

The Astronews



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www.hawastsoc.org

President's Message

by Chris Peterson

When Pluto was reclassified as a dwarf planet, the action may have been both long overdue and also premature. It has long been known that Pluto is even smaller than the terrestrial planets while being further from the Sun and in a more elliptical and inclined orbit than the gas giant planets. There was no pressing reason to change Pluto's status as the ninth planet until the object now known as Eris was discovered in 2005. This was the first solar system object discovered beyond the orbit of Neptune that was thought to be bigger than Pluto.

In order to give Eris its name, scientists at the International Astronomical Union had to assign it to a committee, but which one? This is really what precipitated the debate that resulted in both Pluto and Eris being classified as dwarf planets.

(Continued on page 11)

☆ Upcoming Star Parties ☆

Public Party-Dillingham	Feb. 5
Kahala/Ewa Party**	Feb. 12
Club Party-Dillingham	Feb. 26

****Note that Waialeale Star Parties
have moved to Ewa as of February**
(see pg. 10 for directions)**

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Upcoming Events:

- ☆ The next meeting is 7:30PM on **Tues., Feb. 1** at the Bishop Museum Planetarium.
- ☆ Bishop Museum's next planetarium shows with **Barry Peckham** are Friday, **Feb. 4 & 18** at 8:00 p.m.
www.bishopmuseum.org/calendar
- ☆ The next Board Meeting is **Sun., Jan. 30** at 3:30 p.m. at the POST building at UH.

Closer Look...



MAUNA KEA ASTRONOMY TOUR UPDATE:

June 24-26, 2011

Join your fellow clubmembers for a private tour to the Gemini telescope facility on Mauna Kea next summer! Other activities may include a star party at the Onizuka visitor information center, lunch or dinner at Hale Pohaku with astronomers, and a visit to the Imiloa Astronomy Center/Planetarium in Hilo.

The tour is limited to 22 persons. Participants *must* be 16 years of age or older at the time of the tour, and be current members of HAS. Participants must also be physically capable of visiting the Mauna Kea summit at nearly 14,000 feet. Tour reservation requests will be accepted by *email only* through March 31, 2011. If the number of applicant requests exceeds 22, then a random selection process will occur.

Participants will share transportation costs to the summit (van rental/gas), the two meals on Mauna Kea, and admission/show fees for the Imiloa Astronomy Center (approx. total \$100/person). These fees will be non-refundable (except in the case of HAS tour cancellation). Participants will also be responsible for making their own lodging and travel arrangements to/from Hilo. We plan to use the Castle Hilo Hawaiian Hotel as our gathering place and have secured a group rate discount for rooms.

Submit reservation requests or inquiries to:

John Sandor
sandball@aol.com

Updates will be made in the AstroNews, on the HAS website, and at the monthly meetings. We look forward to seeing you next summer on the Big Island!



John

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The **Astronews** is a 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 email. The deadline is the 16th of each month. We are not responsible for unsolicited artwork.

Meeting Minutes

by Gretchen West

Vice President Barry Peckham called the January 4, 2011 meeting of the Hawaiian Astronomical Society to order at 7:34 p.m. **Chris Peterson** joined us a few minutes later, as he had been delayed. The meeting was held at the Planetarium on the grounds of the Bishop Museum. There were twenty-four members and one visitor in attendance.

The members were informed that **John Gallagher**, one of our At-Large members, is recovering from triple-bypass heart surgery and will be recuperating for an extended period. Members were able to sign a get-well card.

Aaran Thomas, our lone visitor this month, indicated that he is hopeful about getting into amateur astronomy. We welcome Aaran and hope to see him at our suburban and dark sky star parties.

Long time member **Mike Morrow** has temporarily resigned from the club as he indicates that he will not be able to come to Oahu during the coming few years. He hopes to rejoin us ASAP. We look forward to seeing Mike back with us soon.

