



# the Skyscraper

vol. 39 no. 12

December 2012

AMATEUR ASTRONOMICAL SOCIETY OF RHODE ISLAND \* 47 PEEPTOAD ROAD \* NORTH SCITUATE, RHODE ISLAND 02857 \* WWW.THESKYSCRAPERS.ORG

## December Holiday Party Meeting Saturday, December 1, 5:30pm at North Scituate Community Center

### Members Pot-Luck Dinner

The December meeting will feature our annual **Holiday Party Pot Luck Supper**. You are asked to bring something to share – appetizer, entrée, or dessert. We will provide soft drinks and coffee. **RSVP** to Kathy Siok ([kathys5@cox.net](mailto:kathys5@cox.net)).

### Astrophotography Gallery & Show and Tell

We are planning on having an Astrophotography Gallery on display, and would like to encourage anyone that has some nice photos to bring them along to add to the display. There's no limit to how many to display, and they can be prints of any size, framed or not. Please contact me at [Robert\\_Horton@brown.edu](mailto:Robert_Horton@brown.edu) if you plan to participate, and let me know what you plan to bring.

Also, if you have anything else you like to share with the rest of us, perhaps a telescope project you have recently completed, or anything else you think would be of interest, please consider adding this our "show and tell".



### Steve Cascione: Thirty-four Years of Forecasting in Southern New England & Most Memorable Storms

Native Rhode Islander Steve Cascione graduated from the University of Rhode Island with a BA in Geography and Meteorology. He briefly attended MIT, taking graduate classes in weather forecasting.

In 1978, Cascione moved to State College, Pennsylvania, and began work for Accu Weather as a Forecast Meteorologist. In 1980, he moved back to Rhode Island to work for WLNE TV-6. He began a weather consulting business called Ocean State Weather, which he still runs. Steve holds the Broadcast Seal of Approval from the AMS.

In February 2002, after 22 years at WLNE, Steve moved to WPRI 12 and WNAC FOX Providence for five years. He is now happy to be back at ABC6, and can be seen weekdays from 5-7

AM and at Noon.

Steve covered Hurricane Gloria in 1986, Hurricane Bob in 1991, and all the major snowstorms to hit Southern New England over the last 28 years. He also hosted a news segment entitled Steve's Cooking Up a Storm, a cooking show featuring local chefs' recipes. Steve hopes to bring this segment back to ABC6 in the near future.

In November 2006, Steve was given the Silver Circle Award by the New England Chapter of the National Television Academy. The Silver Circle recognizes individuals who have made significant contributions to television over 25 years or more.

Steve celebrated 30 years of television broadcasting in May 2010, 25 of them right here at ABC6.

Steve has two sons, Alex and Justin, and a daughter Caroline, adopted from Russia in 2002. Steve married Stacey Cardillo this past November.



### Conrad Cardano: Low Resolution Spectroscopy with a C5 and Canon Camera

The talk will include: The Electromagnetic Spectrum; What is spectroscopy? Stellar Classification; RSPEC software and Analyzing Spectra; Spectral Results - Cepheid Variable - Eta Aquilae; Maybe a surprise topic.

### IN THIS ISSUE

- 2 President's Message
- 3 Promising Prospects for December's Geminid Meteor Shower
- 4 December Long Night Moon
- 4 Double Star Maserthim ( $\gamma$  Arietis)
- 5 Doomsday 2012: Down for the (Long) Count?
- 6 It Takes More Than Warm Porridge to Make a Goldilocks Zone
- 7 Comet Update
- 8 November Reports
- 10 Rhode Island has a new Observatory!



# President's Message

Ed Haskell

In my President's Message for June, 2012, I said, "... focus the attention of management on areas that directly affect Members: the format and content of the regular meetings; the creation or augmentation of other group activities; improved access to the instruments; ...". In that same Message I detailed how the first of those focus areas, the meeting format, was to be changed to permit more talks by members without diminishing the number and quality of professional presentations. In this Message I will bring you up to date on another focus area that I wrote about in the July Message, improved access to the instruments.

The Automation Committee, chaired by Tom Thibault, has been making progress on a number of fronts:

- the condition of the equipment and facilities put in place more than a decade ago has been surveyed and a determination made that they are still usable;
- a number of steps required to accomplish the objective have been identified and are being worked on;
- CAD drawings of the 16" roll off roof assembly have been completed;
- a donor has been found to provide the mechanical and electronic equipment required to roll off the roof and return it to the parked position by remote command;
- two methods of getting the signal from the telescope to the Meeting Hall have been investigated and work is underway to accomplish that connection;
- the subsidiary requirement to improve building security of the Clark enclosure has been planned and a donor found to provide

the needed facilities;

- preliminary work is underway to determine and document how the automated scope may be remotely operated in a secure manner, both mechanically and electronically;
- work has started to identify how the automated instrument may be used to enhance our outreach efforts and how it may be used by members for their own observing programs;
- A search has begun for a way to provide affordable access to the Internet from Seagrave;
- Steve Siok has agreed to co-chair the Automation Committee.

There are other areas being worked as well but I think this list fairly represents the scope of effort being performed by volunteers from within and without the Society. Even before all of the capabilities envisioned for this effort have been completed it should be possible for members to begin enjoying the fruits of the labor of these volunteers.

Which brings me to the topic of volunteers. The Society accomplishes its work though the efforts of members acting alone or in concert to move things forward. For this to work it is necessary to spread the burden around. Won't you please consider how you might be helpful and contact one of the officers to volunteer.

