



Northwest Skies

The Official Newsletter of the Tacoma Astronomical Society
Tacoma, Washington State, USA

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76 Years of Amateur Astronomy in the Pacific Northwest

May—June 2007

The President's Message



The weather is improving. The constant rain has stopped, still the clouds gather for Public Nights. I know in my area we have had several nights that were clear, but I have been too tired to even go out (doing some house repairs for a friend). As I am writing this, I am also prepping my camper to go to the Camp Delany Star Party put on by the Olympic Astronomical Society. They do this twice a year and have invited TAS'ers to join them. This Star Party is much smaller than TMSF, and a lot less for-

mal - no speakers, drawings, etc. - but is a lot of fun. This is the third annual spring gathering. They had these twice a year. the next one will be during Labor Day weekend I believe. It is held below the Dry Falls of the Columbia River. At least I hope the Banks Lake Dam holds!

Have you heard about Red Spot Jr? Jupiter has a new red spot (actually pinkish) in the Southern Hemisphere. It is about half the size of the old red spot so it should be

by Dave Armstrong

visible in mid-sized Amateur scopes.

Remember Stardust the comet Wild dust collector? Of the thousands of particles collected, 45 particles are large enough to see with the naked eye. they are also finding minerals that are formed by high temperatures (2000 deg F) which is surprising since they believe comets formed in the outer reaches of the Solar system where it is pretty chilly. This has them wondering what has happened.

Closer to home, we need to start thinking and planning for Astronomy Fair IV in August and then the Puyallup Fair follows right after.

Pray for some clear nights for Public Nights.

Dave Armstrong

Northwest Skies is a bi-monthly publication of the Tacoma Astronomical Society. All opinions expressed in this newsletter are those of the contributors and not necessarily those of the Tacoma Astronomical Society.

Original article contributions are strongly encouraged and may be submitted as an email attachment to

editor@tas-online.org

Our regular columnist Bert Brown shares a story from his friend, Dale Hertzler, regarding the telescope complex on Mauna Kea.

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What's Up In Astronomy

by Bert Brown

From time to time in this column we have had occasion to report news about the Keck Observatory on Mauna Kea in Hawai'i, where (as you know) our own Dave and Jerry Armstrong had worked on early development phases of that project.

This month's story is based on a newspaper article from the April 1, 2007 Honolulu Advertiser, sent to me by my friend Dale Hertzler, whom I've known since our grade-school days in Oregon.

The article, headed by a photo of the telescope complex on Mauna Kea--with patches of snow lying about--is by Mark Nisse and is entitled "Science, culture intertwine at 'Imiloa Astron-

omy Center." It is about a new museum on the campus of the University of Hawai'i--Hilo, about 1.5 miles west of downtown Hilo on the Big Island. It opened in February, 2006, and exhibits feature an interesting combination of modern science and ancient Hawai'i culture. As we have reported before, natives of the islands have been unhappy about our usurping the summit of 13796-ft Mauna Kea--considered sacred by them--for scientific purposes. The \$28 million museum, funded primarily by NASA, is apparently a partial mitigation for our intrusion into their sacred lands. The name 'Imiloa means "to seek and explore."

On entering the 40000-square ft museum building, one walks at first

through a replica forest of koa trees to the Mauna Kea room, which has a scale model of part of the mountain and its telescopes. An audio explanation of the sacred nature of the volcano--said to be the home of the snow goddess Poli'ahu-- is accompanied by native Hawaiian chants.

There is a planetarium where movies describe the journeys of Polynesian voyagers (in double-hulled canoes) who were guided by the stars in crossing the Pacific to the islands. Movies also tell of current theories of the births of stars and the Big Bang hypothesis, and show footage of underwater volcanoes like those that formed the Hawaiian chain. There is a brief star show on the

Continued on back page

The James Web Space Telescope

by Bill Briggs

If you, like me, are concerned about the future of orbital telescopes once Hubble is no longer in service then you may have been following the development and planned launch in 2013 of the James Webb Space Telescope (JWST). According to NASA, the JWST will be 'a giant step in the human quest to understand our place in the Universe.' The proposed mission goals are impressive to say the least and do go beyond the current range Hubble has provided.