Associated Lectures: **H.A.S. President Chris Peterson** reports that the next Hawaii Space Lecture Series talk will take place at 7:30 pm, on Tuesday, January 11th. The lecture will take place at the NASA Pacific Regional Planetary Data Center, room 544 in the Pacific Ocean Science and Technology Building at University of Hawaii Manoa. Should you be interested in any upcoming lectures or for information contact NASA PRPDC at 808-956-3132 or on the Web go to <http://www.higp.hawaii.edu/prpdc>

Announcements: **Chris Peterson** announced that a ten-year-old Canadian girl from Nova Scotia has discovered a Supernova. Kathryn Aurora Gray, Paul Gray and Dave Lane from Abbey Ridge Observatory have been credited with the discovery of a mag.17 object.

Starlight Reserve Bill: **Harry Zisko** reported of the meetings of the committee charged with writing recommendations for a Hawaii State House and Senate bill on light pollution and actions which can be taken to reduce it. The committee is in that part of their deliberations during which they are identifying the stakeholders. They will submit a report to legislators on their findings. The next meeting will be January 18th. The bill when it is finally drafted will affect all of our state.

Imaginarium Visit: Our visit at Windward Community College's Imaginarium has again been put off due to technical difficulties. There will be postings on our website, in the ASTRONEWS, and an update will be circulated by member **Gary Ward** in his "pizzagram."

Big Island Trip: **John Sandor** reported on the upcoming trip to Gemini on Mauna Kea. John indicated that there are openings for 22 members to participate in the summit tour. Should there be more than 22 people wanting to go on the trip, participants will be selected by random lottery. Interested individuals should go on-line to the club website to view restrictions and health concerns. There will be payment deadlines for payments and refunds for those who get a reserved placement for the trip. If interested, contact **Joanne Bogan**.

Change of Venue: H.A.S. Saturday suburban public star parties in West Oahu have been located at the baseball field at Waikele Community Park, above the Waikele Shopping Center. However as of February 12, 2011, the location for the West O'ahu H.A.S. public star party will change to Geiger Community Park, located at the intersection of Geiger Road and Kapolei Parkway. (see announcements on pages 1 & 10)

Video Difficulties: It was announced that the club will purchase a computer for use at the Bishop Museum and be linked to the Bishop Museum set up so that we will be able to project CDs and videos in a more effective manner.

Laser Concerns: **Jim MacDonald** reports to the club that pilots in Hawaiian skies have reported multiple laser strikes. Club members are cautioned to use restraint when manipulating green lasers. The FAA and other authorities take these strikes seriously.

(Continued on page 7)

