

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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Jim Hendrickson 354-4906

See back page for directions to Seagrave Observatory.

Please submit items for the newsletter by October 15 to Jim Hendrickson, 1 Sunflower Circle, North Providence, RI 02911 or e-mail to jim@distantgalaxy.com

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The Skyscraper

October 2004

AstroAssembly 2004

Friday, October 1st & Saturday, October 2nd at Seagrave Observatory

Join Skyscrapers, Inc. for AstroAssembly 2004, an annual tradition since 1952. Friday night short talks include: Peter Lee, Thomas Crain, Al Hall, and Tony Misch. Saturday afternoon lectures featuring Matt BenDaniel, Ed Ting, Robert Naeye, Anatoly Zak, Matt Marulla, and Tony Misch. Swap/vendor tables, solar observing, telescope optics workshop, AstroQuiz, raffle prizes, and buffet dinner.

Skyscrapers Calendar

Public observing is held every Saturday at Seagrave Observatory weather permitting and when the grounds are accessible.

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|---------------------------------|---|
| October 1 Friday | 6:00pm AstroAssembly: Friday Night Short Talks at Seagrave Observatory |
| October 2 Saturday | 9:00am AstroAssembly at Seagrave Observatory |
| October 9 Saturday | 8:00pm Public Observing Night at Seagrave Observatory |
| October 16 Saturday | 8:00pm Public Observing Night at Seagrave Observatory |
| October 23 Saturday | 8:00pm Public Observing Night at Seagrave Observatory |
| October 27 Wednesday | 8:00pm Lunar Eclipse at Seagrave Observatory |
| October 30 Saturday | 8:00pm Public Observing Night at Seagrave Observatory |

Online Extras

AstroAssembly Historical Gallery

A collection of photos from the early years of AstroAssembly.
<http://www.theskyscrapers.org/contentmgr/showdetails.php/id/1951>

Skylab 25th Anniversary Special

Dave Huestis provides us with a humorous bit from the Skyscrapers archives regarding an insurance policy issued to Skyscrapers members in 1979 for the impending crash of the uninhabited Skylab space station.

<http://www.theskyscrapers.org/contentmgr/showdetails.php/id/1969>

President's Message

Dan Lorraine, President

Dear Skyscrapers Members,

On October 1 & 2 Seagrave Memorial Observatory will be hosting our annual event called AstroAssembly, a tradition since the early 1950's. Once again Bob Horton has put together a tremendous lineup of speakers for both Friday evening and all day Saturday. Saturday evening will be capped off with our keynote speaker Tony Misch from Lick Observatory and our banquet. Members only pay \$10 for the entire weekend. If you'd like to buy a ticket for the all you can eat banquet, the cost is \$17/per person and includes a wine and cheese reception, chicken with gravy, Swedish meatballs, pork with apples, rice pilaf, macaroni, salad, desert, and soda & coffee. Please come out and support your astronomy group! A great time is guaranteed!

On November 12th we've scheduled a star party at Harvard's Oak Ridge Observing station. Skyscrapers members will be allowed to observe with their 5" Alvan Clark refractor, the 16" Newtonian, and hopefully their new 25" should be operational by then. We will also bring a few scopes to set up on the grounds so that there are plenty of telescopes for everyone to look through. We will meet at

Seagrave Observatory at 6:00pm and car pool from there. The ride is approximately 1 1/2 hours from North Scituate.

And don't forget that on April 30 (through May 6) Skyscrapers will be departing for Flagstaff Arizona to observe for three nights with Percival Lowell's 24" Alvan Clark refractor. This is the telescope made famous by Lowell for his observations of the "canals" on Mars, and we will have it for our exclusive use on Monday, Tuesday, and Thursday. We will also be given a tour of the entire facility including the 13" astrograph used by Clyde Tombaugh to discover the planet Pluto in 1930. I have arranged for a star party with the local amateur group in Flagstaff for Sunday evening. Day trips will include the Grand Canyon, Walnut Canyon and Wutpaki Ruins, Meteor Crater, Sedona, the Petrified Forest, the US Naval Observatory, and more. Cost and details are not finalized yet but it looks like it will be around \$900 which covers round trip airfare from Providence, hotel, rental fee for the 24" telescope, auto rental and gas, meals, and fees for the national parks. If interested, please email me at DWLorraine@aol.com because there are a limited number of spaces.

