



# the Skyscraper

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2011

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

## November Meeting with Dr. Timothy Barker Friday, November 4, 7:30pm at Seagrave Observatory

### Sky Pollution Filters and What They Reveal About Nebulae

Dr. Timothy Barker will demonstrate how filters such as Orion Telescope's Ultrablock filter allow observers to see emission nebulae clearly even when the sky is polluted because of nearby lighting. He will then explain what we can learn about nebulae by viewing them with these different kinds of filters. He will also talk about Wheaton's new observatory and research that will be done there.

### Asteroid Research at Wheaton and Australia

Wheaton sophomore Shelby Delos will discuss a NASA-supported research project that she carried out last summer to measure the light curve of the minor planet Ingrid using CCD images obtained by an Internet-controlled 10-inch telescope at Wheaton's southern observatory at Grove Creek, Australia. We are interested in possible collaborations with amateurs on projects of this kind.

Tim Barker received his Ph.D. in Astrophysics at the University of California at Santa Cruz in 1974 and has been at Wheaton ever since. He has taught a variety of courses, including "The Universe," "The Solar System," "Extraterrestrial Life," "Observational Astronomy," "Ancient Astronomies, and "Frontiers of Astronomy." He has published articles on planetary nebulae, supernova searches, and active galaxies and is currently doing asteroid research and searching for Transient Lunar Phenomena.

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### Phases of the Moon



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18



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**Other notable events:** Minor planet 2005 YU55 passes within 1 lunar distance of Earth on the 8th (see page 15). Venus, Mercury & Antares are aligned within 4 degrees of each other on the 9th & 10th. Mars passes within 1.4deg north of Regulus on the 10th-11th. Mercury is at greatest eastern elongation on the 14th.

### Seagrave Memorial Observatory is open to the public

weather permitting

**Saturdays: 7:00-9:00 pm**



M31 Andromeda Galaxy by Tom Thibault

# President's Message

Tom Thibault

Dear Skyscrapers Members,

November this year has the spotlight on the King of the Planets, Jupiter. While Jupiter has been in view all October, it has been best viewed later in the evening and early morning. It is now high in the sky at a reasonable hour for all of us. This year, Jupiter's opposition will be its closest until 2026. I have spent a number of nights viewing my favorite planet so far, and it has not disappointed. The southern equatorial belt has returned and Jupiter can be seen in all its glory. Jupiter is not alone in the evening sky, gas giants Uranus and Neptune have joined in as well. I urge all to get out and take in show when you have the opportunity, whether it's through your personal telescopes or those at Seagrave. Our Observatory Committee has invited all our members to take part in viewing and logging their observations of Uranus and Neptune this year, so come join in the fun.

October was highlighted by our premier event, AstroAssembly. Our 2nd V.P., Kathy Siok with the help of numerous volunteers organized the memorable event. While the bright blue skies were scarce at best, the predicted rain and showers did not attend, to the delight of us all. This year's AstroAssembly, with its outstanding guest speakers will be difficult to surpass. Let me thank all of our distinguish speakers on behalf of the entire Skyscrapers membership. I would also like to extend a special thank you to our fellow member speakers, Pete Peterson, Gerry Dyck, Ed Turco, and John Briggs. They highlight the love of astronomy of all our members.

The meeting house was lined with astronomical wares for those looking for

those items to enhance their astronomical pleasures. Outside, Bob Horton had set-up a display of past donated items on sale for those looking for some great deals. As the day progressed, our guess speaker's delivered their wonderful presentations. Our attendee's were also treated to burgers and dogs from the Trustees Grille.

The conclusion of AstroAssembly 2011 occurred at the Scituate Community Center. The generosity of our contributing astronomical vendors added to the festivities as raffle prizes were drawn. Congratulations to all those lucky winners. The weekend was topped off by a wonderful meal and a great presentation by Peter Schultz. During our banquet, Kathy Siok presented Ed Turco with a certificate to commemorate Ed's attendance of 50 AstroAssembly's. Congratulations Ed from all of us. Thanks to all that attended and participated in making this year's AstroAssembly such a great success.

A number of our guests have related their views of this year's event titled "AstroAssembly Attendee Accolades" featured in this month's newsletter. Give them a read and see how Skyscrapers continues to provide a venue each year for all those with a love of astronomy. This year's event was not only attended by residents of Rhode Island, but also from other states as well. We should all be proud of the extent in which Skyscrapers reaches out and touches those with an interest of astronomy.

My final note is a reminder to all: 2011/2012 membership dues were payable beginning in April. If you haven't remitted your dues please do so at your earliest convenience to continue your support of Skyscrapers. Dues can be mailed to Skyscrapers Inc., 47 Peeptoad Road, North Scituate, RI. 02857, Attn: Jim Crawford, or feel free to see Jim personally during any of our functions he is in attendance.

Clear Skies



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.

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#### 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 **November 18** 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.



Ed Turco is presented with a certificate in recognition of him attending his 50th AstroAssembly. Congratulations Ed!

2011 included chatting with friends, seeing two of my favorite speakers (John Briggs and Dr. Peter Schultz), seeing the other speakers with their variety of topics, and, of course, the Skyscrapers Grille!

All in all, another great AstroAssembly - one of the astronomical events I make a point to attend every year!

*by Kerry Hurd*

## AstroAssembly Attendee Accolades October 1, 2011 Report

AstroAssembly has once again lived up to its reputation as a wonderful gathering of stargazers with great facilities and dynamic speakers. It's always an honor to meet someone like Sergei Khrushchev, who not only is an expert in space exploration, but also had a front-row seat for many pivotal events in 20th century history. I also appreciate the time that Peter Schultz takes out of his busy schedule to update AstroAssembly participants on current space missions in which he is involved. His passion is infectious! Every presentation was exceptional, but equally rewarding is the opportunity that AstroAssembly provides to visit with old friends and chat about the subject we all love. I'm already looking forward to AstroAssembly 2012.

*by Rich Sanderson  
Curator of Physical Science  
Springfield Science Museum  
Springfield, MA*

AstroAssembly 2011 continued its tradition of an outstanding event with many fine speakers, some merchandise for sale, raffle tickets, catching up with friends, getting to

see the fine Alvan Clark refractor, and one of my favorites, the Skyscrapers Grill!

Scott Tracy handled introductions in his usual outstanding way throughout the weekend. On Friday evening, I particularly enjoyed Gerry Dyck's three-part presentation, which included an A to Z introduction to astronomy, Frank Seagrave and his variable star observations, and how Gerry has kept his interest in observing for more than three decades.

