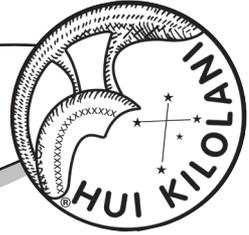


The Astronews



Volume 60, Issue 2

February 2012

www.hawastsoc.org

GUEST SPEAKER
February 7th Meeting:

Russ Genet
Astronomer

**"Visual Double Stars for Smaller
Telescopes"**

Russ Genet is a Research Scholar in Residence at California Polytechnic State University and an Adjunct Professor of Astronomy at Cuesta College.

In the 1980s Russ pioneered the development of automated telescopes, robotic observatories, and remote-access observing. He served as the 92nd President of the Astronomical Society of the Pacific.

His recent research interests include short-period eclipsing binary stars, visual binary stars, and cosmic evolution.

Russ spends his winters in Hawaii (Makaha).

For more information on Russ Genet's research, see page 5

Inside this issue:

President's Message	3
NASA Space Place	4
Meteor Log	5
Observer's Notebook	6
Calendar	8
Minutes	9
Star Parties	10
Treasurer's Report	10

Upcoming Events:

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

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

[www.bishopmuseum.org/
calendar](http://www.bishopmuseum.org/calendar)

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

**The Hawaiian Astronomical
Society is now on**

facebook

Up To The Minute:



As you know HAS has been actively involved with trying to promote legislation to affect regulation of outdoor light useage in our state.

Several HAS members have been attending meetings and working with the Starlight Reserve Committee (SRC)to draft the bill.

Jim Crisafulli, who gave a talk to us at a previous meeting, also is the SRC Secretary and recently sent this message to our membership.

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Aloha,

*The Committee's draft legislation relating to "light pollution" (SB 2402) has been formally introduced to the Legislature by Senator Will Espero, and the first hearing on this measure will be held by the Senate Committees on Energy & Environment (ENE) and on Economic Development & Technology (EDT) on **Thursday, February 9, at 3:00 p.m. in Conference Room 225 at the State Capitol.** Copies of this legislation and the hearing notice are attached for your reference.**

We would encourage any of you who are interested in submitting individual testimonies on this bill to do so online at:

<http://www.capitol.hawaii.gov/submittestimony.aspx?billtype=SB&billnumber=2402>

Testimony may be submitted up to 24 hours prior to the start of the hearing.

Thanks again to all for your continuing support in this effort!

- Jim Crisafulli

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If anyone would like to see copies of the legislation and the hearing notice, please contact any of the board officers and we will forward that electronically to you.

We hope you will consider getting involved in this worthy cause.



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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.

The Hawaiian Astronomical Society now has a Facebook page. Thanks to Barry Peckham for setting it up. It has already generated interest from some people who found out about us on Facebook.

Social media seem to still be growing in popularity. While we don't know if this trend will continue, it is good for us to have a Facebook presence at this time. We have often discussed the need to appeal to young people and bring new members into the club, and this should be a step in that direction.

The Facebook page (at <http://www.facebook.com/pages/Hawaiian-Astronomical-Society/188641301225451>) can be of use to current members as well. Because users can post their own information, this is the way that many people will choose to share astrophotos and other personal astronomy-related information. In addition, because Facebook can be used to push information to users, we may make use of it to notify people about conditions at Dillingham Air Field on the night of a star party, for example.

Of course, Facebook users have control over what information they'd like to receive. This is also an easy way for far-flung current or former club members to keep in touch with others. No need to send a mass e-mail. Posts to the HAS page will be available to everyone who's interested in your astronomical activities.

This doesn't replace our HAS website. Peter Besenbruch urges anyone with content they'd like to share, such as astrophotos, to send them to him for inclusion on the website. Facebook serves as more of a stream-of-consciousness or rough draft version, while our website could include more selective or well-polished collections of images, for example. We need to continue to have a website over which we have control and can present information organized as we prefer it.

If you're already on Facebook, check out the HAS page. If you've been waiting for a reason to get a Facebook account, maybe this is it. I hope you'll find this a worthwhile addition to the club.

