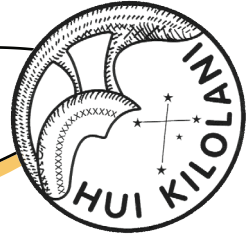


# The Astronews



Volume 54, Issue 12

[www.hawastsoc.org](http://www.hawastsoc.org)

December 2006

## Cosmic Musings

— Hamlet Act 2, Scene 2

I have of late but wherefore I know not lost all my mirth, forgone all custom of exercises; and indeed, it goes so heavily with my disposition that this goodly frame, the earth, seems to me a sterile promontory; this most excellent canopy, the air, look you, this brave o'erhanging firmament, this majestical roof fretted with golden fire why, it appeareth no other thing to me than a foul and pestilent congregation of vapours. What a piece of work is a man! how noble in reason! how infinite in faculties! in form and moving how express and admirable! in action how like an angel! in apprehension how like a god! the beauty of the world, the paragon of animals!

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## Upcoming Star Parties

<b>Club Party</b>	<b>Dec 16</b>	<b>Dillingham</b>
<b>Public Party</b>	<b>Dec 23</b>	<b>Dillingham</b>
<b>Public Party</b>	<b>Dec 30</b>	<b>Kahala/Waikele</b>
<b>Club Party</b>	<b>Jan 13</b>	<b>Dillingham</b>
<b>Public Party</b>	<b>Jan 20</b>	<b>Dillingham</b>
<b>Public Party</b>	<b>Jan 27</b>	<b>Kahala/Waikele</b>



## Upcoming Events:

- The next meeting is at 7:30 p.m. on **Tuesday, Dec. 5<sup>th</sup>** at the Bishop Museum.
- Bishop Museum's next planetarium show with **Barry Peckham** is Friday, **Dec. 1<sup>st</sup>** at 7:00 pm.

## President's Message

Hurricane alert! If you plan to be traveling near the south pole of Saturn, be prepared to encounter a hurricane. Of course, since the storm is two-thirds the diameter of the Earth, you may not notice it if you are inside it.

The Cassini spacecraft, currently in orbit around Saturn, had a chance to observe the south pole of that planet as it passed over. Earlier in its mission, Cassini had remained closer to the ring plane, so it, just as we here on Earth, couldn't look down on either pole.

The spacecraft's flight path now takes it far enough south that it was able to capture 14 images over a three-hour period on October 11th that show the storm and the circulation of clouds in and around it. Unlike other storms on the gas-giant planets, this one is distinguished by vertical walls of clouds that tower over a well-developed eye, much like in terrestrial hurricanes. This allows us to see deeper into Saturn's atmosphere than we can at other locations.

However, the forces producing this storm are probably very different from those that produce hurricanes on Earth. The 350 mile-per-hour winds that surround the eye circulate around the south pole of Saturn. This is probably no accident. Saturn's day lasts less than 11 hours. This generates some of the fastest winds on any planet in the solar system. These winds generally move in bands parallel to the equator. Near the poles they would naturally move in a tight circle. It is likely, therefore, that the storm is long lived, perhaps a permanent feature of the Saturnian atmosphere. It is also likely that a similar storm exists at the north pole.

Continued observations of this storm and, if possible, comparisons with a north-

*(Continued on page 5)*

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*The Astronews* is the monthly newsletter of the Hawaiian Astronomical Society. Some of the contents may be copyrighted. We request that authors and artists be given credit for their work. Contributions are welcome. Send them to the Editor via e-mail. The deadline is the 15<sup>th</sup> of each month. We are not responsible for unsolicited artwork.

**Planets Close To the Moon**

Times are Hawaii Standard Time

- Dec 10, 02h, M 1.1° NNE of Saturn  
(113° from sun in morning sky)
- Dec 18, 09h, M 5.5° S of Jupiter  
(21° from sun in morning sky)
- Dec 18, 16h, M 4.7° SSE of Mars  
(18° from sun in morning sky)
- Dec 23, 19h, M 2.4° SSE of Neptune  
(46° from sun in evening sky)
- Dec 25, 02h, M 0.24° E of Uranus  
(67° from sun in evening sky)










Venus and Mercury are closer than 15° from the sun when near the moon in December.