JWST will focus on four key areas from the universe developed from its Big Bang beginning into the galaxies, stars, and planets we observe today. It will search for the first galaxies, probably formed as groups of very massive stars. In doing so it will also examine galaxy assembly into clusters and super-clusters. This will create a picture of millions of galaxies at all stages of development with broad wavelength coverage and Hubble-like image quality. The result will be a complete picture of galaxy assembly from the epoch of First Light through the present. This also encompasses the birthplaces of stars and

planetary systems forming within nearby dust clouds. Observing in infrared light, the JWST can penetrate these dusty shrouds, revealing the environments in those stellar nurseries. Most excitingly, and in light of the recent discovery around Gliese 581, JWST will study the evolution of planetary systems and the ways they might support life. It should be able to identify planetary footprints around other stars, image young planets nearby systems, and study the atmospheres of planets as they transit parent stars. This is very exciting.

The plan is that JWST will be the premier space observatory for astronomers worldwide, extending the tantalizing discoveries of the Hubble Space Telescope, as well as the Spitzer Space Telescope and giant ground-based telescopes. It will use infrared instruments to analyze light that cannot be seen from the ground because of interference from the Earth's atmosphere extending its abilities beyond those of the Hubble and Spitzer telescopes. Specifically, JWST will be sensitive to wavelengths from 0.6 to 27 micrometers. To collect

enough light in order to be so sensitive to these frequencies, the telescope must be larger than the diameter of the launch rocket, so it will unfold after launch. To detect infrared light, it must also operate at about -379 F (45 K) to prevent the instruments from emitting their own infrared radiation.

The JWST will be placed in an orbit about a million miles away, around the second Lagrange point, L2. A shield the size of a tennis court will shelter the telescope from the glare of the Sun, the Earth and the Moon.

Currently JWST is in the detailed design phase of its development. The beryllium mirror segments and science instruments are now under construction. All necessary technology developments will be completed and tested in relevant environments by January 2007. The launch is planned around 2013 which may seem a long time away but it is likely to come on the heels of further discoveries such as the recent Earth-like planet around Gliese 581. Clearly, these will be the first observational targets. How much does this cost? As of

2006, NASA has spent approximately \$1B to develop technology and make designs. The total cost is comparable to that for the Chandra X-ray observatory and the Hubble combined. But the return on investment is that JWST will provide data and funds to astronomers worldwide.

I have become more excited about this project as I have seen details released to the press. If the society would like I would be delighted to offer a presentation on the JWST. Meanwhile, for more information do check out <http://www.jwst.nasa.gov> website.

May Schedule of Events

- **May 1st:**
General Meeting.
 Please note we are meeting at Wyatt Hall, Room 109 at UPS until further notice.
 7:30 PM.
- **May 3rd:**
Outreach Event
 Space Day at Museum of Flight, Come help out on the TAS information booth.
 5:00 — 9:00 PM
- **May 4th:**
Outreach Event
 at Evergreen High School, Seattle. Constellations and Star Party.
 7:30 — 11:00 PM
- **May 8th:**
Outreach Event
 at Pierce College for Cub Scout Pack 444,
 6:15 — 8:00 PM
- **May 11th:**
Outreach Event
 at Shining Mountain Elementary, Spanaway, Comets
 9:00 — 3:30 PM
- **Outreach Event**
 at Mount Si High School, Snoqualmie, Star Party.
 8:00 — 11:00 PM
- **May 12th:**
Public Night at Pierce College, Sunrise Building. Program will be 'Space
- Exploration' presented by Ken Slavens and Alice Few.
 9:00 PM.
- **May 15th:**
 Board of Trustees Meeting
 7:30 PM
- **May 18th:**
Outreach Event at
- Shining Mountain Elementary, Spanaway. Star Party.
 7:30 — 11:00 PM
- **Members only star party** at Bill Briggs residence, Graham.
 9:00 PM
- **May 19th:**
Public Night at Pierce
- College, Sunrise Building. Program will be 'The Sun' presented by Ray Stinson.
 9:00 PM.
- **May 24th:**
Outreach event at Dick Scobee Elementary, Auburn. Star Party.
 7:00 — 9:00 PM