My favorite talks on Saturday included Ed Turco's amateur astronomy equipment of 1961, John Briggs' imaging with the HUT telescope in Colorado (such a great storyteller!), and Dr. John Mustard, who spoke about the exploration of Mars. I hope to see Dr. Mustard return to a future AstroAssembly - he's good!

After the dinner break, we reconvened at the North Scituate Community Center for the main speaker. Dr. Peter Schultz spoke about visits to comets by spacecraft, and some of the resulting data. Very well done, as usual! One disappointment for me was not winning any door prizes or raffle prizes. Oh well, maybe next year!

The highlights for me of AstroAssembly

2011 has been an exceptionally busy year for most of us. So it was great to put on the brakes and attend the Skyscrapers' annual gathering at AstroAssembly 2011. After collecting several members in the wee hours Saturday morning, we met for our annual breakfast at Christy's Diner before receiving a cheerful greeting upon arrival at Peepoad Road. The door prizes, raffle ticket choices, free NASA goodies to give to the children at home, as well as the vendors who showed their wares all day to let us find that special gadget we needed, made us feel at home again. Then Scott Tracy's voice called us to the formal start of AstroAssembly. The lead-off morning talk was given by Ed Turco, reviewing his 50 years of our Astronomy hobby with instruments and accessories that led him along his path of attending all 50 AstroAssemblies. One can enjoy our hobby with whatever size telescope you have at the time! Many of us nodded yes, as we reminisced of our own trek as Ed Spoke.

The venue changed to the white tent for John Briggs' presentation comparing work at an observatory in the 1980's to 2010's emphasizing the instrumentation and techniques and how amazing today's research results can enter the world wide data base. All this activity peaked our attention to the aromas wafting from the Skyscraper grill! Our hunger was quickly satiated with the tasty dogs and burgers. Interestingly a Dennis Milon archive picture of the 1980 AA grill had a few faces still bending over

this year's grill for our enjoyment! Thanks to all!

The afternoon program started with the first door prize and a big welcome from Dave Huestis. This was followed with Dr. Sergei Khrushchev, accompanied by his wife, reviewing the history of USSR space program development, detailing relationships and decisions that propelled successes and stymied other endeavors. As one remembered the USA fitful starts into space, this was a most interesting presentation. Next, Dr. John Mustard of Brown University presented the results from previous Martian sensors onboard orbiters and rovers that are guiding the next Martian mission plan for surface exploration. The afternoon's third talk was Prof. David Latham, of HCO, reviewing the details of stellar occultations by edge on planets with its possibilities and limitations.

He then guided us through the possible future path of new information that will give new insight of our place in the universe.

Retiring to the North Scituate Community Center, hor d'oeuvres and dinner followed; for those of us fond of eating the statement was WOW-delicious and plentiful! Great chefs are to be applauded! Then the winners of the raffle prizes sought by many were discovered by Kathy Siok's team. Always a moment of anticipation; always followed by the awaited Keynote speaker: this year Dr. Peter Schultz of Brown University's Planetary Data Center. We were guided through the intricate data available from both the re-commissioned Deep Impact and Stardust space vehicles as they surveyed comet Hartley's hyperactive nucleus and comet Temple's changed impact crater from the Deep Impact colli-

sion. As the research continues on this data set, tantalizing models of comet structure and their contributions to our planet are being uncovered. We will stay tuned!

Pumped up by a stimulating day exploring many aspects of our hobby, the drive home seemed much shorter. It was great seeing friends of many years again. Those plans we've been thinking about take on new vitality. It's much clearer why we got hooked on Astronomy; our Astronomical batteries have been recharged today. Thanks to the Skyscraper's crew who worked hard this year and in past years, to make this tradition what it has become...the highlight of another year with our fascinating hobby.

Clear skies to all!

*by John Reed*

## The Constellations in November

Francine Jackson

After enjoying the overhead rescue of Andromeda by the prince charming Perseus, you might notice that Perseus has his foot on a tiny little clump of stars. At first glance, many people believe they have found the Little Dipper, not realizing that the Little Dipper is a part of our northern circumpolar sky, visible whenever you care to look in that direction; instead, that tiny cuplike group is the Pleiades. The Pleiades were seven sisters who were so beautiful they were placed in the sky to be adored forever; however, one of the sisters came back to Earth to marry a human being, so her light was extinguished. Looking at this tiny star cluster, the average person can make out only six stars, surprising, because all the myths about it concern seven who became six - for example, American Indian legends have seven hunters, one of whom came home empty-handed, or seven brothers who tried to jump up to the sky, with one being unsuccessful, or the Thai story of a mother hen and her six chicks (very sad) - yet this cluster is one that is astronomically very young, only several hundred million years old, too young for a star to have already been extinguished.

The Pleiades are sitting on the back of the Bull, Taurus. His face is very easy to see, as it is in the shape of a perfect letter "V." The upper-left star, you may notice, has a slightly reddish color. It is Aldebaran,

Taurus's flaming red eye. From each side of the V going upward, you can see the size of the bull by the height of his horns. Slightly in front of, or to the east of, the head is his front legs, as he is galloping toward the rest of the winter constellations. His red eye is on target with the belt of the constellation that is the sign of winter, Orion, the Hunter.

Probably the most recognized sky picture, after the Big Dipper, Orion's three stars making up his belt is the centerpiece of the constellation. Directly below the belt is his knees, the brighter of the two stars Rigel, meaning "kneecap." Above the belt are his shoulders, with the brighter of those two having a ruddy tinge to it. This star is the infamous Betelgeuse, the translation of which is again the position in Orion, "giant's armpit." Below the belt, in a fairly good sky, you might be able to make out another, smaller line of what looks like three stars making up the position of Orion's sword. However, if you look at the center object, it will resolve itself into more than just star - you are looking at a giant star-forming region, the Great Orion Nebula, M42. The material making up this nebula is actually being lit by the stars that have formed from its dust and gas.

Following Orion's belt to the left, or east, you come upon the brightest star (but not brightest object) in the sky, Sirius, the star

forming the nose of Canis Major, the Big Dog, one of Orion's hunting companions. His shape actually looks what he is, from his back down to his back legs and tail, to the front legs, and his ears flapping upward in the breeze as he's running after his master.

