SKYSCRAPERS INC.

# the Skyscraper

vol. 39 no. 1
January 2012

Amateur Astronomical Society of Rhode Island ★ 47 Peeptoad Road ★ North Scituate, Rhode Island 02857 ★ www.theSkyscrapers.org

# January Meeting "The City Dark"

## Friday, January 6, 7:30pm at North Scituate Community Center

The Frosty Drew Observatory is said to be located in the darkest skies in Rhode Island. Knowing the observatory's contributions to the town – educational, economic and aesthetic – Charlestown has bought for Frosty Drew's exclusive use the movie The City Dark. This 84-minute movie stresses the importance of retaining the night, for effects including human health, animal preservation and the retaining of one of our natural resources.

–Francine Jackson
Director, Frosty Drew Observatory

## In this issue…



**"The City Dark"**

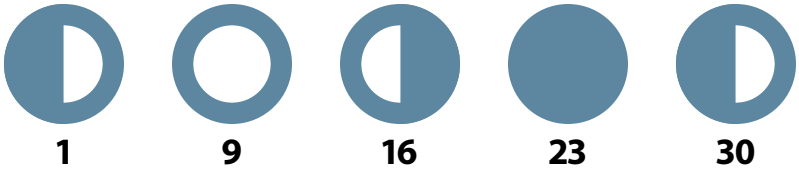
THE CITY DARK is a feature documentary about the loss of night. After moving to NYC from rural Maine, filmmaker Ian Cheney asks a simple question - do we need the stars? - taking him from Brooklyn to Mauna Kea, Paris, and beyond. Exploring the threat of killer asteroids in Hawaii, tracking hatching turtles along the Florida coast, and rescuing injured birds on Chicago streets, Cheney unravels the myriad implications of a globe glittering with lights - including increased breast cancer rates from exposure to light at night, and a generation of kids without a glimpse of the universe above. Featuring stunning astrophotography and a cast of eclectic scientists, THE CITY DARK is the definitive story of light pollution and the disappearing stars. Written by Wicked Delicate Films

In many ways the most complex issue that we face as a civilization are the trade offs between the costs and benefits of modernity. One of the most trans-formative changes of the last century has been the massive expansion of artificial light which has transformed our concepts of natural daylight and darkness and in so doing transformed our way of life. Thomas Edison's electric light bulb is in many ways the core invention of our modern way of life. Artificial lighting represents one of humankind's greatest triumphs over the natural world. But at the same kind, artificial lighting has remarkable, and usually unremarked, upon costs.

The City Dark takes on the challenge of trying to understand what we are losing through the loss of darkness. The City Dark has been filmed in a beautiful and elegant style – a sort of visual poetry that draws the viewer in. The beauty of the filming and insights of the interviews literally paint us picture of the costs of electric lighting. The film is an enchanting philosophical study of how artificial light is changing our lives in profound ways. It explores how we are becoming disconnected from our natural surroundings – particularly the stars of the night sky that are being lost to light pollution in our urban areas. Its biggest flaw is that it spends too much time on how we've lost contact with the beauty of the night sky before getting to the more intriguing ways in which artificial lighting is affecting the well-being of our society. The later parts of the film examine how our changes to the lighting environment are harming the wildlife - such as turtles and birds. It also explores how lighting may be having deleterious effects on human health in profound and unexpected ways.

This film literally asks us to considering the costs of our modernity, science and indeed literally of our enlightenment. Those are questions that we need to be asking in our modern, scientific world as we come to realize the costs of our modern way of life.

Phases of the Moon




**Other notable events:** Earth at perihelion on the 5th. Lunar eclipse begins at moonset on the 10th (not visible from East Coast). Solstice is on the 22nd. Mercury at greatest western elongation on the 23nd. Pluto is in conjunction on the 29th.

# President's Message

Tom Thibault

Dear Skyscrapers Members,

Hopefully all of you good little stargazers received some new observing gadgets this holiday season. The winter solstice has passed and the winter skies are amongst the best to test out those new goodies. Jupiter continues to dominate the evening and some of the premiere deep sky objects have begun to display their wares. To me, the winter skies are the best, the skies appear their darkest, the air is crisp, and the nights start early.