**Other Events of Interest**

Times are Hawaii Standard Time

- Dec 2, 19h, Moon 0.48° NW of Asteroid 7 Iris  
(157° from sun in evening sky)
- Dec 4, 14:24h, Moon Full
- Dec 9, 20h, Mercury 0.97° NNE of Mars  
(15° from sun in morning sky)
- Dec 10, 04h, Mercury, Mars, Jupiter within 1.01° circle  
(15° from sun in morning sky)
- Dec 10, 09h, Mercury 0.13° NE of Jupiter  
(15° from sun in morning sky)
- Dec 11, 05h, Mars 0.79° S of Jupiter  
(16° from sun in morning sky)
- Dec 18, 02h, Pluto at conjunction with sun  
(Passes into morning sky)
- Dec 20, 04:00h, Moon New
- Dec 21, 14:25 h, Winter Solstice

**Planets in December**

<p> <b>Mercury</b></p> <p>is visible very low in the eastern sky before dawn early in the month, close to Jupiter and Mars.</p>	<p> <b>Venus</b></p> <p>is visible in the west after sunset and by Christmas will be setting over an hour after the sun.</p>	<p> <b>Mars</b></p> <p>is very low in the eastern sky before sunrise, close to Mercury and Jupiter.</p>
<p> <b>Jupiter</b></p> <p>is near Mars and Mercury in the predawn eastern sky.</p>	<p> <b>Saturn</b></p> <p>rises about 10:00 pm and is in the sky the rest of the night. Best viewed after midnight.</p>	<p> <b>Uranus</b></p> <p>can be viewed low in the southwest in the evening sky in Aquarius.</p>
<p> <b>Neptune</b></p> <p>rises a little earlier than Uranus and can also be viewed early in the evening in Capricornus.</p>	<p> Dwarf Planet <b>Pluto</b></p> <p>is at conjunction with the sun this month and cannot be viewed.</p>	<p> Dwarf Planet <b>Ceres</b></p> <p>visible in the early evening sky between Uranus and Neptune. Magnitude 8.3.</p>

The November 7, 2006 meeting of the Hawaiian Astronomical Society was called to order by Pres. Chris Peterson at 7:37 p.m. The meeting was held at the Atherton Halau of the Bishop Museum. In attendance were thirty-three members and one new member Lucas Morgan.

## OLD BUSINESS

Pres. Peterson reviewed current astronomy news items:

★Jupiter's small storm or spot, Red Jr., appears to be becoming redder and its speed is increasing to about 400 mph. The Transit of Mercury will take place November 8, 2006. The Mars rovers, Spirit and Opportunity, have passes a count of 1,000 days. Slated for a mission of 90 days, the rovers are now hunkering down for a Martian winter.

★Hawaii Space Lecture Series- The Hawaii Space Lecture Series presents planetary scientist from the Institute for Astronomy, UH Manoa, Dr. Peter Mousinis-Mark, as lecturer Thursday, November 9th at the NASA Pacific Regional Planetary Data Center, room 544 of the POST building, University of Hawaii, Manoa. The topic for discussion will be "Viewing the third dimension on Mars with the Mars Reconnaissance Orbiter."

★Lacy Veach Day –Lacy Veach Day, which took place on Saturday, October 28, 2006, was a great success. Volunteers, John Gallagher, Travis and Vincent Le, Susan Girard, Jim MacDonald, Forrest Luke and Steve Huffman helped out.

★Elections – Elections will take place at the Dec. 2006 general membership meeting. Standing for election are:

President - Chris Peterson

Vice-President - Barry Peckham

Treasurer - Jim MacDonald

Secretary - Gretchen West

Astronews editor - Paul Lawler

At-Large Members (2) - John Gallagher, Susan Girard, and Bob Kesler

★Star Party Report - Forrest Luke reported that other than the daytime viewing of the transit of mercury at the Bishop Museum on November 8th, we have no other school star parties scheduled for the rest 2006.

