The Astronews

HUI KILOLANI

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www.hawastsoc.org

WILL KYSELKA (1921-2012)

For those new to Hawai'i and/or the Bishop Museum Planetarium, you may not understand the impact this educator has made in this state and in the Hawaiian community.

I attended the celebration of Will's life at the Church of the Crossroads in July and expected to hear the usual pronouncements of his accomplishments and personality. Two and a half hours later (and only 2 eulogies!) I came away with a rich profile of a deep, expansive character whose generosity of spirit and knowledge helped usher in a rejuvination of the Hawaiian culture.

As many know, Will helped Nainoa Thompson learn about celestial mechanics and astronomy at the Planetarium, laying the groundwork for Nainoa to develop his own celestial navigation system of wayfinding. Nainoa's success at this art influenced a resurgence of cultural pride, and led to the transformation of many aspects of life in Hawai'i and beyond.

Will also contributed much to the world of amateur astronomy. **North Star to Southern Cross** is still considered a "classic" and **An Ocean in Mind** is a fascinating account of Nainoa's first voyage on the Hokule'a.

Will passed away 2 days after his wife's funeral services. He will be truly missed.

(More on page 8)

Editor

The Hawaiian Astronomical Society is now on facebook

Inside this issue:

Upcoming Events:

☆The next meeting is 7:30PM on **Tues., Aug 7** at the Bishop Museum Planetarium.

☆Bishop Museum's next planetarium shows with **Barry Peckham** are Friday, **Aug 3 & 17** at 8:00 p.m.

www.bishopmuseum.org/calendar

☆The next Board Meeting is Sun., **Aug 5** at 3:30 p.m. at the POST building at UH.

Up To The Minute:

Starlight Reserve Bill UPDATE

by Harry Zisko

The Starlight Reserve Bill (SB2402) was signed into law by Gov. Neil Abercrombie on Monday, July 9. The main points of this bill are as follows. Note that there are many exceptions and conditions not listed here. Go to http://www.capitol.hawaii.gov/session2012/bills/SB2402_CD1_.pdf to see the complete Bill.

A. Beginning July 1, 2014, all state agencies shall comply with shielded lighting fixture requirements under this section, whereby, with some exceptions, every new outdoor lamp light fixture emitting more than three thousand lumens shall be required to be fully shielded and to have a correlated color temperature of four thousand Kelvin or less; with some provisions for shoreline and ocean lighting considerations. (3000 lumens roughly corresponds to a 150 Watt incandescent light bulb).

B. No new mercury vapor lamps shall be sold or installed after July 1, 2014.

C. There are also provisions for replacement street lighting that should be less than or equal to 4000 Kelvin and fully shielded (with exceptions).

D. Athletic facility lighting is not required to have fully shielded lighting, but should have shields that will limit direct up-lighting.

E. Fully shielded replacement lighting fixtures for state managed roadways and highways shall be installed on a case-by-case basis, subject to the availability of capital improvement project funding… Where fully shielded fixtures are not used, acceptable luminaires shall be partially shielded lights that emit no more than five per cent of their light above the horizontal plane.

Harry

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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.

President's Message — by Chris Peterson

What is astronomy, anyway? Dictionaries define it as something like the study of the universe beyond Earth. A pretty big subject!

For hundreds of thousands of years, humans looked at the sky with nothing but their eyes and tried to make sense of what they saw. With lots of time available and few facts to interfere, imagination assigned heavenly roles to gods and mythological figures.

Eventually, some observers began making ever more precise measurements of the positions of the stars and movements of the planets. Then along came the telescope. For hundreds of years, astronomers (there was now a name for us) coupled human eyes with mirrors and lenses to carefully observe and document what could be seen in the sky. Imagination was harnessed in the name of science to produce explanations of what was really there.

Further technological advances began to remove human subjectivity from the collection of data. First photographic film, then later CCDs and other forms of electronic imaging enabled the gathering and archiving of objective records of the information available. We were no longer limited to using light visible to human eyes and interpreted by a single human brain.

Within my lifetime, we have begun to actually physically explore our nearest celestial neighbors, either in person (the Moon) or with machines we have sent into space to make measurements for us. The Hubble Space Telescope just enabled us to discover a fifth moon of Pluto. Few would dispute that this is astronomy, but what about the rovers that we have sent to Mars? Is this astronomy?

What about the particle physics experiments that are designed to help us understand the nature of the universe itself? In a sense, this too must be considered astronomy. It certainly seeks to understand the universe beyond Earth.