May 2007

Sun	Mon	Tue	Wed	Thu	Fri	Sat
		1 General Meeting.	2 ○	3 Outreach event.	4 Outreach event.	5
6	7	8 Outreach event.	9	10 ☾	11 Outreach event (2).	12 Public Night.
13	14	15 Trustee Meeting.	16 ●	17	18 Outreach event. Members Only Star Party.	19 Public Night.
20	21	22	23 ☽	24 Outreach event.	25	26 Fire In The Sky
27 Fire In The Sky	28 Fire In The Sky	29	30	31		

June Schedule of Events

- **June 5th: General Meeting.** Please note we are meeting at Wyatt Hall, Room 109 at UPS until further notice. 7:30 PM.
- **June 7th: Outreach event** at Evergreen High School, Seattle. Galaxies presentation. 1:00—2:00 PM
- **June 9th: Outreach event** at Camp Gilworth, Dash Point for Cub Scout Pack 5575. Star Party and Planispheres. 7:30—11:00 PM
- **June 15th: Members only star party** at Bill Briggs residence, Graham. 9:00 PM
- **June 16th: Public Night** at Pierce College, Sunrise Building. Program will be 'Ancient Observatories: Chaco Canyon' presented by Jerry Armstrong. 9:00 PM.
- **June 19th: Board of Trustees Meeting** 7:30 PM
- **June 23rd: Public Night** at Pierce College, Sunrise Building. Program will be 'Stories In The Sky'. 9:00 PM.
- **June 29th: Outreach event** at Puyallup Library, Puyallup. Planispheres. 3:00—4:00 PM

June 2007

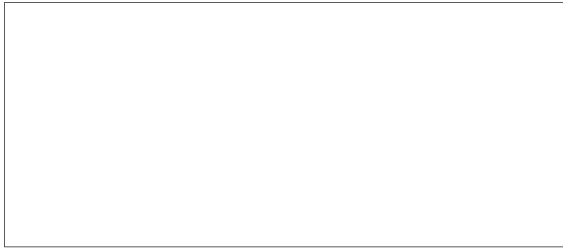
Sun	Mon	Tue	Wed	Thu	Fri	Sat
					10	2
3	4	5 General Meeting.	6	7 Outreach event.	8☾	9 Outreach event.
10	11	12	13	14	15● Members Only Star Party.	16 Public Night.
17	18	19 Trustee Meeting.	20	21	22☾	23 Public Night.
24	25	26	27	28	29 Outreach event.	30

Special Notices:

- We have been invited to attend the Fire In The Sky 2007 three day event from May 26th through May 28th. Come and enjoy this rocket event provided by the Washington Aerospace Club in Mansfield, WA.

We will also be participating by providing star parties, stomp rocket launches and astronomy workshops

Northwest Skies



First Class

If undelivered, please return to

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We need your articles.

If you are interested in contributing an article or would like to make a suggestion as to what you'd like to read in **Northwest Skies** then please do contact the Editor. We are always in need of original contributions.

Deadline for submitting articles for inclusion in the next edition of **Northwest Skies** is the last Thursday of the month before publishing.

What's Up In Astronomy (continued)

by Bert Brown

planetarium dome. Stories of origins of life include the Hawaiian creation chant. There is a 3-D "Voyage through Space" video that takes one to the edge of the known universe. (I don't know what they say about "dark matter" and "dark energy"!) Other rooms display some 100 exhibits such as telescope mirrors, infra-red light, descriptions of weather patterns...and information on the "ukelele and the rebirth of the Hawaiian language." I imagine exhibits will be changed from time to time so as to provide new

things to see or do.

Outside the building is the largest native-plant garden in the state, which displays more than 50 species that existed before the islands were overrun by foreign breeds.

The mission of this museum is to explain how the islands were formed, the genealogical history of the Polynesians and their voyages that found the place, and of course the rôle of astronomy in studying the universe. It says that they had 45000 visitors in their first year-80% of whom were from

Hawai'i, so "outsiders" have mostly not yet "found" the museum. But it is an obvious attraction for anyone visiting the islands.

More information can be found at www.imiloahawaii.org/.

We're on the web!
WWW.TAS-ONLINE.ORG