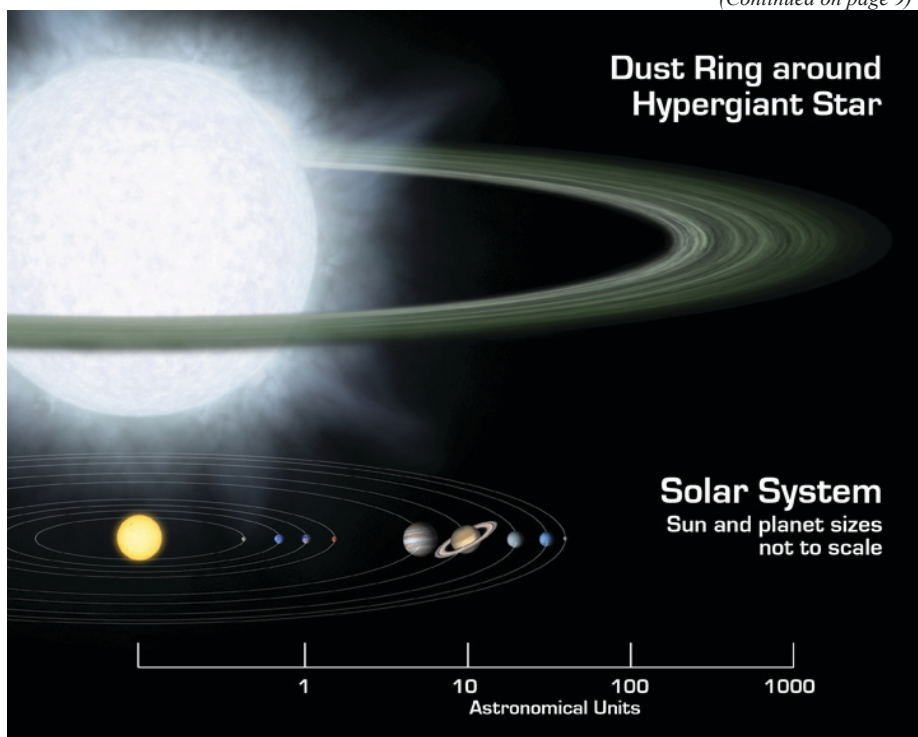
Planets in Strange Places

By Trudy E. Bell

Red star, blue star, big star, small star—planets may form around virtually any type or size of star throughout the universe, not just around mid-sized middle-aged yellow stars like the Sun. That's the surprising implication of two discoveries in 2006 from the 0.85-meter-diameter Spitzer Space Telescope, which is exploring the universe from orbit at infrared (heat) wavelengths blocked by the Earth's atmosphere.

At one extreme are two blazing, blue “hypergiant” stars 180,000 light-years away in the Large Magellanic Cloud, one of the two companion galaxies to our Milky Way. The stars, called R 66 and R 126, are respectively 30 and 70 times the mass of the Sun, “about as massive as stars can get,” said Joel Kastner, professor of imaging science at the Rochester Institute of Technology in New York. R 126 is so luminous that if it were placed 10 parsecs (32.6 light-years) away—a distance at which the Sun would be one of the dimmest stars visible in the sky—the hypergiant would be as bright as the full moon, “definitely a daytime object,” Kastner remarked.

(Continued on page 9)



Hypergiant star in the Large Magellanic Cloud dwarfs our own star, yet despite its fierce solar winds, still has a disk of dust and possible planets.

There must be a reason why you joined this club. There must be something you expected to get, beyond the Astronews, and also something you were prepared to give, beyond the 20 bucks. Attendance at club-sponsored star parties is way down, and this is where the club does what it does best. Not every night is a winner in the weather department, but fans of the night sky who fail to chance 'em also miss most of what the universe has to offer. This is what you missed at the most recent Kahala Star Party.

Shortly after sunset, several enthusiastic families showed up. A bright moon provided easy entertainment while the sky darkened. The 4 scopes on hand showed its gibbous face in several powers. Though our sky was clear, the seeing proved disappointing. We would not have known this without setting up scopes. Still, beginners have no idea how sharp the views can be, so they enjoyed what we showed. A soft Jupiter showed 3 satellites for awhile, and then the 4th moon appeared at Jupiter's limb. I showed the Bull's Eye star, Capella and Betelgeuse by request, and gave my East Coast friend Terry a chance to practice using a telrad in aiming a scope. Local friends Roy and Victoria bicycled by and stopped long enough to practice aiming the scope. They were happy to see us in the park, unlike the majority of HAS members.

(Continued on page 9)

**INVITATION AND CALL FOR PAPERS:
30TH ANNUAL
"SYMPOSIUM ON TELESCOPE SCIENCE"**



Invitation:

Amateur and professional astronomers, astronomy educators, and students are invited to attend the 2011 "Symposium on Telescope Science", on May 24-25-26, 2011 at Big Bear, CA.

This Symposium will mark the 30th anniversary of the Society for Astronomical Sciences. The agenda will feature half-day Workshops, and two full days of technical papers. The keynote lecture will be given by Dr. Petrus Jenniskens on "The impact and recovery of asteroid 2008 TC3".

A Workshop on "Developing and Using Your Remote Observatory", presented by Tom Krajci and Tom Smith, has been confirmed. A Workshop on a second topic is also planned.

