

The Skyscraper

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the monthly publication of



The Amateur Astronomical Society of Rhode Island

47 Peepthead Road
North Scituate, RI 02857

www.theskyscrapers.org

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The Skyscraper

February 2004

February Meeting

Friday February 6, 7:30pm at Planetary Data Center

The February meeting of the Skyscrapers will be held at the **Planetary Data Center** in Providence in the **Lincoln Field Building** off of Thayer Street (see map). The Brown/NASA Northeast Regional Planetary Data Center is operated as a cooperative effort by NASA and Brown University and is one of a network of Regional Planetary Image Facilities located throughout the United States, Europe and Japan. The objective of these facilities is to make available to interested researchers, educators, and the general public the vast amount of data obtained by the U.S. Space Program from 1962 to present. The Data Center collection contains a wide range of products including: photographic prints, CD-ROM's, microfilms, transparencies, maps, mission support documents, and scientific reference books from various missions.

Skyscrapers will be given a tour of the facility and will listen to a lecture on the status of the current Mars missions, which so far have yielded extraordinary results and photographs. Landing a spacecraft safely on Mars is quite a feat since over 2/3's of all missions sent there have ended in failure!

After the meeting, you will all be invited to **Ladd Observatory**, which is just a short ride from the meeting location where we will observe the planet Saturn through the 12" Brashear refracting telescope. This telescope is exceptional for planetary observations and if you've never looked through it you're in for a real treat! Remember to dress warmly.

Skyscrapers Calendar

Public observing is held every Saturday at Seagrave Observatory. Note that public nights have been added on Friday nights from February 26 – October 17 (excluding October 3).

February 6 7:30pm Monthly Meeting at Planetary Data Center
Friday

February 7 7:00pm Public Observing Night at Seagrave
Saturday Observatory

February 14 7:00pm Public Observing Night at Seagrave
Saturday Observatory

February 23 7:00pm Public Observing Night at Seagrave
Saturday Observatory

February 28 7:00pm Public Observing Night at Seagrave
Friday Observatory

Reminder: Dues are payable in April

We will be offering both *Sky & Telescope* and *Astronomy* magazines at a reduced cost to all members

President's Message

Dan Lorraine, President

Dear Fellow Skyscrapers,

Please join us on our upcoming trip to The American Museum of Natural History and the Hayden Planetarium ...

Truly a museum for the 21st century, the American Museum of Natural History is one of the greatest natural history museums in the world, with hundreds of exhibits, including the famous dinosaur halls, the Hall of Biodiversity, the Akeley Hall of African Mammals, the Hall of Planet Earth, and the newly renovated Arthur Ross Hall of Meteorites. The new Rose Center for Earth and Space has brought an added vitality and excitement, enabling groups visiting the Museum to experience the wonders of the cosmos, the beauty of the natural world, and the diversity of human cultures, all in one visit!

Our trip will include general admission to the museum and the Hayden Planetarium. The museum has a wide variety of restaurants for your dining pleasure from the traditional deli luncheon to sushi or Vietnamese to name a few.

Departure will be at approximately 7:00 am on Saturday April 10, 2004 arriving at the museum at approximately 10:45 am (we will pick up the CT folk in CT off RT 95 at a location to be determined). Departure from the museum home will be at 6:00 pm returning at approximately 9:45 pm. Skyscrapers will be chartering a bus to bring us there and back. The cost for the roundtrip bus faire is \$35 per person, substantially less than if you were to buy a round trip ticket from Bonanza Bus Lines. The group rate for general admission to the museum and the Hayden Planetarium is \$20 per person for an adult (Senior and Students \$15, Child 4-11 \$12). This trip is open to all Skyscrapers members, Astronomical Society of Greater

Hartford members, and any of their family and friends. Space is limited to 47 people and we're already almost full!

If interested please email Dan Lorraine at DWLorraine@aol.com and in the subject line please list "Museum of Natural History visit" so I don't delete your email. Money for the bus and admission to the museum will be due 4 weeks in advance of the trip and will be nonrefundable since Skyscrapers has to pay in advance.