Sirius was a very important star to the early Egyptians, who noticed that when Sirius was first visible in the morning sky, that is, it's far enough away from the Sun that it can be seen for the first time - its heliacal rising - the Egyptians realized that the days were hot enough for the snows to melt from the mountains and run downward, joining with the waters of the Nile River, causing it to rise significantly to allow the farmers along the riverbank to create irrigation trenches to receive water naturally in their fields. It was also noted that just a day or two before Sirius's heliacal rising that another star, but not as bright as Sirius, had its rising just before Sirius. This became the indicator of Sirius, and was called Procyon, the star that rises "before the dog." It and only one dimmer star make up the outline of Canis Minor, the Little Dog. And, because these stars and dog constellations have their heliacal rising in the hottest time of year, the end of July and beginning of August, that time of year was named for the occurrence - The Dog Days.

# Pleasure at the Telescope: Observing Jupiter

Dave Huestis

Since we lost Saturn to worthwhile telescopic viewing at the beginning of September when it sank below the western tree-line, we've had no bright planets to observe during a reasonable hour. Yes, in recent months you could have observed Jupiter, as well as Uranus and Neptune, around the midnight hour, but only dedicated stargazers took advantage of those viewing opportunities.

Beginning this month the local observatories will be focusing their telescopes on perhaps the most dynamic of all the planets, Jupiter. And if you own a telescope of any size, this time would be good to take it out and set your sights on our solar system's largest planet.

Before we take a brief look at what Jupiter will present to even a casual astronomer, you will need to know where to look for Jupiter in the sky. On November 1st Jupiter rises almost due east around 5:30 p.m. However, wait for it to climb higher into the sky to ensure steadier seeing conditions. By 8:00 p.m. Jupiter will be about 28 degrees (three fists held at arm's length covers this distance) above the horizon.

Jupiter currently resides in the constellation Aries, which is not an easily recognizable star pattern. Luckily Jupiter will be the brightest object in that area of sky, so you shouldn't have any difficulty finding it. Furthermore, to Jupiter's left you'll notice the Pleiades star cluster in Taurus, so this clue should also assist you in locating it. And once you point your telescope at this bright beacon, you'll immediately know you've found Jupiter.

Jupiter is a large planet (you could fit 1,321 Earths within its volume), so even a small telescope will show a keen-eyed observer much detail. On October 27 Jupiter was in opposition (opposite the Sun in our sky) and also at its closest distance from the Earth (369,941,598 miles) until 2022. For you native Rhode Islanders that's further than Woonsocket, Westerly or Newport! Jupiter's large diameter and its relatively close distance make the planet easily observable.

My favorite turn-of-the-century author, Garrett P. Serviss called Jupiter "one of the greatest pleasures that the telescope affords."

One of the first things that will catch your eye will be the Galilean moons. Galileo Galilei first observed them and Jupiter on January 7, 1610, so now the four moons collectively honor his discovery. They are: Io, Europa, Ganymede and Callisto. When several of the Galilean moons are visible at



Tom Thibault's prize-winning photo of Jupiter with Europa and shadow transit. Note also that the GRS, Ganymede and Io are visible. Camera: Orion StarShoot Solar System Color Imaging Camera II; Orion 11" Schmidt-Cassegrain Optical Tube; Celestron CGE; 30 second AVI video with 47 frames stacked and cropped; Processed with Registax and Photoshop.

the same time, they sometimes appear in a straight line, parading around Jupiter in the plane of its equator. This astrophysical arrangement presents many interesting phenomena for us earth-bound astronomers to observe. (For those of you who love facts, Jupiter has 62 known moons total, the majority of which cannot be seen visually with even large amateur telescopes in a dark sky.)

When a moon passes in front of Jupiter and casts a shadow onto the Jovian cloud tops, it is called a shadow transit. Besides seeing the satellite's shadow, you may also see the bright disk of the satellite traversing Jupiter's clouds at the same time, though this event is more difficult to observe. A moon may also pass behind the planet, which is called an occultation. Jupiter's shadow can even eclipse a satellite as well; gradually the moon will either blink out or reappear. Also, it's fun to watch all four moons line up on one side of the planet. I love to watch Jupiter over an extended period of time during the course of one evening because the view is dynamically changing as you watch.

Next it's time to look at Jupiter's disk,

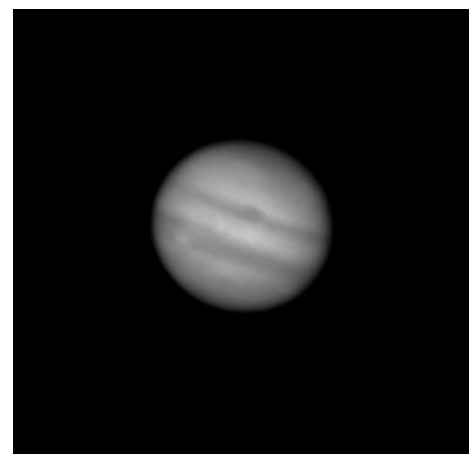
the ball of the planet. Even a small telescope will reveal the more prominent dark bands/belts and lighter zones in Jupiter's cloud tops. Though the Great Red Spot (GRS), an almost four hundred year old storm, is not as red as it once was many years ago, it should be fairly easy to see if it has rotated into view. A six-inch telescope or larger may be needed to catch a glimpse of it. Keep in mind that Jupiter rotates once in ten hours, making it possible to see the entire planet in one or two nights of observing.

Jupiter is going to be viewable until about mid-March 2012, but don't procrastinate.

You never know how inclement the weather may become. And don't forget, winter is coming soon. So I suggest you observe soon and often. Jupiter and his moons are in constant motion, and it's always a pleasure to see what event may occur when you are at the eyepiece of your telescope or at one of the fine telescopes at the local observatories.

It's Jupiter observing season. By Jove, get out there and enjoy one of the visual pleasures that a telescope can provide.

Keep your eyes to the skies.



Glenn Chaple's  
Sky Object of the Month

# Almach

## $\gamma$ Andromedae

Last month, I suggested that our featured object, Albireo, may not be the most beautiful double star in the sky and I'd introduce a rival this month. If you guessed that Albireo's challenger is Almach, the gamma ( $\gamma$ ) star in Andromeda, you'd be correct!

The popularity of both Albireo and Almach lies in their stunning golden yellow and deep blue colors. I give Almach a slight edge because its component stars are much closer (slightly less than 10 arc-seconds) than Albireo's (34 arc-seconds). While Albireo begins to lose some of its visual appeal at high magnifications, Almach is still an impressive sight at powers of 100 $\times$  and up.