Chris 





The Nerdiest Video Game Ever

by Dr. Tony Phillips

Download a free iPhone app that's fun AND educational!



NASA has a job opening. Wanted: People of all ages to sort, stack, and catalogue terabytes of simulated data from a satellite that launches in 2015. Agile thumbs required.

Sorting terabytes of data? It's more fun than it sounds.

In fact it's a game: Satellite Insight. The Space Place Team at the Jet Propulsion Laboratory created the entertaining app for iPhones to get the word out about GOES-R, an advanced Earth science satellite built by NOAA and NASA.

Described by the Los Angeles Times as possibly "the nerdiest game ever," Satellite Insight may be downloaded for free from Apple's app store. Be careful, though, once you start playing it's hard to stop. Some reviewers have likened it to Tetris, one of the most popular video games of all time.

GOES, short for "Geostationary Operational Environmental Satellite," is the work-horse spacecraft for weather forecasters. NOAA operates two (at a time) in geosynchronous orbit, one above the west coast of N. America and one above the east coast. They monitor clouds, wind, rain, hurricanes, tornadoes and even solar flares. The GOES program has been in action since 1975.

GOES-R is the next-generation satellite with advanced technologies far beyond those of the older GOES satellites. It has sensors for lightning detection, wildfire mapping,

(Continued on page 9)

The Astronews

The late winter is a quiet time for meteor showers as evidenced by our sole-weak shower this month. If you see any α -Centaurids (ACE) this month, consider yourself fortunate. With a near full moon and a maximum hourly rate of six meteors per hour this one will be a challenge!

I can't say that I've ever observed a meteor from this "shower" so you could be the first in the club. One positive is that this shower has a southern radiant, thus we in Hawaii have a better chance than our mainland counterparts

<i>First Quarter</i>	<i>Full Moon</i>	<i>Last Quarter</i>	<i>New Moon</i>
Jan. 31	Feb. 7	Feb. 14	Feb. 21

Shower	Activity	Max Date	λ 2000	Radiant α	δ	V_{∞} km/s	r	ZHR

α Centaurids (ACE)	1/28 - 2/21	Feb. 8	319.2°	210°	-59°	56	2.0	6

If you observe this month's shower or any shower – email your impressions!
Tom Giguere, 808-782-1408, Thomas.giguere@yahoo.com
Mike Morrow, PO Box 6692, Ocean View, HI 96737.

More on Double Stars:

Abstract from February guest speaker Russ Genet

Visual double stars are interesting from a historical point of view, being the first demonstration that objects beyond our solar system follow Kepler's and Newton's laws. They can be observed with small telescopes just for fun, or visually--with an astrometric eyepiece--for student/amateur science projects that measure the separation and position angles of double stars.

I teach an astronomical research seminar every year, and my students--many of them still in high school--publish their results in the Journal of Double Star Observations. Their observations are also added to the Washington Double Star Catalog, a compilation of double star observations that started with William Herschel.

With one or more published scientific papers to their credit, many of my students have been admitted to colleges of their choice, often with scholarships.

Double star measurements can be made by anyone with a small telescope and an astrometric eyepiece that costs less than \$200. Professional astronomers concentrate on measuring very close double stars with separations measured in milli-arcseconds.

They often employ large telescopes and speckle interferometry. However, recent advances in low cost, high speed cameras is bringing both lucky imaging and speckle interferometry of close double stars within the province of both amateur and student observers. ☆

Planets Close To the Moon

Times are Hawaii Standard Time

Feb 9, 18h, M 9.0° SSW of Mars
(149° from sun in morning sky)

Feb 12, 12h, M 6.0° SSW of Saturn
(113° from sun in morning sky)

Feb 23, 22h, M 5.3° NNW of Uranus
(28° from sun in evening sky)

Feb 25, 11h, M 3.2° N of Venus
(44° from sun in evening sky)

Feb 26, 17h, M 3.8° NNW of Jupiter
(58° from sun in evening sky)

Mercury 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, Groundhog day
(Halfway between winter solstice and vernal equinox)

Feb 6, 23h, Mercury at superior conj. with sun (Passes into evening sky)