The Symposium is the premier opportunity for non-professional researchers to present their projects and results, receive advice from other backyard scientists and professional astronomers, and disseminate knowledge about methods, results, and opportunities for pro-am collaboration in small-telescope astronomical research. This annual gathering provides a unique venue for networking among the small-telescope research community, both amateur and professional.

For additional information, including Registration and Accommodations, refer to the SAS website (www.SocAstroSci.org). We look forward to seeing you there!

Call for Papers:

Submissions of both Papers and Posters are now being accepted for the SAS 2011 Symposium on Telescope Science. Topics of interest include small-telescope science results, instrumentation and methods; pro-am collaboration; science education; and special uses of astronomical data. Examples of previous-years papers and presentations are available on the SAS website (www.SocAstroSci.org). Proceedings from previous years can be downloaded from the PUBLICATIONS tab. Videos of Paper presentations given at the 2010 Symposium are also available for download.

Abstracts of proposed papers should be sent to the Program Committee at program@SocAstroSci.org. Deadlines are:

Abstract submission: March 12, 2011

Final Papers due: April 16, 2011

(Continued on page 11)

Planets Close To the Moon

Times are Hawaii Standard Time

Feb 1, 07h, M 3.5° N of Mercury
(16° from sun in morning sky)

Feb 6, 10h, M 4.8° NNW of Uranus
(41° from sun in evening sky)

Feb, 18h, M 6.3° NNW of Jupiter
(45° from sun in evening sky)

Feb 21, 02h, M 7.5° SSW of Saturn
(135° from sun in morning sky)

Feb 28, 16h, M 1.6° NW of Venus
(41° from sun in morning sky)

Mars and Neptune are closer than 15° from the sun when near the moon in February.

Other Events of Interest

Times are Hawaii Standard Time

Feb 2, 16:31h, Moon New










Feb 4, 07h, Mars at conjunction with the sun (Passes into morning sky)

Feb 17, 00h, Neptune at conjunction with the sun (Passes into morning sky)

Feb 17, 22:36h, Moon Full

Feb 24. 23h, Mercury at superior conj. with the sun (Passes into evening sky)

Feb 27, 14h, Moon 0.88° SSE of asteroid 4 Vesta (54° from sun in morning sky)

 Mercury May be seen the first day or two in the month in the morning sky just before sunrise.	 Venus Venus is bright and high in the eastern sky before dawn during all of February.	 Mars Too close to the sun to be observed in February. Reaches conjunction with the sun on Feb 4.
 Jupiter Jupiter is still visible in the southwest at sunset.	 Saturn Rises in late evening and is well placed for morning viewing.	 Uranus Close to Jupiter in the evening sky.
 Neptune Too close to the sun to be observed in February. Reaches conjunction with the sun on Feb 17.	 Dwarf Planet Pluto Visible before dawn in the eastern sky, but will be better placed for observing later in the year.	 Asteroid Iris Reached opposition on Jan 24 at about magnitude +7.9 and is still well placed for viewing in late evening.

(Minutes continued from page 3)

H.A.S. cautions its members to use all lasers judiciously and to refrain from pointing them skyward when jets and planes are in the area. Those with lasers should educate interested individuals about the serious nature of these tools.

Bishop Museum: Vice-President **Barry Peckham** spoke briefly about the recent activities at the Bishop Museum during the total lunar eclipse. While the skies were overcast, he and **Jim MacDonald** were able to show various objects to about 300 interested and optimistic bystanders. The Bishop Museum also had a direct feed from Texas, where skies were clearer.

Missions Update: President **Chris Peterson** discussed information about crater Santa Maria on Mars, as well as details about the Messenger space craft's mission to Mercury, the Dawn space craft and it's mission to asteroid Vesta, and the New Horizons mission to Pluto.

Discussions with Barry: Vice President **Barry Peckham** spoke briefly about the challenges we can set for ourselves. Barry cited information from the Del Valley Astronomers and their top 10 binocular challenges. Barry reminded members of the January Quadrantid meteor showers. This month's information on the night sky centered on VY Canis Majoris and filled us in on the pertinent facts about this interesting object.