★Phantom Member - An individual paid cash to the club for membership at the October 3rd general membership meeting. Unfortunately, due to the feverish activity at the time, the person's name was not recorded. Jim MacDonald asks for that person to contact him so that their name may be added to our membership list and receive the Astronews.

★Good Lighting Raffle Concluded - VP Barry Peckham bestowed awards to Gary Ward and Travis Le for finding businesses and groups in the community who foster good lighting.

## NEW BUSINESS

★Reminders- Vice President Barry Peckham spoke briefly about Club Star Parties at Dillingham Field. He reminded members that these evenings are set aside for members to have quality time at the eyepiece of their own scopes without interruption. We also want to remind everyone at star parties to give the other airport users more leeway if they should happen to stray into our area with headlights on.

★Bumper Stickers are in the works - Club bumper stickers available for purchase from Jim MacDonald at the

*(Continued on page 9)*

Full Moon means the loss of all the generally minor shower peaks in early December, but the Geminids and the normally-minor Ursids make out better. Sporadic rates remain cheerful. We will only report on the two major showers for the month.

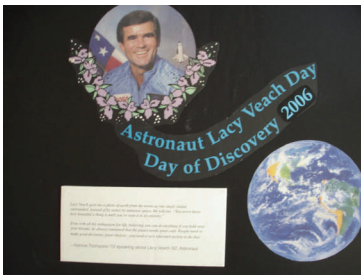
☛ Thursday the 14th, **the Geminids**. Radiant 07h28m +33 deg.

Rates for this shower from up to near 80 an hour at times. The moon will rise about 1AM local time on the 14th so this is quite a good year for some darksky Geminid observing. Meteors are typically bright and few may leave persistent trains. The meteors are of medium speed. The maximum is forecast to be about 10h45m UT plus or minus 2h20m.

☛ Friday the 22nd **the Ursids**. Radiant 14h20m +76 deg.

Normally about 10 meteors an hour from this shower, but rates may be near 50 an hour. The sky is Moon free for this last shower of the year. The maximum is forecast for 19h-22h UT which is not so great for Hawaii. Ursids tend to be faint and medium-speed.

If you are interested in observing meteors contact Tom Giguere on Oahu at 672-6677 or write to: Mike Morrow, P.O. Box 6692, Ocean View, Hawaii 96737



**President** (Continued from page 2)  
ern one could help shed light on the composition and dynamics of Saturn's atmosphere. Next time you look at Saturn, you'll have something new to think about.

Chris



## 2007 Meeting & Star Party Dates

Club Meeting	Dillingham Public	Dillingham Club Only	Kahala/Waikele
Jan 2	Jan 20	Jan 13	Jan 27
Feb 6	Feb 17	Feb 10	Feb 24
Mar 6	Mar 10	Mar 17	Mar 24
Apr 3	Apr 7	Apr 14	Apr 21*
May 1	May 5	May 12	May 19
Jun 5	Jun 16	Jun 9	Jun 23
Jul 3	Jul 14	Jul 7	Jul 21
Aug 7	Aug 4	Aug 11	Aug 18
Sep 4	Sep 15	Sep 8	Sep 22
Oct 2	Oct 13	Oct 6	Oct 20
Nov 6	Nov 10	Nov 3	Nov 17
Dec 4	Dec 1	Dec 8	Dec 15
Jan 8 '08	Jan 12 '08	Jan 5 '08	Jan 19 '08

\*Astronomy Day

*There are two kinds of light—the glow that illuminates, and the glare that obscures.*