December brings our annual holiday meeting. This is a pot luck meal so please let Kathy Siok know what you plan to bring so duplication is minimized.

Thanks for all you do for Skyscrapers.

Dear Friends, I'm sure all of you are looking forward to our annual Christmas Party, on Saturday, December 1st.

This year we are starting our get together a little earlier, at 5:30pm. This will allow us more time to socialize, and enjoy sampling all of the wonderful food everyone brings to the potluck dinner (see Kathy Siok's note for more information).

We are also planning on having an Astrophotography Gallery on display, and would like to encourage anyone that has some nice photos to bring them along to add to the display. There's no limit to how many to display, and they can be prints of any size, framed or not. Please contact me

at [Robert\\_Horton@brown.edu](mailto:Robert_Horton@brown.edu) if you plan to participate, and let me know what you plan to bring.

Also, if you have anything else you like to share with the rest of us, perhaps a telescope project you have recently completed, or anything else you think would be of interest, please consider adding this our "show and tell".

As I mentioned, our Potluck dinner will begin at 5:30pm, followed by our speaker at 7pm. After the featured speaker, we'll take a short break, and then enjoy short, informal presentations by our members.

Happy Holidays,  
Bob Horton, 1st V.P.



The Skyscraper is published monthly by Skyscrapers, Inc. Meetings are held monthly, usually on the first or second Saturday of the month. Seagrave Memorial Observatory is open every Saturday night, weather permitting.

## President

Ed Haskell [haskell.ed@gmail.com](mailto:haskell.ed@gmail.com)

## 1st Vice President

Bob Horton [Robert\\_Horton@brown.edu](mailto:Robert_Horton@brown.edu)

## 2nd Vice President

Kathy Siok [ksiok@cox.net](mailto:ksiok@cox.net)

## Secretary

Tom Thibault [DeepSpaceViewer@aol.com](mailto:DeepSpaceViewer@aol.com)

## Treasurer

Lloyd Merrill [lloydmerrill@gmail.com](mailto:lloydmerrill@gmail.com)

## Members at Large

Jim Hendrickson [jim@distantgalaxy.com](mailto:jim@distantgalaxy.com)

Bob Napier [bob\\_napier@hotmail.com](mailto:bob_napier@hotmail.com)

## Trustees

Pat Landers [pbl64@comcast.net](mailto:pbl64@comcast.net)

Steve Siok [ssiok@cox.net](mailto:ssiok@cox.net)

Conrad Cardano [cardanoc@verizon.net](mailto:cardanoc@verizon.net)

## Outreach Coordinators

Conrad Cardano [cardanoc@verizon.net](mailto:cardanoc@verizon.net)

Bob Forgiel [bforgiel@cox.net](mailto:bforgiel@cox.net)

## Librarian

Alex Bergemann [astroalex@verizon.net](mailto:astroalex@verizon.net)

## Historian

Dave Huestis [dhuestis@aol.com](mailto:dhuestis@aol.com)

## Editor

Jim Hendrickson [jim@distantgalaxy.com](mailto:jim@distantgalaxy.com)

## Directions

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

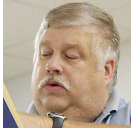
## Submissions

Submissions to The Skyscraper are always welcome. Please submit items for the newsletter no later than **December 21** to Jim Hendrickson, 1 Sunflower Circle, North Providence, RI 02911 or e-mail to [jim@distantgalaxy.com](mailto: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](mailto:jim@distantgalaxy.com). Note that you will no longer receive the newsletter by postal mail.





# Promising Prospects for December's Geminid Meteor Shower

Dave Huestis

Mild comfortable nights of observing are now behind us. As we approach the Winter Solstice on December 21 at 6:12 a.m. (the earliest date and time for this astronomical event since 1896), our days grow shorter while the nights grow longer. Amateur astronomers like the early sunsets and the longer nighttime skies, but the cold temperatures can shorten one's observing session quite effectively.

However, unless we get slammed with frequent and fast moving weather fronts during meteorological winter (December thru February), the skies can be very clear and transparent. For those of you who own telescopes of any size should take that opportunity to focus your instruments on the planet Jupiter. On December 1, this Jovian world will be at its closest distance to the Earth. Though still just over 378,000,000 miles away, Jupiter and his four Galilean moons reveal a lot of detail to even a casual observer using a telescope.

On that date this fifth planet from the Sun can be found to the left of the Hyades asterism in Taurus, and almost five degrees from Aldebaran, the red star that marks the eye of the bull.

While Jupiter will be observable for the next several months, the upcoming Geminid meteor shower will peak on the night of December 13-14 (Thursday night to Friday morning). The Geminids are currently the best meteor shower of the year for northern hemisphere viewers, and the New Moon will not be present to brighten the sky.

Therefore, from a dark sky location an observer should potentially observe 60+ meteors per hour at peak, which is predicted to occur sometime between midnight and 4:00 a.m. EST. But for those

of you who don't wish to observe into the wee hours of the morning, the Geminids do provide observers an opportunity to see a decent display during the pre-midnight hours.

Why? Gemini, the constellation from where the shooting stars appear to radiate, is about 30 degrees above the eastern horizon by 9:00 p.m. You'll know you've seen a Geminid if you can trace the origin of the meteor's trail back to the radiant point near Gemini's brightest stars, Castor and Pollux.