The Hawaiian Skies with Joanne Bogan: Planetarium guide and longtime member, **Joanne Bogan**, related humorous vignettes about "tuning-up" the planetariums equipment. She then lead us through the current nighttime skies over Hawaii, showing us the movement of constellations along the ecliptic and other interesting objects.

As there was no further business, the meeting was adjourned at 9:09 p.m. Light refreshments were served.

Respectfully Submitted,
Gretchen West
H.A.S. Secretary



Night Sky Network

Astronomy Clubs bringing the wonders of the universe to the public

The Milky Way Project has been live since December 7th and is still going strong, taking data from the Spitzer Space Telescope and asking you all to help us map the galaxy. If you haven't tried it out yet, visit <http://www.milkywayproject.org>.

The Milky Way project volunteers have collectively classified more than 116,000 images. This involved marking a whopping 141,000 bubbles, 5,000 possible galaxies and 15,000 star clusters! Those are the raw numbers. When we combine all the individual drawings we find that you have created a catalogue of about 5,000 unique bubbles between you. This is about ten times larger than the current best published catalogue!

You can read more on the blog about the way we collate the data, on the blog, at <http://blogs.zooniverse.org/mwp/2011/01/10/project-update-for-aas-217/>. The science team are all incredibly excited to begin working with your data to create new and updated catalogues of bubbles, star clusters, galaxies and more.

We have also created a list of the Top 10 favourite images from across the whole project. This is a beautiful collection of images that you can view either as a blog post at <http://blogs.zooniverse.org/mwp/2011/01/21/your-favourite-images/> or on Milky Way Talk at <http://talk.milkywayproject.org/collections/CMWS00002u>. We'll be in touch soon with more updates. Meanwhile, enjoy the beautiful imagery from the Milky Way Project.

The Zooniverse Team

Hawaiian Astronomical Society

Event Calendar

< February 2011 >						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
30	31	7:30 PM Club Meeting 1	2	3 	4	6:00 PM Public Star Party(D) 5 Sunset: 6:25 PM
6	7	8	9	10	11 	6:15 PM Public Star Party(K) 6:15 PM Public Star Party(G) 12 Sunset: 6:29 PM
13	14	15	16	17	18 	19 Sunset: 6:33 PM
20	Washington's Birthday 21	22	23	24 	7:30 PM 'Iolani Space Nite 25	6:15 PM Club Star Party (D) 26 Sunset: 6:36 PM
27	28	1	2	3	4	5



Volunteers Needed for School Star Parties!

Due to illness and other circumstances, we are in great need for additional volunteers to handle telescopes or assist other club volunteers at school or public events. Please consider giving a few hours of your time and get involved.

*If you are interested in helping out at a School Star Party, sign up at the HAS meeting or contact the Star Party Coordinator: **John Gallagher** at 683-0118 (leave message) or e-mail at gallaghej002@hawaii.rr.com. If you are contacted for a School Star Party please have the school submit a request at http://nightsky.jpl.nasa.gov/club-eventrequest.cfm?Club_ID=453 (note underline between Club_ID).*

Such hot stars have fierce solar winds, so Kastner and his team are mystified why any dust in the neighborhood hasn't long since been blown away. But there it is: an unmistakable spectral signature that both hypergiants are surrounded by mammoth disks of what might be planet-forming dust and even sand.

At the other extreme is a tiny brown dwarf star called Cha 110913-773444, relatively nearby (500 light-years) in the Milky Way. One of the smallest brown dwarfs known, it has less than 1 percent the mass of the Sun. It's not even massive enough to kindle thermonuclear reactions for fusing hydrogen into helium. Yet this miniature "failed star," as brown dwarfs are often called, is also surrounded by a flat disk of dust that may eventually clump into planets. (This brown dwarf discovery was made by a group led by Kevin Luhman of Pennsylvania State University.)