Feb 7, 11:55h, Moon Full

Feb 9, 15h, Venus 0.31° NNW of Uranus
(41° from sun in evening sky)

Feb 19, 11h, Neptune at conjunction with sun (Passes into morning sky)

Feb 21, 12:36h, Moon New

<p> Mercury</p> <p>Makes an evening appearance late in the month in the evening sky, but will be better in early March.</p>	<p> Venus</p> <p>Shines brightly in the west after sunset, nearing maximum elongation of over 40° from the sun.</p>	<p> Mars</p> <p>Mars brightens rapidly from -0.5 to -1.2 magnitude as it nears opposition.</p>
<p> Jupiter</p> <p>Jupiter is well placed for viewing in the evening sky. It is near the meridian at sunset.</p>	<p> Saturn</p> <p>Rises before midnight and can be observed in the morning sky before sunrise.</p>	<p> Uranus</p> <p>In the southwestern sky during the early evening hours. It is close to Venus on Feb 9.</p>
<p> Neptune</p> <p>Neptune reaches opposition with the sun on Feb 19, so is not visible this month.</p>	<p> Dwarf Planet Pluto</p> <p>Rises a couple of hours before the sun - will be better observed later in the year.</p>	<p> Asteroid 433 Eros</p> <p>Reached opposition on January 30 in Sextans and so is still visible almost all night. The spacecraft NEAR soft-landed on it in 2001.</p>

I'm often asked about procedures for magazine subscriptions so here is a quick snapshot:

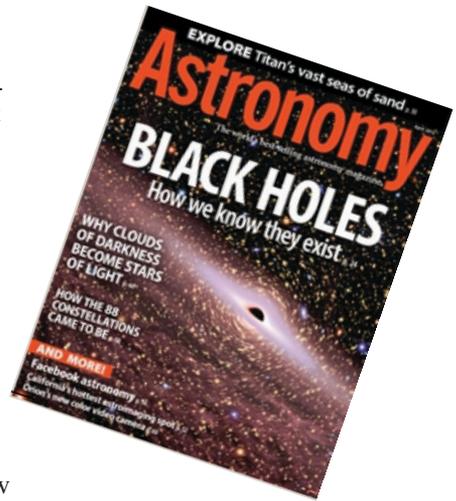
New requests and renewals for **Astronomy Magazine** must be done through the club treasurer for membership verification. The current club rate is **\$34.00/year** with checks made out to H.A.S.

Sky and Telescope (S&T) subscriptions present a few challenges. The publisher has decided to deal directly with subscribers, bypassing clubs. We have no information on your subscription. S&T sends a postcard to subscribers asking for renewals which you are to respond to directly if you wish to continue your subscription. Unfortunately, they usually do this six months in advance and the usual reaction is to treat this item as another magazine solicitation and either put it aside or throw it away. They don't normally check back with you. Prior to the expiration of your subscription you may start receiving offers of "Special Deals" which have a higher price than the club rate. The club rate for S&T is **\$32.95/year**.

Your magazine's subscription's anniversary date is printed on the address label, but not on renewal or solicitation cards. If you need to renew your subscription and no longer have the S&T postcard you can contact me as I have been able to work with the publisher. Again, any renewal payment is to be made out to H.A.S. This allows us to process the action over the internet. Requests for new S&T subscriptions must be processed through the club treasurer for membership verification.

Of course, I am available to answer your questions on this subject or other items involving club membership.

Jim 



Hawaiian Astronomical Society

Event Calendar

< February 2012 >						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
29	30	31	1	2	3	4 Sunset: 6:24 PM
5	6	7 7:30 PM Club Meeting 	8	9	10	11 6:00 PM Public Star Party(D) Sunset: 6:28 PM
12	13	14 	15	16	17	18 6:00 PM Club Star Party (D) Sunset: 6:32 PM
19 Washington's Birthday	20	21 	22	23 7:30 PM Iolani Space Night	24	25 6:00 PM Public Star Party(K) 6:00 PM Public Star Party(G) Sunset: 6:35 PM
26	27	28	29	1	2	3

Night Sky Network News

by John Gallagher



GREAT NEWS - The Night Sky Network webpage has been modified to make it more user friendly and to allow the public and HAS Club Members to use limited info to keep you up to date on happenings in our club. Check it out at http://nightsky.jpl.nasa.gov/club-view.cfm?Club_ID=453.