For more information on the museum visit their web site at <http://www.amnh.org/>

Don't forget about or trip to the Hartness House Inn on February 21. The Hartness House is the former governor's mansion and now a full service, historic country inn offering 42 rooms, all with private bath, modern amenities, and a fine dining restaurant in a beautifully restored 1903 country estate. The Hartness House also has a very unique 10" Brashear refractor where observations are made from a fully enclosed and heated viewing station that is accessed from the main building through an underground tunnel. Springfield Vermont is where the amateur telescope movement was spawned, spearheaded by Russell W. Porter and Albert Ingalls of Scientific American. The Inn also has a very nice telescope museum that features some really great artifacts from this period in time, including a Porter Garden Telescope. The rate is \$219 for the night for two if you stay in the main building, and \$189 for two in the wing. This includes breakfast and dinner in their wonderful restaurant, taxes and all gratuities. If you think you may be interested contact Bob Horton at Shootingsta98@yahoo.com. You can visit the Hartness House at their web site www.hartnesshouse.com. Clear skies!

Stellar Rorschach

David A Huestis, Historian

Every season has its share of interesting astronomical wonders for us to marvel at in the heavens. But whether you are using your naked-eye or a newly acquired telescope, can you navigate your way around the constellations to find a particular object? I'm sure everyone could locate the Moon, and some of you might get lucky and find a planet! However, if I told you there was a new comet in a certain constellation, would you know where to look in the sky so you could enjoy the view? If you answered no to the above question then this star pattern primer is for you.

On the next clear night take a close look at the stars in the sky. We all see the same stars, but does everyone really perceive the view the same? Not unless you're well-versed in sky lore! Though each star is just an apparently random diamond set in the blackness of space, the human mind tends to connect the dots into familiar patterns that can be recognized again and again. Our ancient ancestors played "connect the dots" with the stars and the constellations were born. The key is in knowing what stars make up what sky patterns.

Some of our present day constellations have a 6000 year history. Taurus the Bull, Leo the Lion, and Scorpius the Scorpion, are recorded in cuneiform texts from around 4000 B.C. The ancients honored these common animals by placing them in the sky for all to revere.

Though these sky pictures and associated stories were developed to explain the mysteries of the heavens, their regular rising and setting times came to be relied upon for the planting and harvesting of crops here on Earth. The motion of the sky became the first calendar. Because the lives of our ancestors depended upon their knowledge of this sky clock, they dutifully recorded all that transpired in the heavens. The science of astronomy arose from these early and diligent observations.

A good example of this knowledge was utilized by the ancient Egyptians. I'm sure many of you are aware that the Egyptians relied upon the annual flooding of the Nile for the success of their crops. How did they know when this was to occur? When Sirius, the brightest star in the sky, rose off the eastern horizon at dawn, the Nile would soon overflow its banks.

Throughout history new star patterns emerged as contact with other cultures occurred. Old and established

constellations were replaced with new ones when conquering civilizations subjugated their enemies. The same grouping of stars could be a big bear or a ladle or dipper (Ursa Major or the Big Dipper). One could consider it a stellar Rorschach inkblot test. What each star pattern resembled merely depended upon the kn

wledge and experience of the viewer. Many non-traditional constellations were added when explorers traveled to the southern hemisphere and witnessed an entirely different vault of stars.

Since 1932, the constellations have well-defined boundaries and names. This standardization was done to avoid confusion in the astronomical community. Today there are 88 constellations, half of which were known to the ancients. Many of you are probably familiar with the 12 signs of the zodiac, so you're already acquainted with about 1/4 of the constellations that can be seen from our latitude here in New England. But can you find these star patterns in the sky?

I hope you can at least locate the star pattern that is your astrological sign. By the way, did you know we owe the creation of the zodiac to the Babylonians? The zodiac is the band of constellations that encircles the sky centered on the ecliptic, our sun's path across the sky during the course of a year. The term means "little animal cycle," since all of the patterns, except Libra, represent living creatures.

Many of the traditional star patterns are rich in mythology. Over the years in this column I have related mythological tales about Orion, Taurus, Aquarius, Hercules, Andromeda, Pegasus, and Scorpius, as well as pointed out some of the brighter telescopic sights in these constellations. For new readers of this column I will re-examine some of these sky pictures as well as introduce you to additional signposts in the sky in future months. Once you know the history behind the figures in the sky you won't observe them the same way again. The vault of the heavens is a giant pictograph from our ancient ancestors who have given us a time capsule from their day.

Learn the constellations, particularly if you own a telescope. If you don't own a scope, learn the star patterns first before you purchase one. The constellations are full of wondrous objects such as

galaxies, clusters, and nebulae. If you can't even find the constellations in the sky, you'll never find the riches lying within them.