Although actual planets have not been detected (in part because of the stars' great distances), the spectra of the hypergiants show that their dust is composed of forsterite, olivine, aromatic hydrocarbons, and other geological substances found on Earth.

These newfound disks represent "extremes of the environments in which planets might form," Kastner said. "Not what you'd expect if you think our solar system is the rule."
Hypergiants and dwarfs? The Milky Way could be crowded with worlds circling every kind of star imaginable—very strange, indeed.

Keep up with the latest findings from the Spitzer at www.spitzer.caltech.edu. Kids and their grownup friends can enjoy beautiful images from Spitzer while playing Spitzer Concentration at The Space Place (spaceplace.nasa.gov/en/kids/spitzer/concentration).

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

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(Star Party Animals continued from page 5)

By 7 PM Sirius had risen high enough to be seen through gaps in the trees. The Dog star is not a serious telescopic object so much as a star party favor. On a night like this, with bad seeing and a too-bright moon, Sirius flashes colors and thrills the eye like a living black opal. Telescope owners get to enjoy the instant astonishment as eyepiece lookers try to make sense of what they see. I defocus the eyepiece to spread out the play of colors, and on this occasion, snapped a few images of scintillating Sirius. It's like a box of chocolates, 'cause you never know what you're gonna get!

Rigel, at Orion's foot, showed its little companion... mostly. The Great Nebula wasn't very nebulous on a big moon night, but a low power study of the stars in Orion's scabbard was worth the effort. Gretchen's 6" dob showed Hind's Crimson star and the Owl Cluster, while visitors hovered around Sue's 10 incher and President Chris stood by his 5" refractor, sharing what he knows about the lunar surface (which is a lot!).

We also had a guest appearance by Peter Michaud of Hilo, currently employed by the Gemini Observatories but former Bishop Museum planetarium manager and the guy most responsible for hooking me on the night sky. I like knowing that he's still out there and that his enthusiasm remains undiminished, if somewhat redirected away from telescope use. That's what he gets for rubbing shoulders with the pros.

By 8:30 the visitors had wandered away while clouds had wandered in, so we packed our scopes and adjourned to Zippy's. The night wasn't great but still worth the trouble. A couple dozen people had thanked us for being there. Can your Saturday night match that? I think not.



Treasurer's Report

by Jim MacDonald

HAS Financial Report for the month ending as of Jan. 15, 2010

Initial Balance:	\$5,500.05
<i>Receipts:</i>	
Donations	130.05
Dues Received	274.00
Magazine Payments	66.95
Calendar Sales	6.50
T-Shirt Sales	30.00
Total Income:	\$507.50
<i>Expenses:</i>	
Magazine Subscription	300.75
Astronews (2 mos.)	317.60
Postage	15.67
Sky Tools 3 Software	945.70
Total Expenses:	\$1,579.72
Final Balance	\$4,427.82

Our membership remained unchanged this month. Thanks to **Elton Chambers**, **Daniel Fischberg**, and an anonymous member for their donations.

Many membership renewals are due at this time of year so please check your anniversary date on the mailing label. Come join us under the stars soon. It's great fun for everyone. ☆ ☆ ☆

NEW WEST OAHU STARPARTY VENUE

CHANGE OF VENUE: Our public star parties held on Saturday at Waialeale Community Park have **moved effective February 12, 2011**. Our new location will be Geiger Community Park located in the Ewa plains area, located at the intersection of Geiger Road and Kapolei Parkway. (The address is listed as 91-1129 Kahiuka Street which is a street fronting one side of the park) The new location and directions have been posted to the Night Sky Network. Astronomers supporting this event will need to park along the street (namely, Kapolei Parkway) since there is a fence surrounding the park with numerous openings. *You cannot park on Geiger Road.* Set up is in the main field between two ball courts. Restrooms are available. For a map and directions, go to <http://www.hawastsoc.org/directions/Geiger.html>

(President continued from page 1)

Now it appears that Eris may not actually be bigger than Pluto. To understand what happened, we must consider how its size was determined. An object at that distance from us is not resolvable, even by our best telescopes, into an image big enough to enable an accurate measurement of its size. It is necessary to assume an albedo (the amount of light reflected) and compare that to the amount of light received through the telescope. An object that reflects a given amount of light will produce the perceived brightness if it is a certain size. However, if the albedo assumption is incorrect, so is the size calculation.