Almach is readily resolved by even the smallest telescopes. Moreover, I found its colors to be more intense when viewed with a 3-inch reflecting telescope than with the 6-inch Clark refractor at the Oak Ridge Observatory in Harvard, Mass.

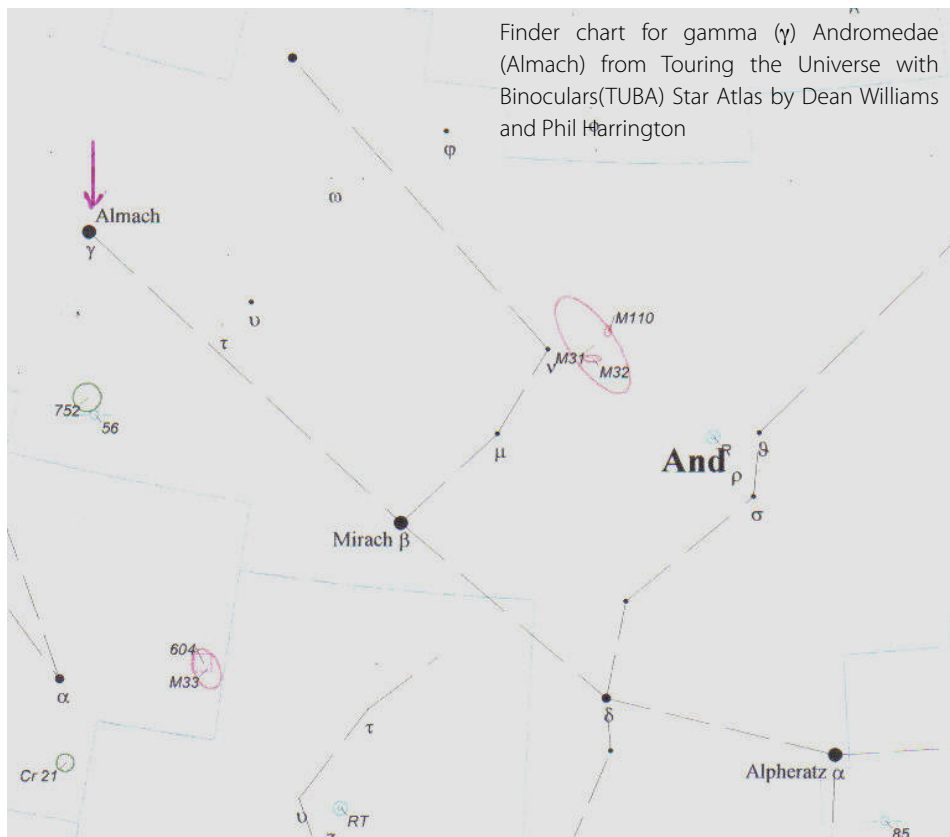
The latter instrument, however, revealed something the little 3-inch never will. Almach's fainter component, gamma<sup>2</sup> ( $\gamma^2$ ) is a close magnitude 5.1 and 6.3 binary with a period of about 64 years. The two were near their greatest separation (0.6 arc-seconds) when I viewed them with the Clark in 1980. Even then, extremely steady skies and a magnitude of 360 $\times$  served only to elongate

the pair. Right now, the two have closed to a separation of less than 0.1 arc-seconds – a challenge for even the largest telescopes.

We're not done! The magnitude 5.1 component of gamma<sup>2</sup> is a spectroscopic binary with an orbital period of just 2.76 days. Gaze at gamma<sup>2</sup>, and you're looking at a tight orbiting triplet!

Both Albireo and Almach are visible on November evenings. You've heard my opinion about the two. Now it's your turn to see for yourself. View both with a variety of magnifications (and telescopes, if possible).

Do you agree with my impressions? For a second opinion, read Greg Stone's comparison of Albireo and Almach on the "Starsplitters" web page at [bestdoubles.wordpress.com](http://bestdoubles.wordpress.com). Once you've accessed the site, enter "Almach and Albireo" in the search box. A quick scroll will get you to his article "[Almach: GOLD and blue; Albireo: BLUE and gold – Both: priceless!](#)" By the way, "Starsplitters," a collaboration of double star fanatics Greg Stone and John Nanson, is a MUST site for the double star enthusiast.



## Poor Prospects for November's Meteors

Dave Huestis

Here's my update on last month's Draconid meteor shower on October 8. First the good news: the mini-storm predicted by a Canadian astronomer did present itself. The bad news: not here in Southern New England. Europe was forecast to observe possibly up to 1,000 meteors per hour at peak, but a more likely number was about 350. And that's exactly what the United Kingdom experienced.

Much of the United Kingdom was cloudy during the early evening according to the reports I've seen. But when holes began to open up in the cloud cover, folks

were treated to a fine display of shooting stars. Over a two-hour period the number of meteors quickly rose, reaching a peak of about just under 350 meteors per hour before quickly subsiding.

By the time the Earth had rotated into sunset for us here in the Eastern United States, our planet's orbital motion carried us completely through the stream of meteor particles. And don't forget, the Moon was very bright in a waxing gibbous phase (three days before full)! It must have been quite a display to observe. Though we had 25 visitors at Seagrave Memorial Observatory

during our regular public open night on the same evening, no one reported seeing any meteors at all.

Location. Location. Location! Better luck next time.

I wish I had good news for the meteor showers of November, but several conditions this year conspire to diminish what can be seen. First up this month is the minor shower called the North Taurids, which peak around the 12th. The peak rate is a paltry five meteors per hour, and the Moon will be just past full (4:16 p.m. on the 10th). Bright moonlight will flood the sky all night, so I

wouldn't expect to see many North Taurids.

I don't often say this, but you may wish to skip the North Taurids this year and better occupy your free time. However, if the weather cooperates and you don't mind a Full Moon, you might try your luck catching sight of one of these fragments of Encke's Comet. The North Taurid meteors radiate out of the sky in the constellation Taurus the Bull (visible soon after sunset in the eastern sky), not too far from the well known and easily visible Pleiades star cluster.

Unfortunately the bright Moon will be just 16 degrees (about a fist and a half held at arm's length covers this distance) away from the Pleiades, further contributing to poor observing prospects. The North Taurids enter our atmosphere at approximately 17 miles per second, are yellow in color, and often explode as fireballs and then fragment into multiple meteors.

Meteor shower number two for this month doesn't fair much better. While the Leonids are a major shower, with storm levels occurring every 33 years, the last storm graced our skies back in 2001. It has

now resumed its regular peak rate of about 20 meteors per hour.