It was good to see so many of you at our December Holiday Meeting. The Skyscrapers tradition of our membership gathering to feast with friends continued with a fabulous Pot Luck spread of varied dishes. Our speaker Richard Sanderson's, "Night of Raining Fire" was captivating. As Richard read the eyewitness accounts of the 1833 Meteor Storm, I became envious of those that had witnessed this rare astronomical event. I find history an interesting subject to begin with, but add the astronomy component, and you have me hooked.

Bob Horton and Bob Napier put together a wonderful display honoring long time member John Hopf. It included numerous examples of John's work as a professional photographer as well as stunning photos of comets he captured during his lifetime. Our attendees were treated to an early holiday gift. All were invited to choose one of numerous postcard examples of John's works in memory of our fellow Skyscraper. Bob Horton also, to the delight of the crowd, shared a great aerial photo of John within a small plane accompanied by a pair of UFO's, apparently John's reputation as a great photographer had spread throughout the universe.

As you all know, light pollution is the bane of all those with an interest in astronomy. There are studies now showing that light pollution is not only hindering our view of the night sky, but are also having effects on us physically. January's Meeting will feature the film "City Dark". Francine Jackson will present the film and has extended an invitation to our membership to invite any of their public officials to attend. If we want to see improvements regarding this issue, we need to have those representing us to work on our behalf.

Our Observatory Committee and Outreach Program have completed a very active year. Even with the late start last year, our Public Nights finished strong due to the lack of snow and ice. We have added to the ranks of the committee two additional members and invite all to come up and join us on Saturday Nights. We participated and hosted a good number of Public Outreach events and shared the beauty of the universe with hundreds. We've had a great year displaying our commitment to public education. I would like to encourage anyone with the time and interest to come join us in our mission.

Clear Skies

**Bob Napier and Bob Horton set up this presentation of John Hopf's photographs and postcards at the December meeting. Photo by Jim Crawford.**

The Skyscraper is published monthly by Skyscrapers, Inc. Meetings are usually held on the first Friday of the month. Public observing is usually held every Saturday night at Seagrave Memorial Observatory, weather permitting.



**Directions**
Directions to Seagrave Memorial Observatory are located on the back page of this newsletter.

**Submissions**
Submissions to The Skyscraper are always welcome. Please submit items for the newsletter no later than **January 20** to Jim Hendrickson, 1 Sunflower Circle, North Providence, RI 02911 or e-mail to jim@distantgalaxy.com.

**E-mail subscriptions**
To receive The Skyscraper by e-mail, send e-mail with your name and address to jim@distantgalaxy.com. Note that you will no longer receive the newsletter by postal mail.

twitter.com/SkyscrapersInc

# Meteor Shower Prospects for 2012 & Other Astronomical Highlights

Dave Huestis

It seems like my meteor reports for 2011 read more like meteorological summaries. The weather was absolutely horrible. Not only did it spoil most of the shooting star displays that were not already affected by interfering moonlight, but extensive and prolonged cloud cover prevented amateur stargazers from telescopic viewing throughout the year as well. In fact, as of December 8, Ladd Observatory was only clear 14 Tuesdays out of a possible 49 up to that date, and only two of the closures were non-weather related! We can only hope that in 2012 Mother Nature will cooperate and provide more observing opportunities.

Before I highlight the observing prospects for the more productive 2012 meteor showers, let's see what other astronomical events are scheduled for the new year.

While there are four eclipses in 2012, two solar and two lunar, we will not see any of them here in Southern New England. Mars will be well placed for observing at a reasonable hour once spring arrives. While Mars will be at its closest approach to the Earth on March 5, it will still be about 63 million miles from us. Though the image through a telescope will not be as large as it has been during past close encounters, it will still reveal some detail through the larger scopes available at the local observatories.