All you'll need to do is select an observing location in advance with a good view of a large area of sky well away from any sources of light pollution. Then on the appointed night keep your fingers crossed for cloud-free skies, dress warmly, and try to stay awake during your observing session.

Don't just stare at Gemini. Scan around the sky as much as possible without straining your neck. I suggest lying on a lounge chair within a sleeping bag. Keep warm and alert.

The Geminids are fairly bright and moderate in speed, hitting our atmosphere at 21.75 miles per second. They are characterized by their multicolored display (65% being white, 26% yellow, and the remaining 9% blue, red and green). Geminids also have a reputation for producing exploding meteors called fireballs.

While the Geminids are the most consistent meteor shower, occasionally here in Southern New England we aren't always

in the right place at the right time to see this shooting star display to best advantage. However, this year it seems everything will be in our favor. Now it's in Mother Nature's hands to deliver.

And one last highlight—on Christmas night you will see Jupiter less than one degree (two full moon diameters) away from the waxing gibbous Moon. Joining in this beautiful sky scene once again will Aldebaran, with the Pleiades star cluster a short distance away.

When you wish to enjoy the beauty of the heavens through a telescope, please visit the local Rhode Island observatories. Throughout the winter months Jupiter will be the primary target of some of the best optical instruments around the state.

Seagrave Memorial Observatory (<http://www.theskyscrapers.org>) in North Scituate is open to the public every clear Saturday night, although it will be closed on December 1.

Ladd Observatory (<http://www.brown.edu/Departments/Physics/Ladd/>) in Providence is open every clear Tuesday night.

Frosty Drew Observatory (<http://www.frostydrew.org/>) in Charlestown is open every clear Friday night year-round.

Be sure to check all the websites for the public night schedules and opening times before visiting these wonderful facilities. Wintry conditions can force unexpected closures.

Happy holidays and clear skies to all.

## Phases of the Moon

### Last Quarter Moon

December 6 15:31

### New Moon

December 13 08:42

### First Quarter Moon

December 20 05:19

### Full Moon

December 28 10:21







## The Moon December Long Night Moon

Francine Jackson

With the winter season beginning this month, the nights are the longest, and the days slowly begin to get colder. As such, we celebrate both the Full Cold Moon and the Full Long Night Moon. And, because we also celebrate the holiday season at this time of year, this can also be called the Moon Before Yule, although this year it takes place afterwards, on December 28th.

As the end of December brings with it much feasting, we have to believe that the Moon has been responsible for many of our delicious festive edibles. Mooncakes, round rolls filled with spicy bean paste, were invented by the Chinese; the French crois-

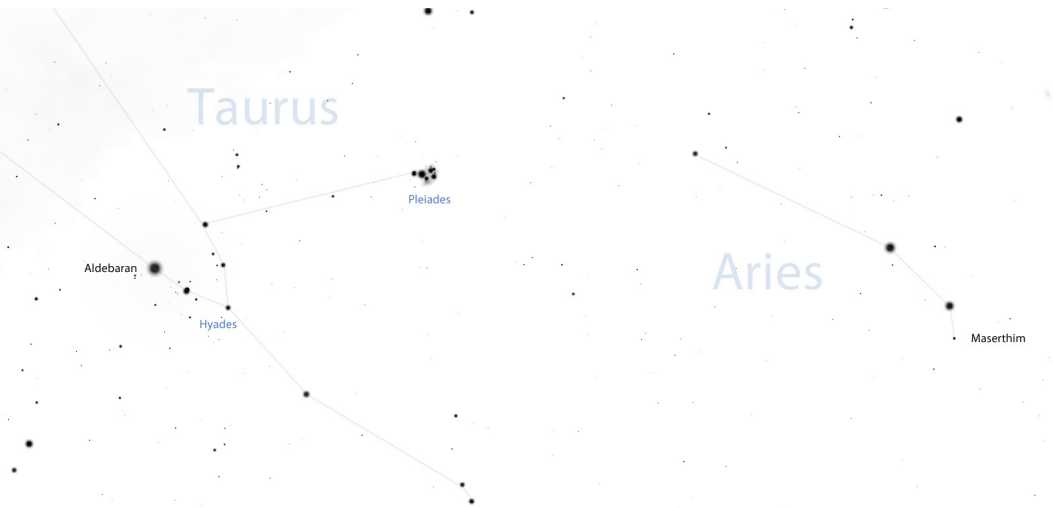
sants are buttery, flaky representatives of the crescent phase, and sandwich cookies, called cherry half moons by the Swedish, are perfect quarter-phased shapes.

And, so, a year ends.

But: We have a problem with the constancy of a Moon year. As the Moon revolves around the Earth, it does so in 29½ days. 29½ x 12 months only give us 354 days. We have a week and a half extra to content with. Each approximately three years, the Moon has to catch up with the solar year by having a thirteenth Full Moon, traditionally referred to as a Blue Moon. Surprisingly, this name comes from the

Moon supposedly looking bluish, which is not a common sight, although it is believed that after the 1883 eruption of Krakatoa, the material in the atmosphere did create a blue-tinged Moon for several months.

According to the Farmers' Almanac, which was considered the be-all and end-all reference for farmers, a Blue Moon was defined as the third Full Moon in a quarter of the year, which would now have four. It is also said that this extra Moon gave meaning to the unlucky property of the number 13, as the early calendar keepers found this additional Moon a calculation nuisance. But, because these extra Full Moons are actually rather common, occurring 7 times in 19 years, the saying, "Once in a Blue Moon" in defining a rarity, is really no more rare than many of our other cycles here on Earth.