This year the peak occurs on the morning of the 18th between midnight and dawn. However, the Last Quarter Moon occurs on the same day, and to make matters even worse, it will be just a short distance (about 14 degrees) away from the shower's radiant point in the Sickle (backwards question mark) asterism in Leo. The only up-side to this scenario—the moon will guide you to Leo!

The circumstances are far from ideal for counting many meteors from the Leonids. While one does observe meteors well away from the radiant point, the Moon will accompany Leo until he sets. I would estimate that perhaps only ten or so meteors per hour can be expected at best.

The Leonids are bright meteors, usually green or blue, which hit our atmosphere nearly head-on at about 44 miles per second. For this reason the display produces many fireballs, with about half of them leaving trains of dust which can persist for minutes.

The Moon will be so bright and a hin-

drance to both of the meteor showers this month that I wouldn't sweat trying to observe from a remote and light pollution-free location.

While you don't require a telescope to enjoy meteor observing, there are many heavenly objects one can view by taking advantage of the public viewing opportunities provided by the local Rhode Island observatories. The following facilities are open on a regular schedule for you to enjoy the beauty of the heavens: Seagrave Memorial Observatory (<http://www.theskyscrapers.org>) in North Scituate is open to the public every clear Saturday night. Also, 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 observatories.

Keep your eyes to the skies.



I was pleased to receive an award for the milestone of 1,500 solar observations earlier this month at the Centennial Meeting of the AAVSO. I have attached a photo with me standing with my certificate and the model of my merry-go-round observatory. The photo credit goes to Albert Holm.

Gerry Dyck



J. T. Hopf's 6" Newtonian Telescope  
c. 1958 - Stellafane Award for  
Excellence in Optics 1965

# John T. Hopf

(1920-2011)

John was an "Amateur Astronomer" in the truest sense - he made telescopes and used them to their fullest extent.

John built this telescope and made the mirror for it. The mirror was made so well that he won a Stellafane prize for excellence in optics.

His favorite objects to observe were the planets, especially Mars, but he didn't just observe, he also sketched and photographed the planets and bright comets.

Although John was well known as a professional photographer of the highest possible standards, sometimes his professional cameras would not fit on his telescopes, so he would make a camera box and film holder to mount on the telescope to fit his needs. His professional commercial and aerial photographs were frequently published in newspapers, books and journals. His astrophotography was also well known and many of his photographs appeared in the Newport newspaper and in one of the first books ever published for amateur astrophotographers - *Outer Space Photography for the Amateur* by Henry Paul in 1960. He not only did these things for himself, but he would also readily share his knowledge and skills to help others build telescopes, take astrophotographs and develop their knowledge and expertise in amateur astronomy.

Skyscrapers has benefited greatly from having John associated with the Society, almost from the beginning when Skyscrapers was founded in 1932. John's father took him to one of the first meetings at Brown University in 1932/33 when he was about twelve or thirteen years old. He was not old enough to become a member, but he attended meetings whenever he could, eventually becoming a member and contributing to the Society for well over half a century. More recently in the mid-1990s, John was responsible for Skyscrapers acquiring a 12" Meade telescope instead of the originally intended smaller model. Among the many contributions to Skyscrapers, he generously donated the majority of the funds to pay for the upgrade to the 12" model. The Meade 12" has been a heavily used instrument by our members, education outreach star parties and the Saturday night public observing program.

John T. Hopf has earned his rest and we will all miss him. He has always known that "The Heavens Declare the Glory of God".

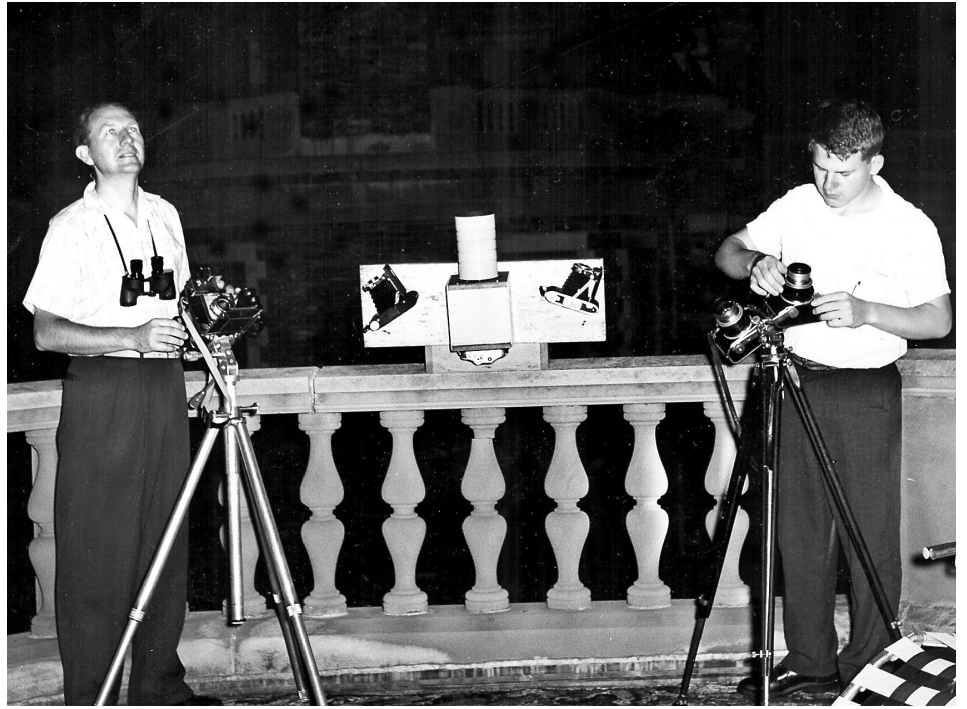
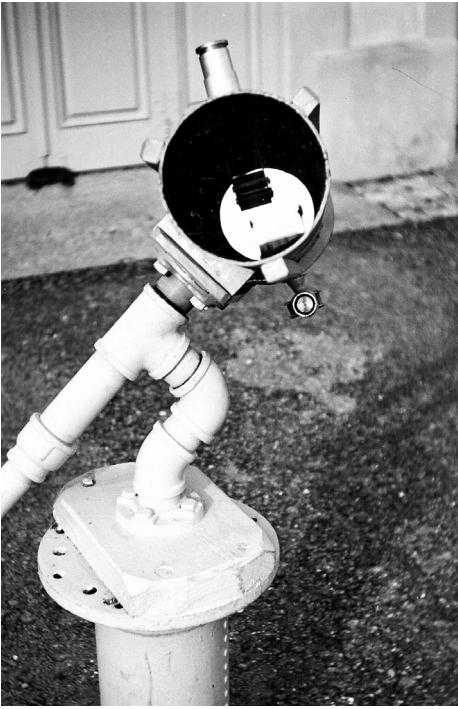
Rest in Peace, John.