Most people will continue to think of astronomy as the use of telescopes to observe the sky. However, I think the most important part is the quest for new information and knowledge. Astronomy is a big tent. If you wonder about what's out there beyond Earth and try to find out more, I count you as an astronomer.

Chris

Star Party Report — by Sue Girard

Club Star Party Report - Sat July 14th, 2012

The July Club Star Party started off with a bit of an issue when a non-member tried to 'crash' the party. We explained that the Club SP was for members (and their invited guests) only and the person left. The weather cooperated and we were blessed with a very nice sky for most of the night.

That was great because ***Peter and Leslie Galloway*** were trying out Leslie's new Litebox 12" Dobsonian scope for the first time and it sure proved itself with wonderful views of Saturn, Omega Centauri and other objects! In fact, Omega turned out to be a real treat because it was beautifully imaged in ***Chaim Scowcroft's*** incredible image intensifier. He treated us to some incredible views of the night sky (Sombrero galaxy, Swan nebula) through it.

We had quite a member turnout this time with ***Barry, Gretchen, Walter Tokushige and his wife, Greg Wilson, Alex Dzierba, Henry Weiland, Courtney Bruno*** and the littlest astronomer of them all - ***Kaylee Bruno*** at 7 months (hope I haven't missed anyone else).

The clear sky held out until around 9:30pm when some rather dark, threatening clouds

(Continued on page 9)

EDITORS NOTE: NASA Space Place did not submit an article this month, so this recent release appears courtesy of Gemini Observatory

Out of Business: Planetary Disk Style?

www.gemini.edu

That surprise you feel when your favorite store turns off its lights, locks up its doors, and suddenly, for no apparent reason, goes out of business? That's just how astronomers felt recently when a dusty disk of rocky debris around a nearby star abruptly shut down and by all appearances went out of business.

The star -- designated TYC 8241 2652 and a young analog of our Sun -- only a few years ago displayed all of the characteristics of hosting a solar system in the making. Now, it has transformed completely: very little of the warm dusty material thought to originate from collisions of rocky planets is apparent - it's a mystery that has astronomers baffled.

Carl Melis of the University of California, San Diego, led the discovery team, whose report is published in the July 5th issue of the journal Nature. He said, "It's like the classic magician's trick: now you see it, now you don't. Only in this case we're talking about enough dust to fill an inner solar system and it really is gone!"

Co-author Ben Zuckerman of the University of California Los Angeles, observed, "It's as if you took a conventional picture of the planet Saturn today and then came back two years later and found that its rings had disappeared."

The dusty disk at TYC 8241 2652 was first seen by the NASA Infrared Astronomical Satellite (IRAS) in 1983, and remained brightly glowing for 25 years. Like Earth, warm dust absorbs the energy of visible starlight (sunlight) and reradiates that heat energy as infrared radiation. An infrared image obtained at the Gemini telescope in Chile on May 1, 2012 - just as the paper was being accepted by Nature - confirmed that the warm dust has now been gone for 2.5 years.

"A perplexing thing about this discovery is that we don't have a really satisfactory explanation to address what happened around this star. The disappearing act appears to be independent of the star itself, as there is no evidence to suggest that the star

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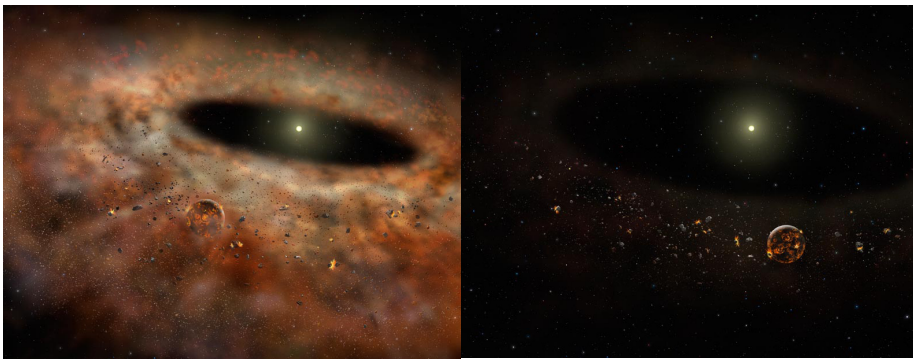

Animation showing the disappearance of dust from the TYC 8241 2652 system. Credit: Gemini Observatory/AURA artwork by Lynette Cook.

August 2012

We have three showers in August, two minor showers and one major shower…the well-known Perseid shower. New Moon falls perfectly for the expected κ–Cygnid peak this year.

