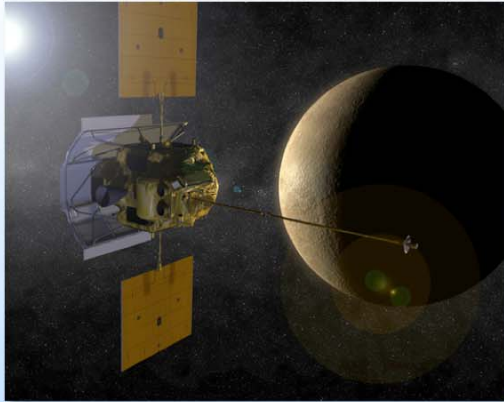
MESSENGER Stamp Unveiling



- Utterback Middle school (1/24/11), 41 students
- Utterback Middle school (1/25/11), 41 students
- Water and Life on Mars class, (2/2/2011), 22 students
- St. Joseph School, (2/22/2011), 50 students
- Yuri's Night, (4/9/2011), 78 attendees
- Pima Community College, *Earth Day*, (4/20/2011), 65 students
- Monte Vista School, (4/29/2011), 100 students
- UA Teacher Appreciation, (4/30/2011), 150 teachers
- Wilson School, (5/5/2011), 84 students
- Wright Elementary, (5/5/2011), 55 students
- UA Parents and Family Association Advisory Board (5/13/2011), 6 adults
- Pima Community College, *Earth Day* (10/12/2011), 42 students
- Amphi High School Camera Class, (10/19/2011), 18 students



“Let's go to the Moon”



Exploring Mercury: The Iron Planet

Robert Strom, Professor Emeritus

September 21, 2011

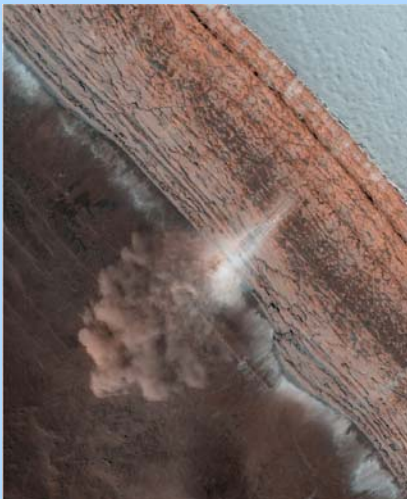
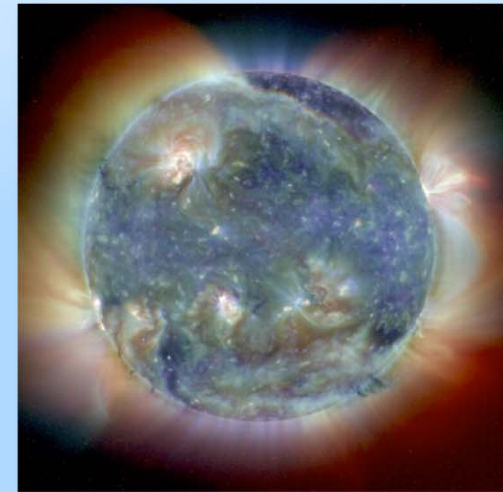
94 attendees

Sounding the Sun

Tamara Rogers, Assistant Professor

October 19, 2011

124 attendees



Mars: Active and Icy

Shane Byrne, Assistant Professor

November 16, 2011



Arizona Space Grant

UA College of Science Connections

Biosphere 2

Math Moves You



Flandrau Science Center



Pima Air and Space Museum



•February 17, 2011, 350 students from 10 schools



CenturyLink™ PRESENTS

MARS BEYOND

Search for Life on
other Planets

AN EXHIBITION BY:  UA SCIENCE

AT  science
DOWNTOWN

GRAND OPENING
OCTOBER 22ND

YURIS NIGHT



Presenters

Sy Liebergot

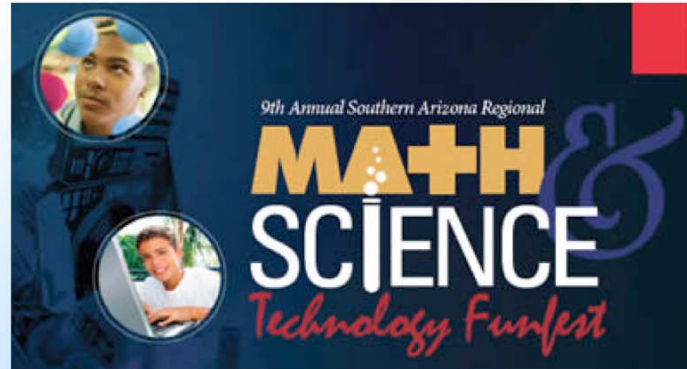
Joseph Beskin

Irina Kamenkovich

Michael Vereschchatsky

- | | |
|---|---|
| Civil Air Patrol | Space Imagery Center |
| Flandreau Planetarium | Tucson Amateur Astronomy Association (TAAA) |
| International Dark-Sky Association | Titan Missile Museum |
| NOAO-Kitt Peak | Tucson L5 Space Society |
| Paragon SDC | UA Russian Dept |
| Physics Factory | UA Humanities Administration |
| Pima Air & Space Museum | UASEDS |
| Planetary Science Institute | UA Science Connection |
| <u>Sabino High School Russian Studies</u> | UA Chemistry Club |
| Santa Rita High School Russian Studies | UA Geosciences Club |
| Southern Arizona Rocketry Association | Vail School District |
| Space Aholc | |

February 2012



March 2012

YURIS NIGHT



April 2012



August 2012

- **Collection and services**

- Assembly of more GIS databases
- Creation of more online maps datasources (suggestions welcome)
- Scanning various maps and atlases in the collection (Avoid duplicates of LPI work)
- Publishing these on our website
- Full recovery of the darkroom space

- **Missions and Research**

- Continue supporting requests that come up
- We can do more to help non-UA people – advertize at PSI
 - Do we need a more general RPIF flyer we can post?

- **Education & Public Outreach**

- Evening lecture series
- 2-day Teacher workshops x2
- Mars Science Lab event (in the days before the landing)
- Continue present activities in supporting UA classes, visiting local schools, giving public talks, partnering with local museums, supporting Tucson events etc...