Many times in the past I have suggested that you purchase a star-wheel to aid in locating constellations. The Rhode Island Audubon Society store in Greenville at 12 Sanderson Road (Route 5) carries a supply of them. Some of the local bookstores have carried them in the past as well. They are inexpensive and quite easy to use. Also, you might want to purchase H.A. Rey's *The Stars, A New Way to See Them*. It is a classic book on constellation identification that has also been available at the local bookstores.

Once you've learned the traditional sky patterns, try making up your own. Some of the constellations don't appear to resemble the images they're suppose to depict. Why? The images are millennia old, hence we are unfamiliar with their once common and identifiable forms. For instance, Bootes is a herdsman in mythology. I certainly don't see the image of a herdsman among those stars. What I do see though is a kite. The red star Arcturus marks the end of the kite where the tail is attached. Drop me a postcard to this publication with your constellation interpretations. I promise I won't show them to any psychiatrists! I'll publish as many as I can in a future column. It could prove very entertaining.

Again, a quick reminder that Seagrave Memorial Observatory is open to the public every Saturday night this winter at 8:00 pm for observing the wonders of the heavens. Admission is free. The observatory is located on Peepoad Road in North Scituate. If snow covers our parking lot, the observatory will remain closed. More information, including directions, membership, and weather related closures can be found at our website: www.theskyscrapers.org

Keep your eyes to the skies!

Secretary's Report

Bob Napier, Secretary

Monthly Meeting

January 2, 2003

N. Scituate Community Center

Meeting Start - 7:40 PM, Steve Hubbard, 2nd VP presiding.

SECRETARY'S REPORT - Accepted as published in the Skyscraper.

TREASURER'S REPORT - Accepted as published in the Skyscraper.

TRUSTEES' REPORT - Weather conditions, especially show and ice accumulations, will determined if the Seagrave Observatory grounds can be opened for use.

NEW BUSINESS - Three new membership applications received during November, but were not announced at the November meeting because there was no business meeting (snow storm).

OLD BUSINESS - Several new membership applicants were voted into membership.

GOOD OF THE ORGANIZATION - Hartness House trip, near Stellafane in Springfield, VT., Jan. 24, rooms/meals for \$219, please see Bob Horton for further details; Dave Hurdis gave an update on Janet Mattei (Directory of AAVSO - Janet donated the Hands on Astrophysics education kit to Skyscrapers a couple of years ago) - She is recovering from chemotherapy and in rehabilitation and additional treatments with good progress. She may receive visitors; Skyscrapers' February meeting will be at the Brown University's NASA Planetary Data Center; the March meeting will be about the June 2004, transit of Venus; the April meeting has Gary Walker's talk on variable stars rescheduled.

Bob Napier gave an update on the Mars Exploration Rovers - Spirit and Opportunity - and the Stardust mission to capture part of Comet Wild 2 with an earth return landing in 2006.

Meeting Adjourned at 8:00 PM

Beowulf Clusters, Grand Unified Theories and Linux (oh my)

by Alex Schenck on Dec 5, 2003

Hello all,

This is Alex Schenck speaking. As some of you already know I'm going to be participating in the Intel STS competition in 2004 by entering astronomical and meteorological data that I will collect using CCD cameras and process using a Beowulf Cluster (<http://www.beowulf.org>). As Dave Huestis put nicely, "Why don't you come up with something a little simpler, like a Grand Unified Theory?"

Well, sorry Dave but I'm sticking to my project. However, I'm going to need a little bit of help. I am looking for support from any and all Skyscraper members that have knowledge of CCD cameras, in the form of advice (and possibly resources). Remember my funds are relatively limited; I can't go out and buy 10-20 Apogee CCD cameras... so I guess what I'm asking for are links and connections to inexpensive

cameras (of course, if you've got an Apogee you'd like to let me borrow, I'd be more than willing to use it ;)).

I don't want to get into too much detail about my project online (because once the search engines pick it up and the DNS registry kicks in, someone can take my idea from me, and that'll make me a little annoyed), but if you think you can help me out, just interested in what I'm doing or both, give me a call at (401) 949-4764.

I thank all members for their support of my project and for any time and effort you may use towards assisting me.