## Double Star in Aries Maserthim (γ Arietis)

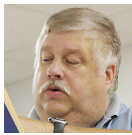
Glenn Chaple

I'm a double star aficionado; my sky gazing motto is "double stars are twice the fun!" Unlike the "faint fuzzies" most backyard astronomers prefer, double stars aren't hidden by light pollution or bright moonlight. They aren't the exclusive property of big-scope owners. In fact, many showpiece doubles are within reach of small-aperture instruments. The common 60mm refractor with its crisp stellar images delivers exquisite views of double stars - especially twin systems.

Case in point - gamma (γ) Arietis, properly known as **Mesarthim**. It's comprised of two stars, magnitudes 4.5 and

4.6, separated by 7.5 seconds of arc. Their spectral types - F9 and A1 - are also nearly identical. What you see when you gaze into the eyepiece are two gleaming pure-white specks, eerily evocative of the eyes of some cosmic creature gazing back. The sight is mesmerizing!

Double stars are at their visual best when viewed with a magnifying power sufficient enough to allow for a comfortable split. Too little magnification, and the pair is unresolved; too much and the visual appeal is lost. In the case of gamma Arietis, you'll want to try 50-75x.



Doomsday 2012

# Down for the (Long) Count?

Dave Huestis

It's difficult to know exactly when the alleged Mayan doomsday prophecy drivel started. I've had an interest in the Mesoamerican cultures of Central America for many decades, so I was aware of their advanced calendar system. However, in all my studies of these cultures I never encountered any reference to a Mayan prophecy regarding the end of the world on December 21, 2012. Misinterpretation, lack of knowledge of Mayan calendar reckoning, and downright falsehoods have conspired to feed the doomsday scenario. I swore to myself that I would not dignify any of the balderdash in my columns.

Well, with only a short time remaining before the supposed end time, I decided to put in my two cents worth. While it won't silence or appease those pessimistic folks out there, perhaps it will provide some rational information for anyone who wishes to understand why you and I will be around to experience December 21 and the future.

Based upon the fundamental research I have conducted about this now vast topic, it appears the current fascination with the supposed end of the Mayan calendar began perhaps three decades or more ago. The mechanics of the Mayan calendar system is well established. I will not go into all the details because that information is readily available on the Web. It's the misinterpretation of those facts that is quite alarming.

The Maya had a very precise calendar. The one that ends on December 20, 2012, marks the end of baktun 13. One b'aktun, (created by Mayan scholars), denotes 20 k'atun, or 144,000 days. That's a little more than 394 years. The begin date of their calendar system began on August 11, 3114 BCE. This reckoning is known as the Long Count calendar.

What happens in our Gregorian calendar system? For instance, when we get to December 31, 2012, does that signal the end of the world? No. We continue the January thru December reckoning into the next year by adding one to the year. So the next day is January 1, 2013. Similarly, we group years into decades, centuries and millennia. The Maya did likewise. They rolled days up into other units, like we do with weeks, months, years, etc.

So why would someone believe that

some cataclysmic, mystic, or spiritualistic (good or bad) event was going to occur simply because the Mayan Long Count ran through its logical completion of baktun 13? Like our calendar system, once baktun 13 ends on December 20, 2012, baktun 14 begins. There is no mystery about it.

Unfortunately there are those who somehow want to benefit from a misinterpretation of the end of baktun 13. And contrary to popular belief, there is no mention in any Mayan writings about the end times coming upon the completion of baktun 13.

However, that doesn't stop individuals and groups from prophesizing the many varied ways in which the Earth and humankind will change on December 21.

More than likely you have read or heard about the many astronomical events that might destroy our civilization. I'm not sure I can recount all of them, but here's a short list: (1) high solar activity will produce huge solar storms that will cause major problems, (2) magnetic pole reversal of the Earth's magnetic field, (3) a rogue planet will collide with the Earth, (4) a comet or asteroid will collide with the Earth, (5) the black hole at the center of the Milky Way will somehow create extreme gravitational forces affecting the Earth, (6) the Sun will eclipse the galactic center in some cosmic

grand alignment causing problems and 7) planets in our solar system will be in some grand alignment.

There is absolutely no scientific evidence for any of these dire scenarios.

In addition, there are mystic and spiritual ideas that have pointed to December 21 as the date for a transformation of the human race. Some of these events are depicted as benefiting humankind in a New Age, while many are more apocalyptic. These assertions are mere speculation predicated on the incorrect assumption that the Maya prophesized "the end of the world as we know it" (apologies to REM).

In conclusion, I leave you with these thoughts. If I truly believed the world would end on December 21, I would have stopped doing everything that defines and completes my life. I would sell my house and possessions, drain my bank account, and spend my last days traveling the world and experiencing every facet of life. I would stop teaching my astronomy labs because what difference would it make? Also, if most of my students also believed the end time was near, why would they even bother attending classes of any subject? They put in a lot of hard work in order to graduate with a degree. Why bother if that education won't be needed after December 20?

If a vast majority of people believed in the doomsday scenario, then millions of still employed people would not show up for work. I don't see that happening in the world around me. And think about all the recent political races and the stagger-

## The Great Mayan Cover-up



Concept by Dave Huestis

Drawn by Tom Thibault



ing amounts of money candidates spent on obtaining office. Again, if the idea that the world would soon end was widespread, why waste all that time and effort to win an election if you and everyone else won't be around to see it come to fruition. It seems absurd to me in the extreme that we would carry on "business as usual" in the face of imminent destruction.