—James Thurber



***November 2006  
Transit of Mercury***

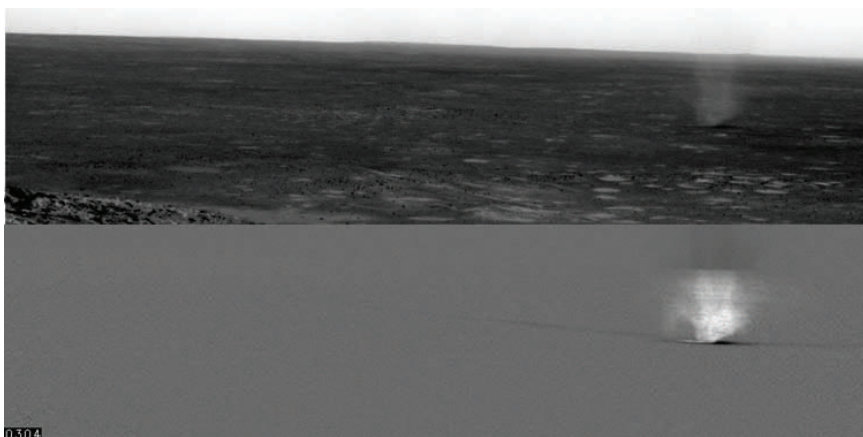
**Bishop Museum**



Admit it. Whenever you see a new picture of Mars beamed back by Spirit or Opportunity, you scan the rocks to check for things peeking out of the shadows. A pair of quivering green antennas, perhaps, or a little furry creature crouched on five legs...? Looking for Martians is such a guilty pleasure.

Well, you can imagine the thrill in 2004 when scientists were checking some of those pictures and they did

carry a charge? When does “devil season” begin—and end? Astronauts are going to want to know the answers before they set foot on the red planet. The problem is, these dusty twisters can be devilishly difficult to catch. Most images of Martian dust devils have been taken by accident, while the rovers were looking for other things. This catch-as-catch-can approach limits what researchers can learn. No more! The two rovers have just



see something leap out. It skittered across the rocky floor of Gusev Crater and quickly disappeared. But it wasn't a Martian; Spirit had photographed a dust devil!

Dust devils are tornadoes of dust. On a planet like Mars which is literally covered with dust, and where it never rains, dust devils are an important form of weather. Some Martian dust devils grow almost as tall as Mt. Everest, and researchers suspect they're crackling with static electricity—a form of “Martian lightning.” NASA is keen to learn more. How strong are the winds? Do dust devils

gotten a boost of artificial intelligence to help them recognize and photograph dust devils. It comes in the form of new software, uploaded in July and activated in September 2006.

“This software is based on techniques developed and tested as part of the NASA New Millennium Program's Space Technology 6 project. Testing was done in Earth orbit onboard the EO-1 (Earth Observing-1) satellite,” says Steve Chien, supervisor of JPL's Artificial Intelligence Group. Scientists using EO-1 data were especially interested in dynamic events such as

*(Continued on page 9)*



(Continued from page 8)

volcanoes erupting or sea ice breaking apart. So Chien and colleagues programmed the satellite to notice change. It worked beautifully: “We measured a 100-fold increase in science results for transient events.”

Now that the techniques have been tested in Earth orbit, they are ready to help Spirit and Opportunity catch dust devils—or anything else that moves—on Mars.

“If we saw Martians, that would be great,” laughs Chien. Even scientists

have their guilty pleasures.

Find out more about the Space Technology 6 “Autonomous Sciencecraft” technology experiment at [nmp.nasa.gov/st6/TECHNOLOGY/sciencecraft\\_tech.html](http://nmp.nasa.gov/st6/TECHNOLOGY/sciencecraft_tech.html), and the use of the technology on the Mars Rovers at [nmp.nasa.gov/TECHNOLOGY/infusion.html](http://nmp.nasa.gov/TECHNOLOGY/infusion.html). Kids can visit [spaceplace.nasa.gov/en/kids/nmp\\_action.shtml](http://spaceplace.nasa.gov/en/kids/nmp_action.shtml) and do a New Millennium Program-like test at home to see if a familiar material would work well in space.