The shower is best-observed from the northern hemisphere, from where the radiant is easily available all night. Regarding the Perseids, although the Moon is a waning crescent, three days after last quarter on August 12, it will rise after midnight. Its brightness and relative proximity to the Perseid radiant should be considered more of a nuisance than a deterrent.

The Saturday night/Sunday morning placement of this year's shower should be good encouragement for observers to get out and take a look. If you capture a meteor with your camera, be sure to send in your photo.

Full Moon	*Last Quarter*	*New Moon*	*First Quarter*
Aug 2	**Aug 9**	**Aug 17**	**Aug 24**

Shower	Activity	Max Date	λ	Radiant α	Radiant δ	V∞ km/s	*r*	ZHR
			2000					
Perseids (PER)	7/17 - 8/24	Aug 12	140.0°	48°	+58°	59	2.2	100
κ–Cygnid (KCG)	8/03 - 8/25	Aug 17	145°	286°	+59°	25	3.0	3
α-Aurigids (AUR)	8/28 - 9/05	Aug 31	158.6°	91°	+39°	66	2.5	6

Please submit your observations and impressions of the Perseids!
Tom Giguere, 808-782-1408, Thomas.giguere@yahoo.com
Mike Morrow, PO Box 6692, Ocean View, HI 96737

Planets Close To the Moon

Times are Hawaii Standard Time

Aug 3, 09h, M 5.7º NNW of Neptune
(159º from sun in morning sky)

Aug 6, 04h, M 4.8º NNW of Uranus
(125º from sun in morning sky)

Aug 13, 12h, M 0.68º E of Jupiter
(67º from sun in morning sky, occultation visible in Hawaii daytime sky)

Aug 13, 11h, M 0.90° ENE of Venus
(45º from sun in morning sky)

Aug 15, 11h, M 3.4º SSW of Mercury
(19º from sun in morning sky)

Aug 21, 14h, M 5.2º SSW of Saturn
(56º from sun in evening sky)

Aug 21, 19h, M 5.2º SSW of Mars
(51º from sun in evening sky)

Aug 30, 15h, M 5.6º NNW of Neptune
(172º from sun in midnight sky)

Other Events of Interest

Times are Hawaii Standard Time

Aug 1, 17:26h, Moon Full

Aug 12 Perseid Meteors
(Favorable year for this major shower)

Aug 14, 22h, Mars 2.7° SSW of Saturn
(62° from sun in evening sky)

Aug 16, 02h,
Mercury at greatest elongation
(45.8° west of the sun in morning sky)

Aug 14, 23h,
Venus at greatest elongation
(18.7° west of the sun in morning sky)

Aug 17, 05:53, Moon New

Aug 24, 02h,
Neptune at opposition with sun

Aug 31, 03:57h, Moon Full
(Second full moon of the month, sometimes called a "Blue Moon")

☿ Mercury

Mercury reaches greatest elongation in the middle of the month and is visible in the dawn sky.

♀ Venus

Reaches greatest elongation in the morning sky at mid-month. Look for the two inner planet on display Aug 15th or 16th.

♂ Mars

Mars is still visible in the southwest during the early evening hours. Look for it close to Saturn in mid-month.

♃ Jupiter

Above Venus in the morning sky. It is occulted by the moon during daytime hours on Aug 15.

♄ Saturn

Saturn shines near Mars in the evening sky in the southeast.

♅ Uranus

Uranus rises before midnight and can be viewed in the early morning hours.

♆ Neptune

Neptune reaches opposition this month and will be in the sky all night.

♇ Dwarf Planet Pluto

Reached opposition on June 29. This is still a good month to view this dwarf planet.

⚴ Asteroid 2-Pallas

Approaching opposition in September and is visible in late evening in Pisces at about mag. +9.2.

Meeting Minutes

by Gretchen West

President Chris Peterson called the July 3, 2012 meeting of the Hawaiian Astronomical Society to order at 7:29 p.m. The meeting was held at the Planetarium on the grounds of the Bishop Museum. There were 24 members and 8 visitors in attendance.

Transit of Venus: ***Chris Peterson*** recounted that last month's Transit of Venus event on the grounds of the Bishop Museum drew 2,104 people. The Planetarium shows that ran during the day's event hosted 1,133 people. The Bishop Museum wanted to thank H.A.S. for our continued support of their events. Via email Mike Shanahan asked if anyone had seen an altercation between an "elderly female docent" and a young girl inside the rotunda of the Planetarium the day of the transit. No one at this month's meeting had seen the confrontation.