If indeed most people believed the world was coming to an end, chaos would assuredly ensue. The crime rate would escalate because what could law enforcement and the court system do to you? Since there would be no real consequences, society would come apart at the seams. If that scenario did occur, then we'd deserve whatever

apocalyptic fate unfolded.

While some folks may be stockpiling food and supplies in preparation for Doomsday 2012, I haven't heard of thousands of families constructing survival shelters like folks did in the late 50s and early 60s under the threat of the real doomsday scenario of nuclear annihilation. (Though I recently read that bunker sales had risen.)

I'm sure you could come up with quite a few more scenarios of daily activities that would be fruitless and meaningless if we knew we would succumb shortly. Will some people panic? Possibly. However, I don't believe the entire world is that naïve or gullible to buy into "the end is near" tripe.

Today a wealth of accurate and respon-

sibly disseminated information is available for those who care to seek it. Just because it appears on the Internet does not automatically bestow validity or accountability.

In conclusion, don't yield to the wild claims of the demise of our world and our entire civilization. We can honor the Mayan civilization by wishing everyone a Happy Baktun 14. On December 21 it will be business as usual. As the television promos say, "Film at 11!"

I look forward to providing you with articles exploring the beauty of the heavens for years to come.

And yes, I wish you and yours a Happy New Year 2013!

## It Takes More Than Warm Porridge to Make a Goldilocks Zone

By Diane K. Fisher



The "Goldilocks Zone" describes the region of a solar system that is just the right distance from the star to make a cozy, comfy home for a life-supporting planet. It is a region that keeps the planet warm enough to have a liquid ocean, but not so warm that the ocean boils off into space. Obviously, Earth orbits the Sun in our solar system's "Goldilocks Zone."

But there are other conditions besides temperature that make our part of the solar system comfortable for life. Using infrared data from the Spitzer Space Telescope, along with theoretical models and archival observations, Rebecca Martin, a NASA Sagan Fellow from the University of Colorado in Boulder, and astronomer Mario Livio of the Space Telescope Science Institute in Baltimore, Maryland, have published a new study suggesting that our solar system and our place in it is special in at least one other way.

This fortunate "just right" condition involves Jupiter and its effect on the asteroid belt.

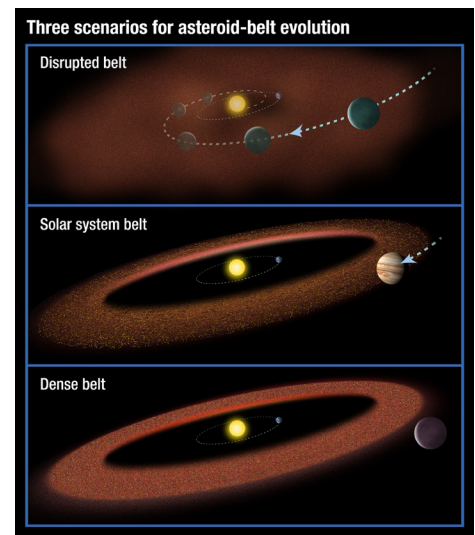
Many other solar systems discovered in the past decade have giant gas planets in very tight orbits around their stars. Only 19 out of 520 solar systems studied have Jupiter-like planets in orbits beyond what is known as the "snow line"—the distance from the star at which it is cool enough for water (and ammonia and methane) to con-

dense into ice. Scientists believe our Jupiter formed a bit farther away from the Sun than it is now. Although the giant planet has moved a little closer to the Sun, it is still beyond the snow line.

So why do we care where Jupiter hangs out? Well, the gravity of Jupiter, with its mass of 318 Earths, has a profound effect on everything in its region, including the asteroid belt. The asteroid belt is a region between Mars and Jupiter where millions of mostly rocky objects (some water-bearing) orbit. They range in size from dwarf planet Ceres at more than 600 miles in diameter to grains of dust. In the early solar system, asteroids (along with comets) could have been partly responsible for delivering water to fill the ocean of a young Earth. They could have also brought organic molecules to Earth, from which life eventually evolved.

Jupiter's gravity keeps the asteroids pretty much in their place in the asteroid belt, and doesn't let them accrete to form another planet. If Jupiter had moved inward through the asteroid belt toward the Sun, it would have scattered the asteroids in all directions before Earth had time to form. And no asteroid belt means no impacts on Earth, no water delivery, and maybe no life-starting molecules either. Asteroids may have also delivered such useful metals as gold, platinum, and iron to Earth's crust.

But, if Jupiter had not migrated inward



Our solar system is represented by the middle scenario, where the gas giant planet has migrated inward, but still remains beyond the asteroid belt.

at all since it formed farther away from the Sun, the asteroid belt would be totally undisturbed and would be a lot more dense with asteroids than it is now. In that case, Earth would have been blasted with a lot more asteroid impacts, and life may have never had a chance to take root.

The infrared data from the Spitzer Space Telescope contributes in unexpected ways in revealing and supporting new ideas and theories about our universe. Read more about this study and other Spitzer contributions at [spitzer.caltech.edu](http://spitzer.caltech.edu). Kids can learn about infrared light and enjoy solving Spitzer image puzzles at [spaceplace.nasa.gov/spitzer-slyder](http://spaceplace.nasa.gov/spitzer-slyder).