Here's what you can see or do by checking the link at the top of the HAS NSN page:

- 1) **About HAS** - this is the page the above URL takes you to;
- 2) **Club Website** - link to our official HAS web site;
- 3) **Events** - club calendar (you can change to later months);
- 4) **Map** - Google map for club locations for meeting and star parties;
- 5) **Request Event** - allows non-NSN Members to request an event;
- 6) **Register** - allows non-members to join the NSN;
- 7) **Contact** - individuals may send an e-mail to the club which is forwarded to the Board or applicable action office.



(Space Place continued from page 4)

storm tracking, search and rescue, solar imaging, and more. Many of the sensors are trailblazers. For example, the Advanced Baseline Imager has 60 times the capability of the current imager—16 channels instead of 5. It has twice the spatial resolution and five times the temporal refresh rate, including the 30-second imaging of weather systems over a region of 1000 km x 1000 km. Also, the Geostationary Lightning Mapper can count and pinpoint lightning bolts over the Americas 24/7. It's the first such detector to fly on a geosynchronous satellite, and it could lead to transformative advances in severe storm warning capability.

All in all, GOES-R represents a “huge technological leap from the current GOES.” We know this because Satellite Insight tells us so. The app has an informative “Learn More” feature where players can find out about the satellite and the data they have been sorting.

Which brings us back to sorting data. It's a bit like eating Cheerios; just don't tell the kids it's nutritious, and they love it. Helping GOES-R gather and stash data from all those advanced sensors is just as satisfying, too—a dose of Earth science wrapped in thumb-flying fun.

More information about Satellite Insight may be found on the web at <http://itunes.apple.com/us/app/satellite-insight/id463588902?mt=8>. The game also available in web form (flying thumbs optional) at spaceplace.nasa.gov/satellite-insight.

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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Meeting Minutes

by Gretchen West

President Chris Peterson called the January 3, 2012 meeting of the Hawaiian Astronomical Society to order at 7:30p.m. The meeting was held at the Planetarium on the grounds of the Bishop Museum. There were 24 members and three visitors in attendance.

Associated Lectures: There is no scheduled lecture for the Hawaii Space Lecture Series as of January 3, 2012.

Movie Night: **Chris Peterson** reports that on January 4, 2012 the Institute for Astronomy with University of Hawaii at Manoa will show a movie “the City Dark” in the Art Auditorium. Dr. Richard Wainscoat will also discuss light pollution and the disappearance of the night sky.

Star Light Reserve Committee: **Chris Peterson** attended the December 14, 2011 meeting of the Starlight Reserve Committee. He reported that the committee finalized their recommendations on the bill. There was a nearly unanimous vote for the recommendations with an abstention by O.H.A., who felt that they had not attended enough of the former meetings to vote on the issues. Chris reported to the Board that the recommendation focuses on the state government and ratifies the official policy regarding streetlight, state office building external lighting and park lighting. The bill focuses on the replacement of lighting with full cut-off fixtures. Future considerations for the committee will focus on lighting in the City & County of Honolulu.

Astronomical League: Members of the Hawaiian Astronomical Society they may now view the new web publication “What's Up,” available on the Astronomical League's website (astroleague.org)

Board of Directors: H.A.S. welcomes new Board members **Leslie Galloway**, Vice President, and **April Lew**, At-Large Member.

(Continued on page 11)

Treasurer's Report

by Jim MacDonald

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

Initial Balance:	\$3,987.66
<i>Receipts:</i>	
Donations	67.00
Dues Received	492.00
Magazine Payments	100.95
Total Income:	\$659.95
<i>Expenses:</i>	
Astronews	124.74
Magazine Subscriptions	66.95
Total Expenses:	\$191.69
Final Balance	\$4,455.92

The club gained six new members this month. They are *Lori, Michael, Jacob, Joshua, and Sophia Anderson and Alex Dzierba*. A special thanks to *Lori Anderson, Gary Shimazu, Yoshiyuki Inoue and John Swatek* for their donations. Our thanks to all those who renewed their membership this month.. Come join under our winter skies for some unforgettable views.