I hope to see you all at AstroAssembly!

Catch a Falling Star

David A Huestis, Historian

Simply unbelievable! We had some nice cool and crystal clear nights a few days before the Perseid meteor shower, and then on the peak night we had mostly overcast skies! I've got some choice words for the weather in New England this year, but I can't print them here!!! The Perseid curse continues.

The weather forecast for the peak night did look bleak, so I tried to observe the night before. Early evening clouds diminished by midnight, so I went out and observed until 1:15 am. Then the clouds began to roll in once again. Within five minutes the entire sky was overcast. I only saw two Perseid meteors!

True to the weather forecast, the next night was very cloudy at sunset. Then around midnight or so I looked out and saw an opening directly overhead. The sky had a milky look to it. High thin clouds blocked all but the brightest stars. All I could really see was the Summer Triangle, an area of sky bounded by the stars Deneb, Altair and Vega. That hole in the sky eventually became smaller and smaller and the overcast thickened. After about 45 minutes of frustration I called it quits since not a single meteor presented itself. It just wasn't worth it.

I woke up around 4:00 am and tried my luck again, but conditions were about the same. The only thing that made it worthwhile was the rising thin crescent Moon with brilliant Venus accompanying it. Unfortunately no meteors complemented the view in the 15 to 20 minutes I spent out on my back porch before dawn. I hope folks in other parts of the country had better luck. The Perseids used to be pretty good for us, but not in the last twenty years or so. Fortunately there are other astronomical events to observe, including two meteor showers in October.

First up is the Draconid meteor shower on the night of October 7-8. The waning crescent Moon, just past last quarter, will rise about midnight and somewhat hamper observation of this meteor display. The comet (Giacobini-Zinner) which produced this stream of particles last passed by in 1998. Unfortunately we do not usually get high rates this long after the comet's last appearance. Considering that the peak rate is only about 10 meteors per hour, we can possibly expect as few as zero or at most five or six. They are slow moving meteors, hitting our atmosphere at 12.5 miles per second. You may get more sporadics (random meteors)

than Draconids. Draconids radiate from the northern sky in the constellation Draco.

The best meteor shower in October is the Orionids. Peak night this year occurs on October 20-21 with a first quarter Moon that will set around 11:30 pm. You can't ask for observing conditions any better than this, except of course, that the sky will be cloud free!! The Orionids put on their best show after midnight anyway, so moonlight won't be a problem this year.

As the night progresses, Orion will rise higher and higher into the sky. From a sky well away from any source of light pollution an observer should have no difficulty observing 15-20 yellow and green meteors per hour during peak after midnight. These remnants of Halley's Comet intercept the Earth's orbit nearly head-on at 41.6 miles per second, so they are bright and are also noted for producing fireballs that create persistent dust trains high in the atmosphere. Good luck.

Later this month we have a total lunar eclipse on the night of October 27-28. This will be the last such eclipse until 2007. A separate column about this beautiful sky event will be forthcoming. Let's hope all these astronomical events will be observable. What the heck! There's sugar free. There's lead free. There's carb free. I just want cloud free!!

And lastly, don't forget to turn your clocks back one hour on Sunday, October 31 at 2:00 am. We return to Eastern Standard Time. Many folks miss those long summer nights where it doesn't get dark until late in the evening. Astronomers love it because they can begin to observe earlier.

Remember, Seagrave Observatory is open free of charge to the public every clear Saturday night(except October 2). Check our web site - <http://www.theskyscrapers.org> - for further information, and always keep your eyes to the skies.

Prime Time Lunar Eclipse

David A Huestis, Historian

Do you think you would notice if the Full Moon practically disappeared one night? Well, we'll have an opportunity to explore that idea on the night of October 27-28, as the Full Hunter's Moon slides deep into the Earth's shadow. Yes, we are again fortunate to be ideally situated to observe another total lunar eclipse in its entirety. Let's hope for some clear skies, because this is the last total lunar eclipse until August 28, 2007.

I consider this lunar eclipse a "prime time" event since totality concludes before midnight. As commuters drive home from work on the night of October 27, they won't be able to miss the Full Hunter's Moon rising in the east. Our desolate neighbor will bathe the landscape in eerie reflected sunlight.

But, if those same folks ventured outside later in the evening would they wonder what had happened to the bright Full Moon? Well, if you keep on reading this article you won't be left in the dark as to the Moon's whereabouts.