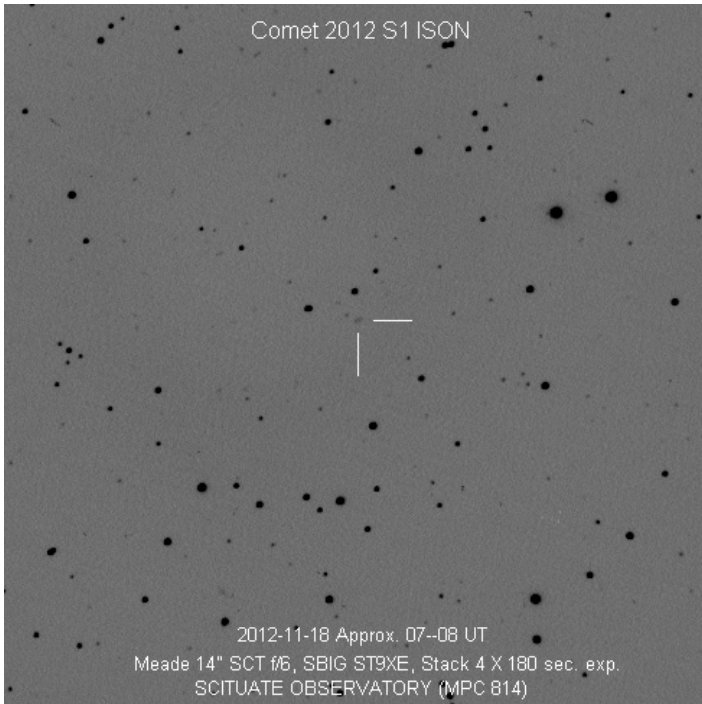
*This article was provided by the Jet Propulsion Laboratory, California Institute of Technology, under a contract with the National Aeronautics and Space Administration.*



# Comet Update

Bob Napier

## COMET 2012 S1 ISON



**Here is the latest image of 2012 S1 ISON I took Sunday morning. It was probably about magnitude 17.5. I took one about one month ago when it was almost 6 AU from the Sun and at magnitude about 18.5.**

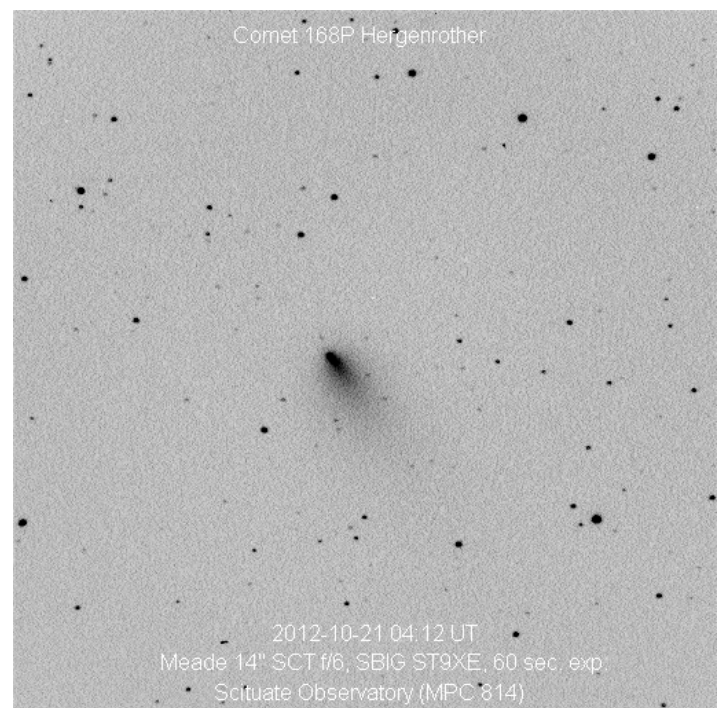
This comet was discovered on Sept. 21, 2012 by two astronomers (from Belarus and Russia) at an observatory with a 16" Newtonian telescope near Kislovods, the North Caucasus region of Russia which is located between the Black and Caspian Seas. They also use Internet connected observatories here in the USA to do imaging remotely. A number of Russian area astronomers seem to be quite active in comet and asteroid discoveries the last few years. This comet was named for the organization, ISON, which stands for "International Scientific Optical Network". When the comet was discovered between the orbits of Saturn and Jupiter, it was thought to be an asteroid for a short period of time until its outgassing nature was detected and the discovery was changed to a comet. Very few new comets are found to be outgassing at such a distance from the sun and this may indicate that the nucleus is very large - possibly larger than 3 kilometers. Its orbit is very close to parabolic and has a period of perhaps a few million years, which means it probably came from the Oort Cloud and extends from about 5,000 AU to more than a light year from the sun.

What is really interesting about Comet ISON is that in about one year from now, it will pass through perihelion (nearest point in its orbit to the sun) in late November, 2013. As such, it will pass extremely close to the surface of the sun - perhaps much less than 1 million miles - and will be a so-called Sungrazer. If it survives such a close encounter with our sun, some very experienced and noted comet observers think it may approach magnitude -10 (minus 10) based on its current dust production and be

visible during the daytime! Northern hemisphere observers could have a very spectacular view of this comet during the 2013-14 holidays season.

My first image was taken October 21, 2012 at Scituate Observatory, one month after discovery when the comet was about magnitude 17.5 and between the constellations Cancer and Gemini. The image shown here was taken on November 18, 2012, when the comet was still about magnitude 17.5 near the Cancer/Gemini border and beyond the orbit of Jupiter. These images show only a tiny star-like dot and is detected by its motion relative to the background stars. Twelve months from now, its tail could be several degrees long across the sky...or, it could be a dud and get vaporized by the close solar surface passage! Stay tuned and keep watching this comet in the coming months as it gets within range of your telescopes and cameras!