The City Dark: Members were told about a showing of "The City Dark," to be shown on PBS Thursday night July 5th.

Lacy Veach Day: The 11th annual Lacy Veach Day of Discovery will take place on October 27, 2012 on the grounds of Punahou School. H.A.S. will again participate by having a display table and telescopes available to view the sun. ***Gretchen West*** will be signing up members to man the tables and astronomers to share the daytime sky with the students, their parents and educators that participate at the workshops. If you are interested in helping out, please contact ***Gretchen.***

SB2402 – State Bill 2402: The first step in light pollution control and the designation of the Star Light Reserve will be signed into law at 3:30 p.m. on Monday, July 9, 2012 in the offices of the Governor on the fifth floor of the State Capitol building. The bill addresses aspects of Hawaii state park and roadway lighting. ***Chris Peterson and Harry Zisko***, who both participated as committee members of the Starlight Reserve Committee will try to attend. ***Harry*** spoke the H.A.S. membership and reassured them that he would push for further discussion for an area for an actual Starlight Reserve. He will speak directly with Dr. Richard Wainscoat who chairs the Starlight Reserve Committee.

Website: The H.A.S. website has been updated by ***Harry Zisko***.

Visitors: Seven visitors joined us this month. **Jack and Caden Brown** are new members who join ***John Gallagher*** at Geiger Park viewings. A family of five joined us this month as well. In addition was ***Mark Looper***, a space scientist who uses an 80 mm ETX. We are very happy to welcome them to our meeting and the club.

ISS: The meeting took a time-out to view the ISS flyby. While we were on the viewing platform we also witnessed a short fireworks display in Waikiki.

Star Party Report: ***John Gallagher*** reports that H.A.S. has no school star parties until September 2012. He also reminded members that star maps for the month of July were available after the meeting.

General Information: ***Chris Peterson r***eviewed the positions of planets visible in the evening and morning skies.

Chris also discussed the new x-ray star telescope and its abilities. He reviewed the information for the Curiosity Mars rover that is due to touchdown August 5, 2012. A general discussion of the availability of water on Mars ensued. Members also discussed the loss of Mars' magnetic field, the magnetic field of Earth, and the part magnetic fields play in the life of planets.

Astronomical League: Club member and Punahou grad ***Travis Le*** is the recipient of another award from the Astronomical League of the Pacific. H.A.S. congratulates Travis on his success.

The New Planetarium: ***Joanne Bogan*** reminded the members that in the next few

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Hawaiian Astronomical Society

Event Calendar

List View | Past Events | < August 2012 > | Upcoming Events | Add/Log Event

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
29	30	31	1	2	3	4 Sunset: 7:10 PM
5	6	7 7:30 PM Club Meeting	8	9	10	11 6:30 PM Club Star Party (D) Sunset: 7:06 PM
12	13	14	15	16	17	18 6:30 PM Public Star Party(D) Sunset: 7:01 PM
19	20	21	22	23	24 7:30 PM Star Night Elem Sch	25 6:30 PM Public Star Party(K) 6:30 PM Public Star Party(G) Sunset: 6:55 PM
26	27	28	29	30	31	1

Bidding Aloha to Will Kyselka (1921-2012), educator, mentor, author, and lecturer at the Bishop Museum Planetarium. Services for Will were held July 27 and featured a moving eulogy by Nainoa Thompson, master navigator of the Hokule'a. Hundreds more attended to pay their respects for the former astronomy educator.

More on page 1.

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zapped the dust with some sort of mega-flare or any other violent event," said Melis.

Zuckerman, who has been investigating circumstellar disks (debris disks around stars) since the 1980s, noted that "the dust disappearance at TYC 8241 2652 was so bizarre and so quick, initially I figured that our observations must simply be in error in some strange way."

The lack of an existing model for what is going on around this star is forcing astronomers to rethink what happens within young solar systems in the making.

"Although we've identified a couple of mechanisms that are potentially viable, none are really compelling," said Melis. "In one case, gas produced in the impact that released the dust helps to quickly drag the dust particles into the star and thus to their doom. In another possibility, collisions of large rocks left over from an original major impact provide a fresh infusion of dust particles into the disk which then instigate a runaway process where small grains chip into oblivion both themselves and also larger grains."