To refresh everyone's memory, a total eclipse of the Moon occurs when the Sun, Earth and Moon are nearly in a straight line. With the Earth in the middle of this celestial configuration, our planet's shadow will sweep across the lunar surface. It's like compressing an entire month's moon phase cycle into one evening.

The eclipse begins at 8:06 pm on the 27th and ends at 2:03 am on the 28th for a duration of 5 hours and 57 minutes. All times listed are Eastern Daylight Time

(EDT). You don't necessarily have to watch the entire eclipse to be impressed with the beauty of this event. Don't have much free time? Just watch through the end of totality. After that it's anti-climatic anyway. To help you plan your evening, the following narrative highlights the times when significant phases of the eclipse will occur.

The Moon enters the Earth's faint shadow called the penumbra at 8:06 pm and the eclipse begins. The penumbra is so dim that the Moon's "first contact" with it cannot be seen. Only as the Moon slides deeper into the shadow will a keen-eyed observer see a subtle shading of the lunar surface. Just prior to the Moon entering the Earth's dark umbral shadow one should notice that the moonlight looks somewhat subdued.

At 9:14 pm the Moon encounters the dark umbral shadow of the Earth. The Moon will be moving eastward in our sky when it encounters the Earth's shadow. Therefore, watch for the shadow to sweep across the lunar surface from left to right. By the time the Moon is more than halfway through the umbra we should be able to tell if this is going to be a dark eclipse or a bright one.

Since there are no major volcanic eruptions spewing copious amounts of dust into our atmosphere to darken the eclipse, I suspect the Moon will remain visible even during mid-totality. And since the Moon will be well within the Earth's dark shadow, it should present a collage of yellow and orange hues to the observer, but

without the bright ring of light that moved around the edge of the lunar disk in May and November 2003. The umbral shadow completely envelopes the Moon at 10:23 pm. That's the moment when totality begins.

Totality will last for one hour and twenty-two minutes. That's almost one hour longer than last November's eclipse. This scenario will give an observer plenty of time to scan the Moon's colorful surface. Totality will be so long that I've actually seen folks get bored during similar eclipses. Even during the darkest eclipses that I've observed, a telescope will still reveal some rusty browns or reds on our lunar neighbor. Mid-totality occurs at 11:04 pm. Forty-one minutes later a sliver of brightness marks the end of totality at 11:45 pm as the Earth and Moon move out of alignment and sunlight once again strikes the lunar surface.

The partial phase will last until 12:45 am. At that time the dark umbral shadow will leave the Moon's surface. Soon thereafter, like the beginning of the eclipse, the remaining phase will hardly be noticeable at all as the Moon begins to return to full brightness. For an hour and eighteen minutes, until 2:03 am when the eclipse ends, the Moon will remain within the lighter penumbral shadow. Only while the Moon is still deep within the penumbral shadow will the lunar surface appear in subdued light.

If you have binoculars or a telescope, this event is the time to put them to good use. The more optical aid an

observer uses, the more detail one will discern. Even if you don't have access to expensive equipment don't despair. Mother Nature provided you with a pair of the most valuable observing tools - your eyes! Use them to follow the progress of this beautiful event.

Skyscrapers, Inc. cordially invites you to Seagrave Observatory to observe this total lunar eclipse. All our society's instruments will be available to watch the progress of this astronomical event. Our members may also bring their own telescopes and binoculars to share the view with you. Parking is limited, so plan accordingly. Once the lot is full, we will have to turn folks away. No parking is permitted on Peeptoad Road.

If the weather is favorable make every effort to observe this beautiful celestial show. The next one is more than two and a half years away, so make the best of this upcoming opportunity.

Good luck, keep your eyes to the skies, and hope to see you at Seagrave Observatory on the night of October 27-28.

And remember, Seagrave Observatory is also open every Saturday night for your viewing pleasure, weather permitting of course. Visit us at <http://www.theskyscrapers.org> for information.

Secretary's Report

Joel Cohen, Secretary

August Meeting

August 6, 2004

Skyscrapers Meeting Hall

Meeting Start - 7:45 P.M. Dan Lorraine commented on the recently completed trip to White Mountain in California. Dan offered condolences to Bob Horton on the passing of his father on the day he had been scheduled to depart and lead our group on the trek he so diligently organized. Dan also noted the recent loss of Jack Szelka's brother in law.