In addition, we will be treated to another transit of Venus across the disk of the Sun on June 5. Venus transits occur in pairs, eight years apart. You may recall we experienced the first one of this pair back on June 8, 2004. (See accompanying image.) Locally this event begins at approximately 6:04 p.m. EDT in the western sky with the Sun about 22 degrees above the horizon. Venus will pass between the Earth and the Sun, allowing us to observe, with proper filters, the disk of Venus as it transits the solar disk. The Sun will set at approximately 8:07 p.m. EDT with the transit in progress.

You'll need a good horizon if you want to follow the transit through sunset. Let's hope we have clear skies, since the next transit of Venus doesn't happen again until December 11, 2117!

I will be writing an observing guide for the transit of Venus prior to the event, but if you wish to observe it safely I recommend you purchase solar eclipse glasses early, as the transit will be visible to millions of folks across the United States. They are available from a number of vendors through the internet. Whatever you do, caution will be the keyword of the day. You will not wish to ruin your eyesight by looking at the event unfiltered, for there will be many more astronomical events for you to enjoy in the coming years.

During 2011, I probably observed fewer meteors than I have for quite some time. I love sitting out there under a dark clear sky scanning for a few shooting stars to blaze across the heavens. Unfortunately in 2011 many things conspired to keep me indoors.

However, in looking ahead to the coming year, the more productive meteor showers have the most favorable observing conditions, regarding Moon interference, than in many recent years. Now if only the weather will cooperate.

We start off the new year with the Quadrantids, which will peak on the morning of January 4. In a dark sky observers can potentially see a sharp peak over a two-hour span of up to 100 meteors per hour. That peak this year occurs at about 2:00 a.m. A waxing gibbous Moon will brighten the sky prior to its setting around 3:00 a.m. Fortunately the radiant point (the area of sky from where the meteors appear to originate) is not far from the end star (Alkaid) of the Big Dipper's handle.

From midnight till dawn this area of sky will rise higher and higher above the north-east horizon. This scenario places the radiant point on the opposite side of the sky from where the Moon will be, so moonlight should not hamper observing this shooting star display. The Quadrantids are often blue and frequently blaze more than halfway across the sky at 25.5 miles per second.

Select an observing location as far from interfering lights as possible. In addition, please dress warmly if you plan on spending more than a just a few minutes outdoors viewing the Quadrantids. And observe with a friend so you don't fall asleep if the meteor activity has a lull period. Even around Southern New England, mild frostbite can affect exposed skin if you're not careful.

And while there are some folks who mistakenly believe one needs a telescope to observe a meteor shower, all you really need are your eyes to enjoy this beautiful shooting star display.

As I have already mentioned, the remaining 2012 meteor showers have the best prospects I have seen for quite a long time. The brightest Moon phases will fortunately not interfere with the meteor showers that most of us enjoy. As long as the weather cooperates, 2012 could find us spending more time out under the stars waiting for a shower of comet dust to disintegrate in the sky above us.

## Meteor Shower Prospects for 2012

| Month | Shower | Date | Moon Phase |
|---|---|---|---|
| January | Quadrantids | 3-4 | Waxing Gibbous |
| April | Lyrids | 21-22 | New Moon |
| May | Eta Aquarids | 5-6 | Full Moon |
| July | Delta Aquarids | 28-30 | Waxing Gibbous |
| July | Capricornids | 29-30 | Waxing Gibbous |
| August | Perseids | 11-12 | Waning Crescent |
| October | Orionids | 20-21 | Waxing Crescent |
| November | Leonids | 16-17 | Waxing Crescent |
| December | Geminids | 12-13 | New Moon |

Clip and save this 2012 meteor shower prospects chart and use it to plan your observing schedule for the coming year. I will highlight the specifics of each shower in my monthly columns as the peak dates approach.