Apparently, Eris is smaller but brighter than we thought. In November, it occulted a star. This allowed for a more precise measurement of its size. This technique doesn't work as well for Pluto, since Pluto has a thin atmosphere that more distant Eris probably lacks; the atmosphere can refract light enough to muddle the results.

At least we can expect to learn the true size of Pluto in a few years. New Horizon's flyby of Pluto in 2015 should determine that. The size of Eris may continue to be debated.

Chris 

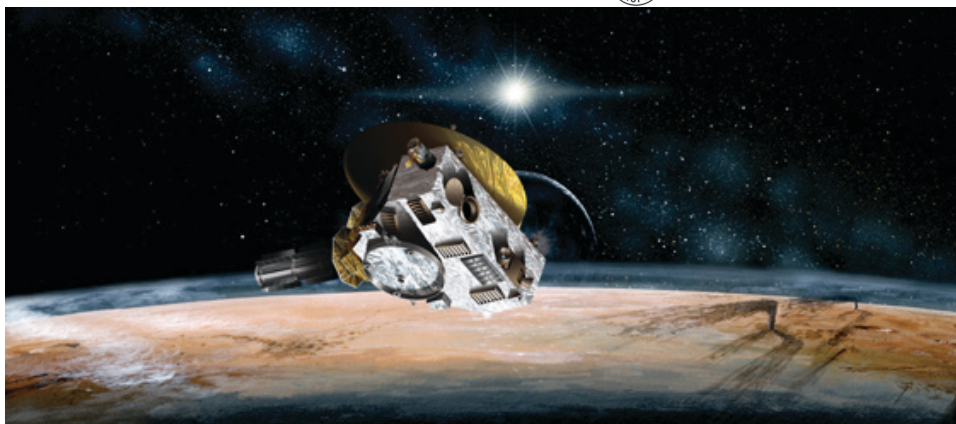


Image credit: Johns Hopkins University Applied Physics Laboratory/Southwest Research Institute (JHUAPL/SwRI)

Artist's concept of the New Horizons spacecraft during its planned encounter with Pluto and its moon, Charon. The craft's miniature cameras, radio science experiment, ultraviolet and infrared spectrometers and space plasma experiments would characterize the global geology and geomorphology of Pluto and Charon, map their surface compositions and temperatures, and examine Pluto's atmosphere in detail. The spacecraft's most prominent design feature is a nearly 7-foot (2.1-meter) dish antenna, through which it would communicate with Earth from as far as 4.7 billion miles (7.5 billion kilometers) away.

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(Symposium Invitation continued from page 5)

Abstracts may be submitted in plain text format or MS Word. The formatting requirements for Final Papers -- including an MS Word template -- are available on the SAS website.

About the SAS: The Society for Astronomical Sciences facilitates collaborative astronomical research between amateur, student, and professional astronomers. SAS workshops provide amateur and student astronomers with solid grounding in observational procedures and data-reduction methods. The annual "Symposium on Telescope Science" is the premier forum for presentation of the results of small-telescope research and professional-amateur astronomical collaborations. For more information, see: <http://www.SocastroSci.org> ☆

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Members of the public take in sights through Barry's telescope at Kahala Star Party, January 15, 2011. Public star parties are offered once a month at suburban sites Kahala Park in Honolulu and Geiger Park in Ewa. A remote site is open to the public once a month at Dillingham Airfield at Mōlūleā. Club volunteers are encouraged to attend.

Image credit: Barry Peckham