Steve Hubbard introduced this month's speaker, Dennis DiCicco, Senior Editor of Sky & Telescope who delighted us with images of eclipses of the last 35 years and his most recent trip to Italy to view the Transit of Venus as a guest at the Pope's observatory. Dennis reprised his pictorial report of a flyover view of last November's total eclipse in Antarctica. Included were a synopsis of the voyage to Chile and vistas as seen from the chartered airplane on a 14 hour flight over the South

Pole and its environs.

Secretary's Report - Report accepted as published.

Treasurer's Report - Report delivered verbally and accepted.

Trustee's Report - Ted Ferneza thanked Marian Juskov and his family for their aid in cleaning out the 16" roll off building. Marian also reported the eviction of some four legged squatters. Ted reported that the water damage and subsequent rot to the wall in the Clark building is significant and will require much attention so as to prevent any more major structural damage.

New Business - No new business introduced.

Old Business - The previously tabled motion to purchase an LCD projector was brought back to the floor, amended to spend up to \$2,000 (up from \$1,800), seconded, and the motion to amend and to purchase were both unanimously approved. Steve Siok requested

information regarding storage of the unit during cold weather. The motion to sell the unused counterweight for an Alvan Clarke telescope for \$100.00 was passed.

Good of the Organization - Dan noted that the donated Ash dome sold on E-bay for \$2,559.00. The high bidder was Al Hall. Steve Hubbard mentioned upcoming speakers for September, John Huchra and December, Owen Gingrich. Dan made note of the photos of the White Mountain trip on the website. Ted called for volunteers to help at the Feinstein Camp field trip. Dan talked briefly about a field trip to Jamestown to observe this year's Perseids. Rick Lynch presented a humorously entertaining visual retrospective of Skyscrapers attendance at Stellafane.

Adjournment - 10:35 P.M.

September Meeting

September 10, 2004

Skyscrapers Meeting Hall

Meeting Start - 7:40 PM Steve Hubbard called the meeting to order. Steve noted the passing of Fred Whipple, a friend of the organization, and asked for a moment of silence in his remembrance. Steve introduced Dr. John Huchra, our speaker for the evening. Dr. Huchra shared some of his experiences in the field of Cosmology and interpreting the results of over two decades of astronomical survey work including the mapping of the skies with the 2MASS All Sky Survey.

Secretary's Report - Approved as delivered

Treasurer's Report - Approved as delivered

Trustee's Report - Ted Ferneza suggested that the Clark building repairs be attended to after AstroAssembly. Ted also noted the Meade 12" has some issues. These may require that we send it out for maintenance.

Librarian/Historian's Report - Dave Huestis made note of the upcoming Lunar Eclipse on October 27, 2004 duration 1:27 from 10:23 to 11:50 pm.

New Business - Marian Juskov asked about trees on the property and their removal or cutting them back. Steve

suggested that topic be discussed at a future E Board meeting. Bob Horton related that our neighbor witnessed a tree damaged by lightning.

Old Business - None

Upcoming Speakers - Steve Hubbard reported that the line-up of speakers included Rob Gendler in November, Astro Imaging; Owen Gingrich in December, The Book Nobody Read; Members Potpourri in January; Dave Huestis, the 30th Anniversary of the Great Planetarium Exhibition at the Warwick Mall.

Good of the Organization - Dave Huestis noted a star party for the Audubon Society on September 16. Steve noted the upcoming trip to Arizona April 30 through May 4, 2005 with reserved time on the 24" Clark at Lowell Observatory. Bob Horton requested that all those available contact him regarding the various volunteers needed to conduct AstroAssembly in fine fashion. Bob also went over an impressive speaker lineup for AstroAssembly including a telescope workshop with optical testing. Bob asked that we all make copies of the flyer and distribute them at libraries, schools, science departments etc.

Adjournment - 10:33 PM

Telescope Humor

This was an actual advertisement for a telescope several years ago. Submitted by Dave Huestis.

A gift for the whole family!
Cometron Reflector Telescope
View the rings of Saturn and the moons of Mars.
This super 4.5" reflector telescope features precision German optics in 40 and 111 power.
KIT ONLY **\$299**

SAVE \$100!

TL-400

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
NORTH SCITUATE, RI 02857**