*Bob Napier*



John attends  
Skyscrapers'  
AstroAssembly,  
Oct. 1955

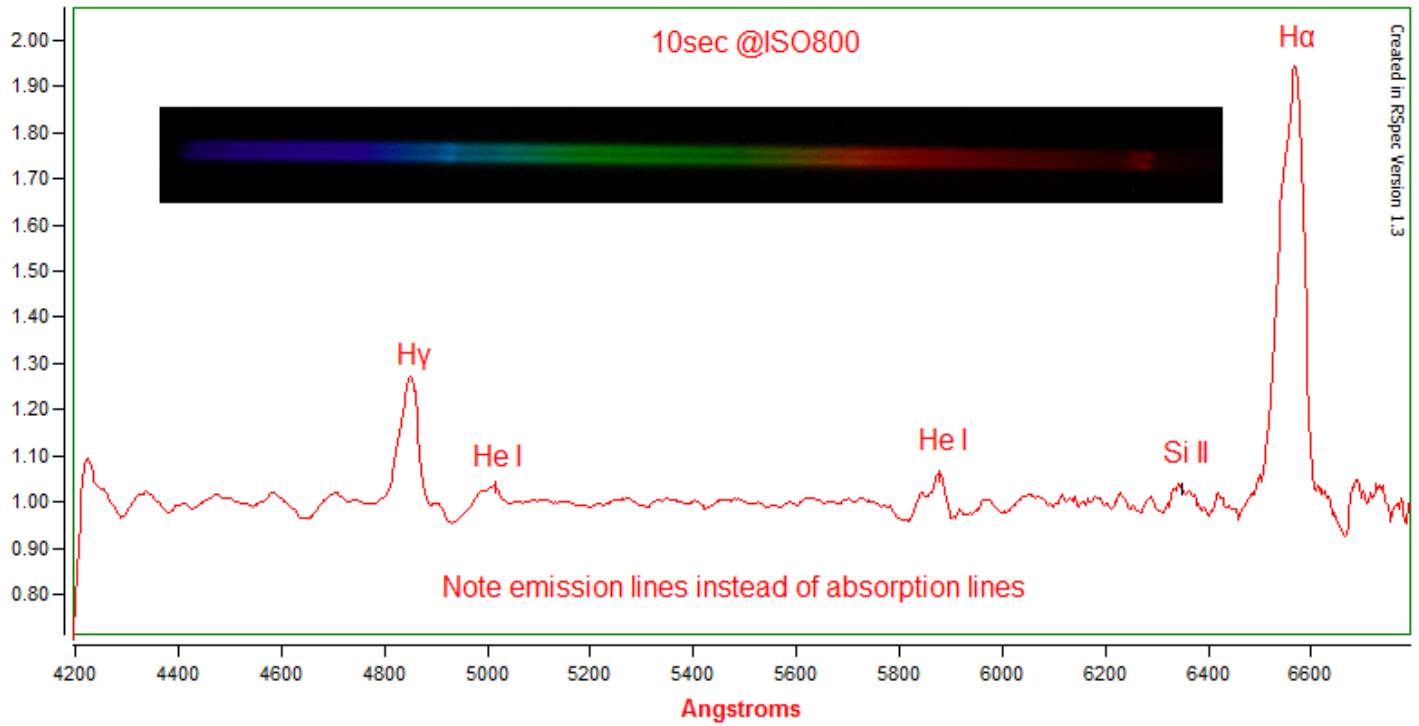




Clockwise from top left: John's First 6" Newtonian Telescope c. 1940. John Hopf Taking Meteor Photos c. 1958 for Henry Paul's Book "Outer Space Photography for the Amateur." John at the Hartness House Turret Telescope c. 1980. John, Professional Photographer, in his Photo Lab c. 1958.



### P Cygnus B2Ia pe 10-22-2011



I took this photo October 22 with my C5. P-Cygnus is a "Luminous Blue Variable" supergiant in Cygnus. When I first took the picture, I wasn't sure if I had it; but when i opened it up in the RSPRC software and saw the emission lines, i knew I had it! It might have been 4th magnitude at the time. Pray for clear skies!  
 Conrad Cardano



Waxing gibbous Moon, Thursday, October 6, 2011; Canon XSi and Meade 8 inch SCT @ f/10 2000mm 1/80 of a second. This is a 6 shot mosaic using Autostitch software to blend the photos together. White balance normal daylight ( true color ). Photo by John Kocur.

# The Gray Cubicle You Want to Work In

Dr. Tony Phillips

It's another day at the office.

You're sitting in a gray cubicle, tap-tap-taping away on your keyboard, when suddenly your neighbor lets out a whoop of delight.

Over the top of the carpeted divider you see a star exploding on the computer screen. An unauthorized video game? No, this explosion is real. A massive star just went supernova in the Whirlpool Galaxy, and the first images from Hubble are popping up on your office-mate's screen.