Hubble Space Telescope to be retired early

The recently announced bold new visions for NASA along with word of significant budget increases for the space agency aren't all good news, as the Hubble Space Telescope is getting the proverbial shaft. Due to plans to retire the Space Shuttle fleet by the year 2010, the remaining shuttle flights will be scheduled for construction and servicing missions to the International Space Station. This means that a Hubble Space Telescope servicing mission originally planned to take place in 2007 or 2008 has been scrubbed. The Hubble Space telescope has been successful because of these service missions and without them the orbiting observatory's systems would degrade over time and eventually result in complete failure.

As amateur astronomers, we have seen what the Hubble Space Telescope is capable of, not only in its scientific discoveries, but also in its ability to captivate public interest in astronomy and space with its awe-inspiring images. While a replacement space telescope is in the works, it will be several years before it is launched, and it will be launched into orbit around the sun where it will be inaccessible to repair missions as the HST has received. It would be a terrible shame to let Hubble become yet another piece of orbiting space junk. *Sky & Telescope* has put together some information on what you can do to help:

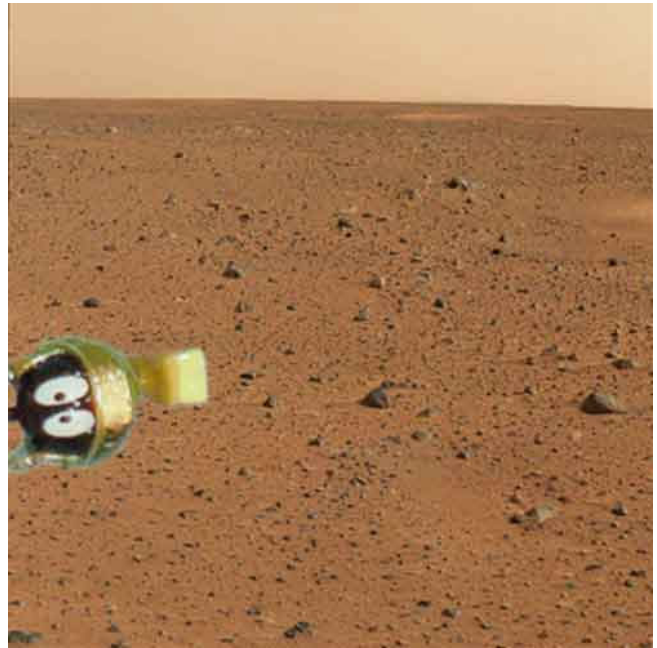
http://skyandtelescope.com/news/article_1160_1.asp

Latest news from the Hubble Space Telescope:
<http://www.stsci.edu/>

Mars Update

Opportunity makes a successful landing on the surface of Mars while engineers are working out the problems with Spirit. The latest news and images from the Mars rovers can be found at <http://www.jpl.nasa.gov/>

Life on Mars?



Directions to Seagrave Observatory

From the Providence area:

Take Rt. 6 West to Interstate 295 in Johnston and proceed west on Rt. 6 to Scituate. In Scituate bear right off Rt. 6 onto Rt. 101. Turn right onto Rt. 116 North. Peeptoad Road is the first left off Rt. 116.

From Coventry/West Warwick area:

Take Rt. 116 North. Peeptoad Road is the first left after crossing Rt. 101.

From Southern Rhode Island:

Take Interstate 95 North. Exit onto Interstate 295 North in Warwick (left exit.) Exit to Rt. 6 West in Johnston. Bear right off Rt. 6 onto Rt. 101. Turn right on Rt. 116. Peeptoad Road is the first left off Rt. 116.

From Northern Rhode Island:

Take Rt. 116 South. Follow Rt. 116 thru Greenville. Turn left at Knight's Farm intersection (Rt. 116 turns left) and follow Rt. 116. Watch for Peeptoad Road on the right.

From Connecticut:

- Take Rt. 44 East to Greenville and turn right on Rt. 116 South. Turn left at Knight's Farm intersection (Rt. 116 turn left) and follow Rt. 116. Watch for Peeptoad Road on the right.
- Take Rt. 6 East toward Rhode Island; bear left on Rt. 101 East and continue to intersection with Rt. 116. Turn left; Peeptoad Road is the first left off Rt. 116.

From Massachusetts:

Take Interstate 295 South (off Interstate 95 in Attleboro.) Exit onto Rt. 6 West in Johnston. Bear right off Rt. 6 onto Rt. 101. Turn right on Rt. 116. Peeptoad Road is the first left off Rt. 116.



**47 PEEPTOAD ROAD
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