In conclusion, if you want to get close-up views of the Moon, planets and other celestial objects, please visit the facilities at Seagrave Memorial Observatory (http://www.theskyscrapers.org) in North Scituate, Ladd Observatory (http://www.brown.edu/Departments/Physics/Ladd/) in Providence, or Frosty Drew Observatory (http://www.frostydrew.org/) in Charlestown. While it can be quite cold observing in these unheated domes, these facilities do remain open year-round provided snow or ice does not force closures. Please check their respective websites for any cancellation notices before venturing out for a visit. Currently the winter hours for Seagrave and Ladd are 7-9 p.m., while Frosty Drew begins at 6:00 p.m. with no set end time.

Clip & Save

Meteor Shower Prospects for 2012

Let's hope that the Quadrantids set the benchmark for the entire year by showering a cloud-free sky with a wondrous display of shooting stars.

Happy New Year!

Tom Thibault captured this Moon-Jupiter conjunction on November 9 2011 using 2 separate exposures from a Sony camera.

# The Full Moon in January

Francine Jackson

For all of us who really enjoy viewing the night sky, the presence of the Full Moon can be kind of daunting. Its brilliance drowns out all of the really neat deep-sky objects, but, to the public, this can often be the greatest thing they've ever seen through a telescope. In fact, they often feel as if they've accomplished something if they observe it without a filter, as their eyes really have had a workout.

For our ancestors, though, the changing shapes of the Moon weren't easily explained. The concept of the position of the Moon with respect to the Sun being indirectly responsible for this phenomenon just wasn't inherently obvious. To some, for instance, the Moon was a woman in love, who, as she was moving away from the Sun, was so happy that she celebrated the love of her life; unfortunately, when she had grown to her completely full phase, her lover left; she was then a woman scorned. It affected her to the point that she refused to eat, eventually dwindling down to virtually nothing. And, so the cycle continued - she would find love, be happy for about two weeks, then spend the next two weeks in mourning.

The Full Moon was also important because of the incredible way it lit up the ground. Because of this, it was referred to by different names, based on what was happening here on Earth. For January, it was often known as the Wolf Moon, because of the plaintive howls they made from lack of food at this time. Because of its occurring after the Christmas celebrations, it also was called the Moon after Yule. And probably, because January was the real beginning of the very cold, hard time of year, the Dakota-Sioux preferred to call it the Moon of the Terrible. However you want to refer to it, we don't have long to wait to see the Full Moon this month, as it occurs just a few days after the January meeting, early in the morning of Monday, January 9th.

## Astro Trivia

The smallest known black hole has been detected by the Rossi X-Ray Timing Explorer (RXTE) satellite. Containing three times the mass of the Sun, this black hole would just fit, as measured by the extent of its event horizon, between Seagrave Observatory and Ladd Observatory.

# Geminid Meteor Shower Observing Reports

The annual Geminid metoer shower peaked last night (December 13-1) from sometime after 10 pm until dawn. I'm assuming it did, since once again clouds rolled. in up in northern Rhode Island.

Ladd Observatory on Providence's East Side was open last night for the first evening in over a month and a half. Despite a bright Moon, well over a hundred visitors got great views of Jupiter and his moons through the 12-inch Brashear refractor. Though I spent all evening in the dome, I did not hear anyone out on the deck yell out due to observing a meteor.

It was still clear in Providence around 9:15 pm or so as I left for my home in Pascoag. The thin cloud cover increased as I drove northwestward. Upon arrival the high clouds had become so thick that only the Moon and Jupiter were visible.