Major dusty regions such as the asteroid belt and another located out beyond the orbit of Neptune are known to exist in our own solar system. Nearly 30 years ago, NASA's Infrared Astronomical Satellite (IRAS) first discovered similar regions orbiting other stars. Now hundreds of stars similar to our Sun are known to emit an excess of infrared radiation that is usually attributed to dusty materials orbiting the star in what are called debris disks. It is believed that this material results from planetary system formation and is due to collisions and reprocessing of objects like the comets and asteroids that are part of our own solar system. But nothing like the disappearing dust disk at TYC 8241 2652 had ever been seen during these three decades.

The result is based upon multiple sets of observations of TYC 8241 2652 obtained with the Thermal-Region Camera Spectrograph (T-ReCS) on the Gemini South telescope in Chile, the IRAS satellite, the Wide-field Infrared Survey Explorer (WISE) satellite, NASA's Infrared Telescope on Mauna Kea in Hawai`i, the Herschel Space Telescope of the European Space Agency, and AKARI (a Japanese/ESA infrared satellite).

TYC 8241 2652 lies in the direction of the constellation of Centaurus. Observations by Australian co-authors Simon Murphy and Michael Bessell with the Australian National University's 2.3-meter telescope established that the star is roughly 10 million years old and 450 light years distant.

Support for this work was provided by the Lawrence Livermore National Labs, the US National Science Foundation, and NASA. ☆

(Star Party Report continued from page 3)

made their appearance. However, the clouds broke up and disappeared allowing us to resume some fine observing with the Wild Duck cluster, Cat's eye nebula, numerous globulars and dark nebulae (B85, B86) near Sagittarius strutting their stuff. Most folks decided to leave around 10:30 pm when some more dark clouds rolled in, but some of us (Gretchen, me, Alex, and Greg) stayed until about 11:30pm. The Summer constellations are here with all their wonderful objects, so come on out and say 'hello' to the night sky!

Sue

Treasurer's Report

by Jim MacDonald

HAS Financial Report for the month ending as of July 15, 2012

Initial Balance:	**$4,226.56**
Receipts:	
T-Shirt Sales	90.00
Donations	25.00
Dues Received	180.00
Magazine Payments	102.00
Total Income:	**$397.00**
Expenses:	
Astronews	58.17
Magazine Subscription	66.95
Total Expenses:	
	$125.12
Final Balance	**$4,498.44**

The club gained nine new members this month. They are ***Jeff, Becky, Caden and Gavin Brown; Gil Contreras; Erieck Ausby; Hiromi and Yusuke Hoguchi;*** and returning member ***Nancy Alima Ali***. Our thanks to ***Gill Contreras, Sue Girard, and James Branchaud*** for their donations. Our thanks to all those who remembered to renew their membership.

Come join us for some great views of the Summer skies before Mars and Saturn depart.

<<Upcoming Star Parties>>

CLUB Party-Dillingham	**Aug 11** (C. Peterson)
Public Party-Dillingham	**Aug 18** (L. Galloway)
Kahala/Ewa Party	**Aug 25**

☆ ☆ Upcoming School Star Parties ☆ ☆

Back to School! Schedule for the rest of 2012

Fri.	**8/24**	Pauoa Elementary (Honolulu)
Fri.	**9/21**	Mililani Ike Elementary (Mililani Mauka)

(Minutes continued from page 9)

months that the Planetarium will be renovated so our meetings will probably move to the Atherton Halau for the intervening months. In addition to that Joanne shared the Planetarium sky with us. She showed us some of the more interesting "bells & whistles" of the new DigiStar System that has been installed in the Planetarium Dome.

As there was no further business, the meeting was adjourned at 9:07 p.m. Members enjoyed refreshments after the meeting.

Respectfully Submitted,
Gretchen West
Secretary

FOR SALE

$6.50 By Sept. 30

Deep Space and Science Calendars

Kalmbach Publishing is again offering calendars for 2013 at a reduced rate. Calendars are being offered under the heading of ***Astronomy*** Magazine or ***Discover*** Magazine. Each month features a photograph of scientific or deep-sky object in wonderful color with listings of specific events.
The published price is $12.95, but is being offered at a reduced rate of 50% off to astronomy clubs.

To order, see ***Jim MacDonald*** at one of our regular scheduled meetings or send your order along with a check *made out to H.A.S.*($6.50 per calendar) *to:*

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Image of Omega Centauri captured July 14, 2012 at Dillingham Airfield using a Canon Power Shot SX 200 through an image enhanced eyepiece on a 10" Meade telescope.Rod shaped shadow on the left is an artifact of the telescopes focuser.

Image courtesy: Gretchen West