## COMET 168P HERGENROTHER



**Comet 168P Hergenrother imaged with Meade 14' F/6 and SBIG ST9XE for 60 seconds on 2012-10-21 when it was near its maximum outburst magnitude of 9.5. It was about 5 magnitudes brighter than its normally expected magnitude of about 15 at this distance from the sun. It was within binocular visibility for a short time, but has since faded to about 10.5 - 11 magnitude at this time.**

Comet 168P Hergenrother is another interesting comet in the evening sky the last several weeks, and currently about 12 degrees north of the Great Square of Pegasus. Normally, it would be about magnitude 15 or 16 and not a very interesting one to observe either visually or with a CCD. What makes this comet interesting is it suddenly brightened over 5 magnitudes just a few weeks ago and brought it into the range of visibility with larger binoculars at magnitude 9.5. When the image here was taken of Hergenrother on October 21, 2012 it was probably about magnitude 9.5 to 10. It does seem to oscillate in brightness and now seems to be between magnitude 10 and 11, which is still within visual range of at least 4 or 5 inch telescopes. My images do show an elongated nuclear re-



gion and slightly bent. Large observatories have detected apparent “fragments” (up to four at last count) of the nucleus that may account for it’s bright outburst and oscillations.

Continued observations of this comet could be very interesting if further out-

bursts occur and until it fades into the western sky.

Virtually all my observations are carried out via an Internet browser connection to my observatory. Once the observatory control server is started and the camera and telescope are initialized, all other imaging

is remotely over the Internet connection. Friends and acquaintances from Skyscrapers, and other clubs, and as far away as Mexico, Hawaii and S. Korea have taken images with my online remotely accessible observatory.

Bob Napier, Scituate Observatory

## NOVEMBER REPORTS



### Secretary

Tom Thibault

#### Skyscrapers November Meeting Minutes – 11/2/12

President Ed Haskell, called the Skyscrapers November Members Meeting to Order at 7:35PM.

**President, Ed Haskell:** Ed noted his recent absence while attending to family matters and thanked the B.O.D. for their assistance during this timeframe.

**Treasurer, Lloyd Merrill:** The following individual was unanimously voted as a Skyscrapers member:

Paul Harkins for Regular Membership

**Historian, Dave Huestis:** Dave announced a Solar Observing Workshop will be held Saturday, November 24th from 10:00am – 3:00pm at Seagrave. Dave and Bob Horton will be running the program and invite all interested members to attend. Pre-registration by Nov. 17th is required. Members are welcome to bring their personal solar scopes. • Dave announced the donations of astronomical books owned by Phil Newmarker including a copy of the 25th Skyscrapers Anniversary Edition. Dave read the family’s correspondence that accompanied the donation.

**Trustee Steve Siok on behalf of Kathy Siok:** AstroAssembly was a success and a full report is forth-coming. • Encouraged the membership to get involved in Citizen Science.

**Good of the Organization:** Dan Lorraine donated a copy of “Misfortunes as Blessings in Disguise, The Story of My Life by Dorrit Hoffleit” • Alex Bergemann noted Jim Hendrickson’s donation of the DVD of “City Dark”. • Al Hall informed the membership of the approach of Comet ISON. Current reports indicate prime viewing will be in Nov. and Dec. of 2013.

**1st Vice President, Bob Horton:** December Members Meeting will be held Sat.



Professor Brad Marston

Dec. 1st at The Scituate Community Center. As in years past this will be our Holiday Meeting and will be a Potluck Dinner Event. • Bob encouraged member to display their telescope projects and astrophotography at the meeting.

Bob introduced our speaker, **Prof. Brad Marston** presenting “The Quantum Mechanics of Global Warming”

Ed Haskell closed the meeting at 9:15PM.

Submitted by Tom Thibault - Secretary

#### Board of Directors Meeting Minutes – 11/12/12

**Attendees:** Ed Haskell, Bob Horton, Kathy Siok, Tom Thibault, Jim Hendrickson, Pat Landers, Steve Siok, and Conrad Cardano

Meeting called to order at 7:00PM Off-site.

**Bob Horton, 1st VP:** Members Meeting speakers through April have been confirmed.

Decembers Holiday Meeting will feature a Pot Luck Dinner

Members will be encouraged to display their Telescope Projects and Astrophotography

Meeting will be at the Scituate Community Center, starting time is 5:30 and our speaker will be at 6:30.

**Kathy Siok, 2nd Vice President:** AstroAssembly should be considered a success and income generated was in line with the events recent past years results.

**Tom Thibault, Secretary:** No items to report.

**Lloyd Merrill, Treasurer:** As of Nov. 1st we have 13 new members and 13 members with dues past due. • Ed requested that past due members be informed voting privileges have expired.

**Trustees:** No items to report.

**Misc items:** 16” Meade Automation Project • Steve Siok will chair the project • Ed and Tom met with vendor to discuss automating the 16” Meade roll-off roof • Tom has prepared plans for the vendors use in developing a solution. • Kathy Siok will investigate internet access options • Ability to hard wire connect from 16” roll-off to the meeting hall will be validated. • Steve Hubbard’s communication to the BOD • Steve’s e-mail was reviewed and discussed. • Steve volunteered to greet our new members and make them feel welcome to the organization. • Pat Landers will be organizing members viewing night at Seagrave to provide more opportunities for members to gather with the purpose of viewing together.