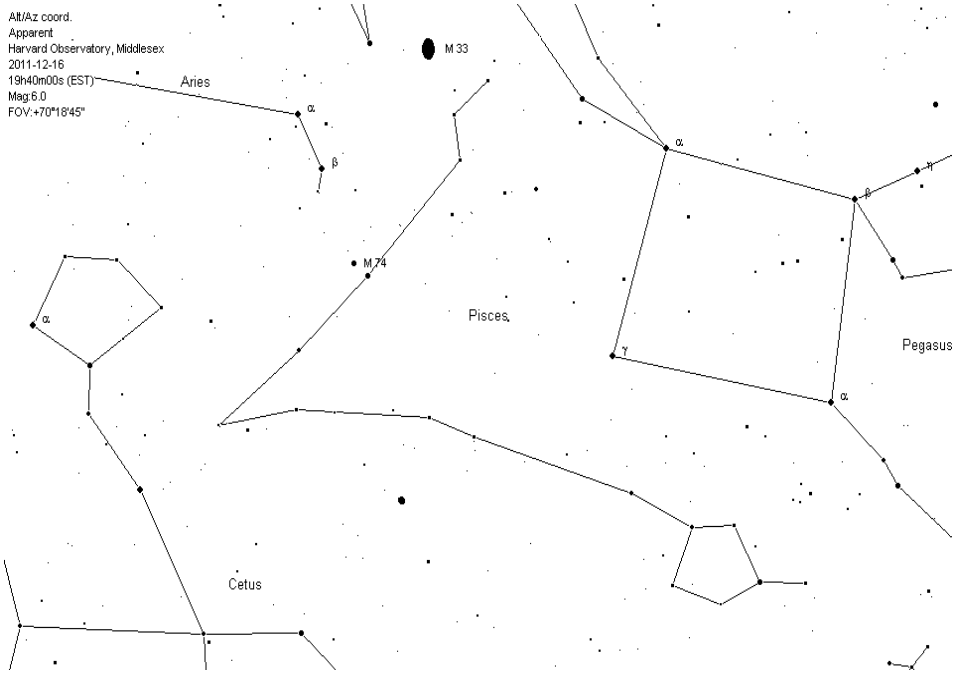
The clouds and bright moonlight combined spelled doom for any meteor observing. I later checked at 3:00 am and the clouds still prevailed. It was still overcast at 6:00 am. Looking at the weather maps, etc. this morning it seems like the entire Southern New England area suffered the same fate.

If anyone caught even a glimpse of a meteor or two please share your observing experience.

I subsequently received an observing report from Alex Bergemann. He and his mom started observing at 8:00 pm. They counted a total of 10 meteors, 3 of which were of mag +2, 5 of mag +1, and 2 of mag -1.

Of those 10, 6 were of 1 second duration while 4 were of 2 second duration.

I'm glad someone got a glimpse of the Geminids.




# M74: Galaxy in Pisces

## Glenn Chaple's Sky Object of the Month

Last month, we explored the galaxy M33, a notoriously difficult telescopic target due to its extremely low surface brightness. For the same reason, M74 is even more challenging; in fact, many consider it the most visually demanding of all the Messier objects. Upon discovering this galaxy in 1780, the French astronomer Pierre Mechain remarked, "It is quite broad, very dim, and extremely difficult to observe." M33 is commonly described as a 6th magnitude star defocused until its light is spread over an area twice the apparent diameter of the moon. With M74, we have a magnitude 9.5 star whose light is extended over an area 10 arc-minutes across. No wonder M74 bears the nick-name the "Phantom Galaxy!"

The good news is that M74 can be captured if you know where to look and (most importantly!) observe from a clear, dark sky. In fact, I've glimpsed it (albeit faintly) with a 3-inch f/6 reflector. Viewed with averted vision, it appeared as a ghostly blob of light. The key was in conducting my search with a low power (30x) eyepiece.

M74 is situated 15 degrees south of its elusive cousin and 1½ degrees east and slightly north of the 4th magnitude star eta (η) Piscium (refer to the accompanying finder chart). In size, it's essentially an equal to our Milky Way. M74 lies about 32 million light years away, about 15 times more distant than M33.

## Current Observing Projects

Have you observed **Uranus** or **Neptune** recently? Please send your reports or images to ssiok@cox.net.

Don't forget to keep logging your observations of **delta Cephei** (see December 2010 issue) and send your reports to geraldpdyck@yahoo.com.

Please send other observing reports and photos to Jim@distantgalaxy.com.