*This article was provided by the Jet Propulsion Laboratory, California Institute of Technology, under a contract with the National Aeronautics and Space Administration.*

**Minutes** (Continued from page 4)

club meetings. They are priced at only \$3.00 per bumper sticker.

★Personal Solar Telescope - Barry Peckham has purchased a tripod for use with the club’s PST.

★Travels in Italy – Carolyn Kaichi, Director of the Bishop Museum’s Planetarium, recently traveled to Italy to give workshop on the portable Star Lab. Carolyn shared her pictures of the small observatories of northern Italy near the city of Brescia.

★Insurance Discussion at General Membership Meeting- The change in insurance carrier will take place as of January 1, 2007.

★New Magazine Available – Harry Zisko got up to share a new astronomy magazine he recently discovered. **The Sky at Night** is a great beginners resource.

★A club member extolled the virtues of his new 8" Meade LX200. It is self-leveling and initializes itself. The scope, with a built in GPS, finds home and sets itself up with automatic

alignment. The scope has upgradeable software and is CCD ready.

★NASA Night Sky Network Update - John Gallagher indicates that the next Night Sky Network teleconference will take place on November 16, 2006 at 4:00 p.m. HST.

★New Planetarium Display Up and Running – Joanne Bogan reports that the new display and program in the Planetarium rotunda on Global Warming is not to be missed. We will have a special show in the Planetarium rotunda following the December General Membership Meeting. Be sure to be there!

★Swap Meet – Members with items to sell and trade were given the opportunity to present their items.

The meeting was adjourned at 8:42 p.m. Refreshments were served and the swap meet commenced.

Respectfully Submitted,  
Gretchen West  
HAS Secretary

**THE HAWAIIAN ASTRONOMICAL SOCIETY**  
**MEMBERSHIP APPLICATION**  
**2006/2007**

Name \_\_\_\_\_

Street or P.O. Box \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

Phone \_\_\_\_\_ (e-mail) \_\_\_\_\_

Family Members \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Dues \$20.00 \_\_\_\_\_

Dues (Full-time Student) \$12.00 \_\_\_\_\_

Additional family members. Each \$2.00 \_\_\_\_\_

*Sky and Telescope* Subscription \$32.95 \_\_\_\_\_

*Astronomy* Subscription \$34.00 \_\_\_\_\_

Donation \_\_\_\_\_

Total \_\_\_\_\_

Fill out this form and send with your check to:

**Hawaiian Astronomical Society**

**P.O. Box 17671**

**Honolulu, Hawaii 96817-0671**

HAS Financial Report as of November 15, 2006

Initial Balance:.....	\$4,303.04
Receipts:	
Donations .....	183.00
Dues Received.....	494.00
S&T Payments.....	263.60
Astronomy Payments .....	170.00
Telescope Fee.....	40.00
T-Shirt Sales.....	120.00
Bumper Sticker Sales .....	24.00
Total Income: .....	\$1,294.60
Expenses:	
Astronews.....	145.28
Magazine Subscriptions .....	35.45
Bumper Stickers .....	93.75
T-Shirts.....	178.75
Tripod for PST .....	80.00
Astro League Membership .....	355.00
Refreshments & Postage .....	5.72
Total Expenses: .....	\$893.95
Ending Balance:.....	\$4,703.69

This month the club welcomes two new members. They are **Vincent Le** and **Lucas Morgan**. A special thanks to David Dellalana, Charlotte Nakamine, Gretchen West, Joanne Bogan, Lucas Morgan, John Sandor and John Swatek for their donations. A thank you is also in order to all of those renewing their membership this month. Clear skies to all!



**H.A.S.  
P.O. Box 17671  
Honolulu, HI 96817**

Place stamp  
here. Post  
Office will not  
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Also known as IC 5070, this cosmic pelican is appropriately found just off the "east coast" of the North America Nebula (NGC 7000) - APOD [Charles Shahar](#)