Meeting adjointed at 10:00PM

Submitted by Tom Thibault - Secretary



# Star Party Update

We've had quite a busy time during October and November with 13 events logged, including five Open Nights, one members workshop, and seven star parties. Thank you to all members who assisted and attended these events.

If you would like to help out with star parties and outreach events, please contact Conrad ([cardanoc@verizon.net](mailto:cardanoc@verizon.net)) or Bob ([bforgiel@cox.net](mailto:bforgiel@cox.net)).

If you are unable to help with these events, you are always welcome to attend our Open Nights, held every Saturday at 7pm (winter hours & weather-permitting).

If you have attended one of our events, please share your experiences. We would like to add your stories and photos to our observatory log archives. Please send to [jim@distantgalaxy.com](mailto:jim@distantgalaxy.com).



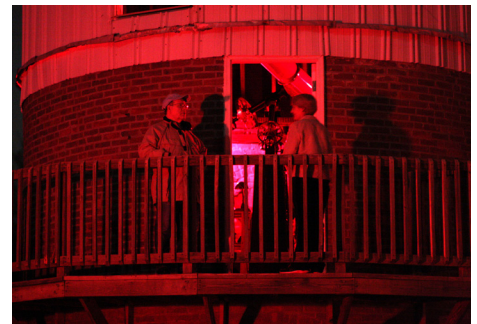
October 12: Girl Scouts visit Seagrave Observatory



October 17: Burrillville High School students visit Seagrave Observatory



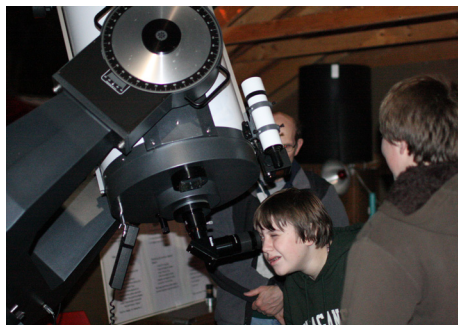
October 20: Women's Wilterness Weekend at Alton Jones Campus



October 20: Open Night at Seagrave Observatory



October 22: Callahan School Star Party



October 26 & 27: Member Alex Bergemann's Scout troop



November 3: Open Night at Seagrave Observatory

Seagrave Memorial  
Observatory  
Open Nights

Saturdays at 7:00 pm  
weather permitting





November 10: Open Night at Seagrave Observatory



November 15: Member John Eunis group from school



November 16: Portsmouth Middle School Star Party



November 17: Open Night at Seagrave Observatory



November 24: Solar Observing Workshop



November 24: Open Night at Seagrave Observatory



## Rhode Island has a new Observatory!

The University of Rhode Island's W. Alton Jones campus is celebrating its 50th anniversary this year and part of the festivities included the ribbon cutting for a new observatory on Wednesday, November 14.

Under the direction of Tom Mitchell, Skyscrapers members Francine Jackson and Jim Hendrickson, along with Frosty Drew associate director Scott MacNeill operated the 10-inch and 8-inch Meade telescopes for over 150 guests in attendance on a clear, cold night.

John Leonelli provided this photo of the ribbon cutting, and member Jim Brenek was also in attendance.



**Cash Flow November 19, 2012 - YTD**

**ATM UPDATE**

Category Description

**INFLOWS**

Astroincome	
banquet-registration	2,648.00
Grille	327.00
Misc	130.00
Raffle	600.00
Other Astroincome	17.00
<b>TOTAL Astroincome</b>	<b>3,722.00</b>
Bookincome	
Other Bookincome	33.00
<b>TOTAL Bookincome</b>	<b>33.00</b>
Donation, Other	903.05
Dues	
Family	730.00
Junior	30.00
Regular	1,300.00
Senior	620.00
<b>TOTAL Dues</b>	<b>2,680.00</b>
Interest Inc	12.04
Refreshment Income	5.00
Starparty Donations	904.00
<b>TOTAL INFLOWS</b>	<b>8,599.09</b>

**OUTFLOWS**

Astroexp	
Caterer	960.00
Food Fri-Sat	43.19
Grille	208.08
Misc	12.95
Reception	127.24
Speaker Fee	108.00
Tent Rental	585.00
<b>TOTAL Astroexp</b>	<b>2,044.46</b>
Corporation, State Fee	22.00
Donations	50.00
Electric	88.87
Insurance, Property	2,573.00
Postage and Delivery	18.00
Propane	80.25
Property Maintenance Fund	445.00
Refreshment Expense	221.68
Trustee Exp	888.26
<b>TOTAL OUTFLOWS</b>	<b>6,771.52</b>

**OVERALL TOTAL 1,827.57**

Account Balances - As of 11/19/2012

**Bank Accounts**

Capital One Bank	12,285.60
Checking	9,543.73
PayPal	0.00
<b>TOTAL Bank Accounts</b>	<b>21,829.33</b>

**OVERALL Account TOTAL 21,829.33**



Jim Brenek set up his newly completed 8-inch f/4.5 telescope at the Callahan School star party on October 22. The telescope includes a custom secondary support and focuser. Jim made the telescope with birch plywood, carbon fiber and aluminum. The Pyrex mirror was figured at Dick Parker's workshop. All wood surfaces are flocked.

# 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.
- or • 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