NASA's Space Place

# Dawn Takes a Closer Look

By Dr. Marc Rayman

Dawn is the first space mission with an itinerary that includes orbiting two separate solar system destinations. It is also the only spacecraft ever to orbit an object in the main asteroid belt between Mars and Jupiter. The spacecraft accomplishes this feat using ion propulsion, a technology first proven in space on the highly successful Deep Space 1 mission, part of NASA's New Millennium program.

Launched in September 2007, Dawn arrived at protoplanet Vesta in July 2011. It will orbit and study Vesta until July 2012, when it will leave orbit for dwarf planet Ceres, also in the asteroid belt.

Dawn can maneuver to the orbit best suited for conducting each of its scientific observations. After months mapping this alien world from higher altitudes, Dawn spiraled closer to Vesta to attain a low altitude orbit, the better to study Vesta's composition and map its complicated gravity field.

Changing and refining Dawn's orbit of this massive, irregular, heterogeneous body is one of the most complicated parts of the mission. In addition, to meet all the scientific objectives, the orientation of this orbit needs to change.

These differing orientations are a crucial element of the strategy for gathering the most scientifically valuable data on Vesta. It generally requires a great deal of maneuvering to change the plane of a spacecraft's orbit. The ion propulsion system allows the probe to fly from one orbit to another without the penalty of carrying a massive supply of propellant. Indeed, one of the reasons that traveling from Earth to Vesta (and later Ceres) requires ion propulsion is the challenge of tilting the orbit around the sun.

Although the ion propulsion system accomplishes the majority of the orbit change, Dawn's navigators are enlisting Vesta itself. Some of the ion thrusting was designed in part to put the spacecraft in certain locations from which Vesta would twist its orbit toward the target angle for the low-altitude orbit. As Dawn rotates and the world underneath it revolves, the spacecraft feels a changing pull. There is always a tug downward, but because of Vesta's heterogeneous interior structure, sometimes there is also a slight force to one side or another. With their knowledge of the gravity field, the mission team plotted a course that took advantage of these variations to get a free ride.

This full view of the giant asteroid Vesta was taken by NASA's Dawn spacecraft, as part of a rotation characterization sequence on July 24, 2011, at a distance of 5,200 kilometers (3,200 miles). Credit: NASA/JPL-Caltech/UCLA/MPS/DLR/IDA

The flight plan is a complex affair of carefully timed thrusting and coasting. Very far from home, the spacecraft is making excellent progress in its expedition at a fascinating world that, until a few months ago, had never seen a probe from Earth.

Keep up with Dawn's progress by following the Chief Engineer's (yours truly's) journal at http://dawn.jpl.nasa.gov/mission/journal.asp. And check out the illustrated story in verse of "Professor Starr's Dream Trip: Or, how a little technology goes a long way," at http://spaceplace.nasa.gov/story-prof-starr.

*This article was provided courtesy of the Jet Propulsion Laboratory, California Institute of Technology, under a contract with the National Aeronautics and Space Administration.*

## Editor's Pick

David Fuller, a Chicago-area resident, produces weekly short videos called **Eyes on the Sky**. These video segments show what is visible in the sky each week and contain simple instructions on finding objects. David is also an advocate of dark-sky preservation.

www.eyesonthesky.com

# December Reports

## Jim Crawford, Treasurer

Richard Sanderson presented at the December 2011 meeting. There was no business meeting.