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<<Upcoming Star Parties>>

Kahala/Ewa Party Feb 28
Public Party-Dillingham Feb 21
CLUB Party-Dillingham Feb 14

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☆ ☆ Upcoming School Star Parties ☆ ☆

Fri.	2/24	Iolani School Space Night (Dole/Kapiolani Sts.)
Fri.	3/23	Mililani Ike Elementary (Mililani)
Fri.	3/30	Hokulani Elementary (St. Louis)
Fri.	4/20	Boy Scouts - Schofield Barracks (Wahiawa)
Thurs.	4/26	Ala Wai Elementary (McCully)

(Minutes continued from page 9)

Facebook: *Barry Peckham* has created and will maintain a Facebook page for “Friends of the Hawaiian Astronomical Society.” See President’s Report for more information.

Visitors: Two visitors joined us at the January general membership meeting. Daniel Bogan, nephew of long time member *Joanne Bogan*, joined us for the evening. Fred and Nathan Baehr of Laie, also joined us.

Science News: *The Grail mission*, the Gravity Recovery and Interior Laboratory, will fly twin spacecraft in tandem orbits around the moon for several months to measure its gravity field in unprecedented detail. The mission will use radio tracking between the two spacecraft to map the distribution of the mass of the gravity fields on the moon. It may offer a better understanding of how our Earth and other rocky planet formed within our solar system.

The Artemis mission, the spacecrafts are studying the Moon’s interaction with the Sun’s magnetosphere.

The *Mars rover Opportunity* has taken up position for the Martian winter, at a spot where it will get enough energy to keep it running, imaging and studying rock within the reach of the rover’s mechanical arm. NASA’s other rover, Spirit, shows no movement but is being “retasked as a stationary science platform.” used assist NASA scientists to track rotational information about Mars. The last known communication with Spirit was in March 20, 2010.

Rental Scopes: *Barry Peckham* reports that he is cleaning up the recently returned telescope for use again as a rental. *Chris Peterson* urged those members without scopes to rent a scope, use it at home and to join us by bring it out to star parties. This is a wonderful way for newcomers to the club to have the opportunity to experience the night skies both at home and at club star parties.

50th Anniversary Celebration: Bishop Museum celebrated its 50th Anniversary on Monday, December 12, 2011. *Jim MacDonald, Barry Peckham, and John Gallagher* helped out at the celebration by showing the night sky to visitors, until the weather turned bad.

Guest Speaker: Bishop Museum Director of Education, Exhibits and the Planetarium, Mike Shanahan, was our January guest speaker. Mike recounted the history of the Bishop Museum’s Planetarium, which had its 50th anniversary in December 2011. Mike took members on a trip down memory lane reintroducing them to former Planetarium astronomers and directors, reminding members that the planetarium’s creation was a reaction to the space race, as well as the Bishop Museum’s link with the Hawaiian Astronomical Society. Renovation of the Bishop Museum Planetarium will take place soon and will acquire hybrid technology.

School Star Party Report: We have two star parties scheduled during January 2012.

January 18th (Thursday) – Waimanalo Elementary

January 27th (Friday) – Waikiki Elementary

Contact *John Gallagher* if you can help out.

The Sky Tonight: *Joanne Bogan* took us on a planetarium tour of the January skies over Hawaii. Joanne’s energy and enthusiasm for the night sky comes through in her presentation. It is always a wonderful way to end the meeting.

As there was no further business, the meeting was adjourned at 9:12 p.m. Refreshments were enjoyed by members after the meeting.

Respectfully Submitted,

Gretchen West
Secretary



Hawaiian Astronomical Society
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Honolulu, HI 96817-0671



An artist's concept of Kepler-16b, the first planet known to definitively orbit two stars -- what's called a circumbinary planet. The planet, which can be seen in the foreground, was discovered by NASA's Kepler mission.

Guest speaker Russ Genet will speak to the club at the February meeting on his research and observation techniques of double stars.

Image courtesy NASA

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Office will not
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without proper
postage