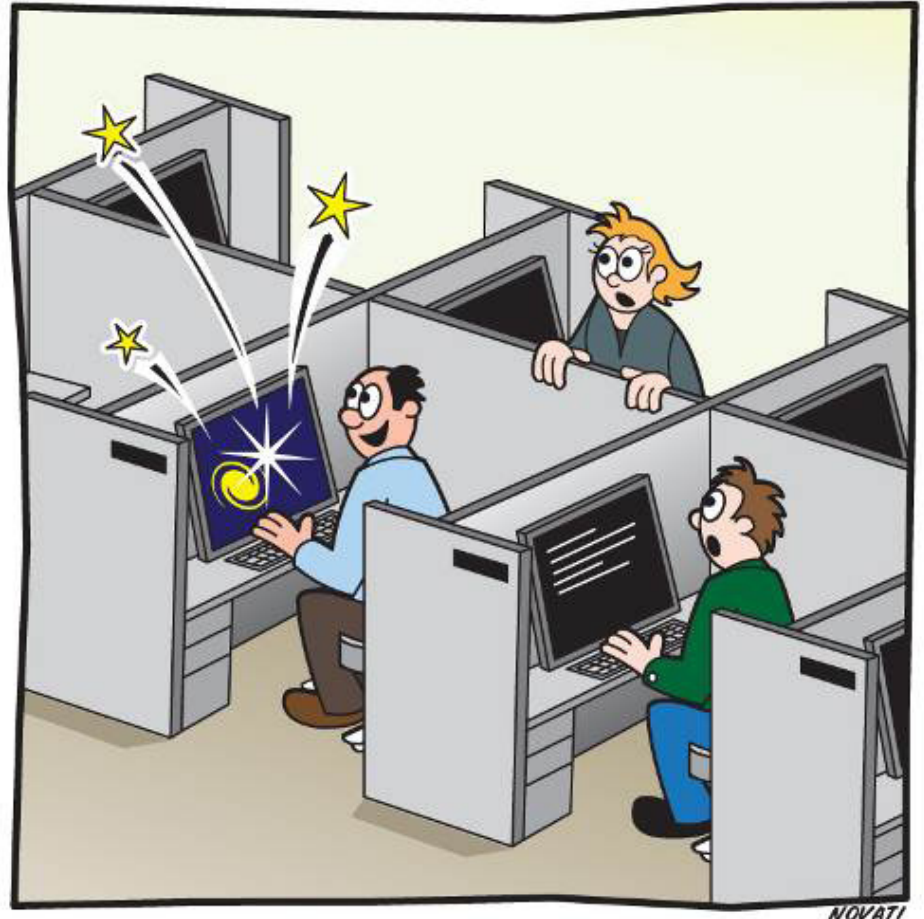
It's another day at the office ... *at NASA.*

Just down the hall, another office-mate is analyzing global temperature trends. On the floor below, a team of engineers gathers to decode signals from a spaceship that entered "safe mode" when it was hit by a solar flare. And three floors above, a financial analyst snaps her pencil-tip as she tries to figure out how to afford *just one more* sensor for a new robotic spacecraft.

These are just a few of the things going on every day at NASA headquarters in Washington DC and more than a dozen other NASA centers scattered around the country. The variety of NASA research and, moreover, the variety of NASA people required to carry it out often comes as a surprise. Consider the following:

NASA's Science Mission Directorate (SMD) supports research in four main areas: Earth Science, Heliophysics, Astrophysics, and Planetary Science. Read that list one more time. It includes everything in the cosmos from the ground beneath our feet to the Sun in the sky to the most distant galaxies at the edge of the Universe. Walking among the cubicles in NASA's science offices, you are likely to meet people working on climate change, extraterrestrial life, Earth-threatening asteroids, black holes or a hundred other things guaranteed to give a curious-minded person goose bumps. Truly, no other government agency has a bigger job description.

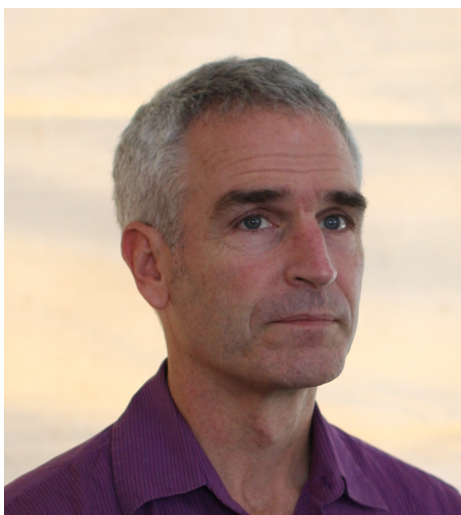
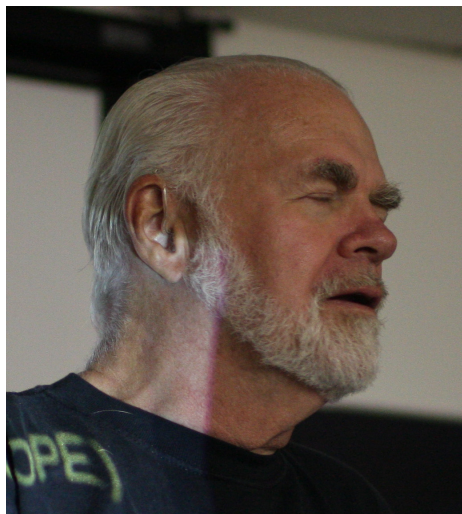
And it's not just scientists doing the work. NASA needs engineers to design its



Some of the employees of NASA's Science Mission Directorate may work in gray cubicles, but their jobs are anything but dull. They get to study Earth, the Sun, the Solar System, and the Universe!

observatories and build its spacecraft, mathematicians to analyze orbits and decipher signals, and financial wizards to manage the accounts and figure out how to pay for everything NASA dreamers want to do. Even writers and artists have a place in the NASA scheme of things. Someone has to explain it all to the general public.

Clearly, some cubicles are more interesting than others. For more information about the Science Mission Directorate, visit [science.nasa.gov](http://science.nasa.gov). And for another way to reach the Space Place, go to <http://science.nasa.gov/kids>.



## AstroAssembly 2011

Top to bottom, left to right: Tony Costanzo demonstrated setting circles; Pete Peterson gave a presentation on astrometry; Gerry Dyck gave a historical overview of Frank E. Seagrave's contributions to variable star observations; Ed Turco showed astronomy equipment from a half century ago, John Briggs presented on astrophotography from Colorado; Sergei Khrushchev gave a lecture on the early history of the Soviet manned spaceflight program; John Mustard gave updates on up-to-date Mars exploration; David Latham presented the latest in exoplanet discoveries; Scott Tracy served as master of ceremonies during AstroAssembly.

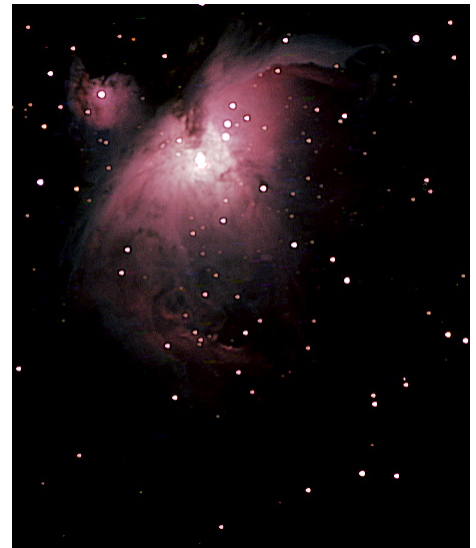


Top to bottom, left to right: Pete Schultz updated us on the latest findings from comet missions; Sue Hubbard and Linda Bergmann at the registration table; Kathy Siok, AstroAssembly chairperson; and banquet dinner at the North Scituate Community Center.