| Budget as of 12/7/2011 | 2011-2012 Budget | Actual | Difference |
|---|---|---|---|
| **INCOME** | | | |
| Astroincome | $3,500.00 | $4,001.50 | $501.50 |
| Cookoutinc | $500.00 | $404.00 | -$96.00 |
| Donation, Other | $300.00 | $646.00 | $346.00 |
| Dues | $3,075.00 | $2,350.00 | -$725.00 |
| Interest Inc | $125.00 | $44.30 | -$80.70 |
| Starparty Donations | $500.00 | $687.00 | $187.00 |
| **TOTAL INCOME** | **$8,000.00** | **$8,132.80** | **$132.80** |
| **EXPENSES** | | | |
| Astroexp | -$2,750.00 | $2,431.88 | -$318.12 |
| Cookoutexp | -$423.00 | $374.30 | -$48.70 |
| Corporation, State Fee | -$22.00 | $22.00 | $0.00 |
| Domain Name | -$15.00 | $15.00 | $0.00 |
| Donations | -$50.00 | $50.00 | $0.00 |
| Electric | -$175.00 | $103.70 | -$71.30 |
| TOTAL Insurance, Property | -$2,625.00 | 2,552.00 | -73.00 |
| Postage and Delivery | -$225.00 | 87.82 | -137.18 |
| Presidents Fund | -$150.00 | 25.00 | -125.00 |
| Printing and Reproduction | -$140.00 | 14.45 | -125.55 |
| Propane | -$375.00 | 80.25 | -294.75 |
| Refreshment Expense | -$350.00 | 58.08 | -291.92 |
| Trustee Exp | -$700.00 | 263.09 | -436.91 |
| **TOTAL EXPENSES** | **-$8,000.00** | **6,077.57** | **-1,922.43** |
| **Cash Assets** | | | |
| Citizens Checking | $8,771.68 | | |
| Capital One | $11,514.19 | | |
| **Total** | **$20,285.87** | | |

# PRELIMINARY ANNOUNCEMENT for Transit of Venus at Mount Wilson, with associated Lectures and Tours

## John Briggs

In coordination with Mount Wilson Institute, we are organizing an opportunity to observe the June 5, 2012, Transit of Venus from Mount Wilson. Considerable interest is being shown by historians of astronomy regarding the opportunity for "historical archaeology" -- reenactment of historically interesting astronomical observations. To that end, antique and modern telescopes will be transported to Mount Wilson and used during the event. We are also planning lectures and tours that will run at least one day before June 5.

The Sun will set with the transit in progress from Mount Wilson. But unlike many other observing sites, the June conditions from Mount Wilson are potentially outstanding, with excellent daytime seeing and low wind. (Wind is a particular worry at high-altitude Hawaiian sites.) Also, although the Los Angles area is well known for cloudy conditions in June, Mount Wilson is usually in clear air, well above the famous inversion layer.

Participation at Mount Wilson Observatory will be by pre-registration only. If you are potentially interested to attend, please reply to this preliminary announcement by email to John W. Briggs, listed below, so that we can refine plans.

As currently foreseen, a section of the Mount Wilson parking lot will be cordoned-off to allow setup of portable equipment and the best view possible of the Sun in the western sky. Lectures will run in the Mount Wilson Observatory auditorium. Please reply if you might be interested to attend these events, and consider including a response to the following questions:

1) What type of equipment will you plan to use at the site?

2) Will you be interested to participate in a program of lectures at Mount Wilson Observatory, Monday, June 4?

3) Might you be interested to participate in an additional day of lectures and tours, Sunday June 3rd?

4) Are you willing to be interviewed by visiting reporters and potential film crews regarding the event and your observations, during the transit, June 5th?

5) Will you require setup and alignment activity before the actual day of the transit?

6) Will you require access to 120 VAC electricity? If so, approximately what will be your electric current requirement?

Details of the program are under consideration, but we envision lectures related to historical transits; the history of Mount Wilson Observatory; current programs at the Observatory; and recent discoveries related to the Sun's magnetic activity cycle. The speakers will be encouraged to present at a level somewhat more advanced than appropriate for the general public. Indeed, this is not intended as an event for the general public.

Mount Wilson is attractive because of its potentially excellent seeing. But essentially no site can guarantee perfect conditions. Also, it will be difficult to anticipate the general interest of the public and how visitors might engulf the Mount Wilson parking lot. In any case, it will not be expected that participants conduct a public star party -- especially around the critically interesting moment of second contact. On the other hand, if you are interested to set up and run an instrument to share with general visitors, that would be very welcome and appreciated.

John W. Briggs
HUT Observatory, Eagle, Colorado
jwb@hutobservatory.com

# Directions to Seagrave Memorial 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, Rhode Island 02857