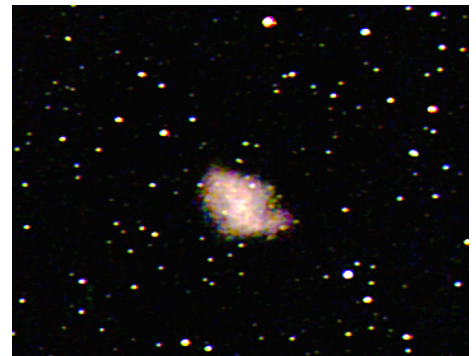
# October Report

Jim Crawford, Treasurer

Budget as of 10/24/2011	2011-2012 Budget	Actual	Difference
<b>INCOME</b>			
Astroincome	\$3,500.00	\$4,001.50	\$501.50
Cookoutinc	\$500.00	\$404.00	-\$96.00
Donation, Other	\$300.00	\$1,096.00	\$796.00
Dues	\$3,075.00	\$2,720.00	-\$355.00
Interest Inc	\$125.00	\$32.76	-\$92.24
Starparty Donations	\$500.00	\$37.00	-\$463.00
<b>TOTAL INCOME</b>	<b>\$8,000.00</b>	<b>\$8,291.26</b>	<b>\$291.26</b>
<b>EXPENSES</b>			
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	\$72.34	-\$102.66
Insurance, Property	-\$2,625.00	\$0.00	-\$2,625.00
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	\$37.78	-\$312.22
Trustee Exp	-\$700.00	\$262.97	-\$522.03
<b>TOTAL EXPENSES</b>	<b>-\$8,000.00</b>	<b>\$3,473.79</b>	<b>-\$4,526.21</b>



M42 Orion Nebula taken on October 8 around 4:00am, It a stack of (86) 21.2 sec exposures. Scope Astro-Tech 65EDQ with a DSI-2. Photo by Tom Thibault.



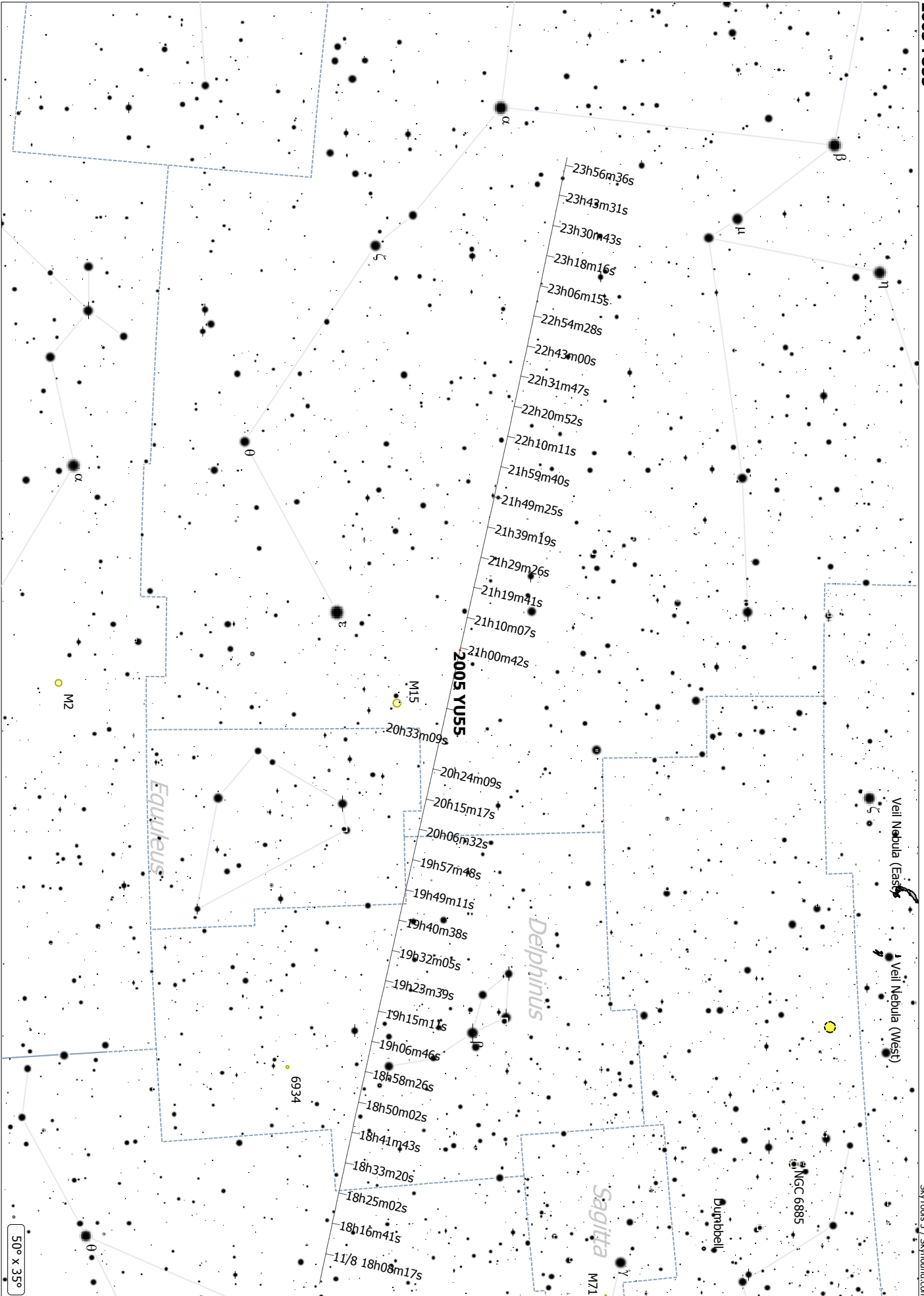
M1 Crab Nebula taken on October 11 around 4:00am, It a stack of (80) 21.2 sec exposures. Scope Astro-Tech 65EDQ with a DSI-2. Photo by Tom Thibault.

**Cash Assets**

Citizens Checking	\$10,955.46
Capital One	\$11,502.65
<b>Total</b>	<b>\$22,458.11</b>



Last Quarter Moon by John Kocur



2011 November 8 21:00, Seagrave Observatory  
Moonlight (optimum conditions)

2005 YU55 (Minor Planet)  
R.A.: 21h38m19.1s Dec.: +14°35'36" J2000 (Peg)

Magnitude: 11.32 Earth Distance: 346235.6 km

50° x 35°

# 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