



the Skyscraper

vol. 37 no. 2
February
2010

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

Seagrave Memorial Observatory is open to the public

weather permitting

Saturdays 7pm - 9pm

Please note that the observatory may be inaccessible for several weeks following a winter storm. See web site for updates.



North Scituate Community Center

All of our winter meetings (Dec-Mar) are held at the Community Center. From Seagrave Observatory, the Community Center is the first building on the right side going south on Rt. 116 after the intersection of Rt. 6 Bypass (also Rt. 101) and Rt. 116. Parking is across the street.



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February Meeting with Alan Hirshfeld

FRIDAY, FEBRUARY 5, 7:30PM
NORTH SCITUATE COMMUNITY CENTER

This month's speaker will be Alan Hirshfeld. He is Professor of Physics at the University of Massachusetts Dartmouth and an Associate of the Harvard College Observatory. Prof. Hirshfeld's topic will be: Astronomy & Technology: Partners in Discovery

From the first night Galileo turned his telescope skyward, technology has fostered astronomical discovery. During the 19th and

early 20th centuries, advances in telescope design and the improvement of photography and spectroscopy helped propel astronomy into the modern age. Today, gigantic telescopes are outfitted with shape-shifting reflectors, ultra-sensitive light detectors, fast computers, and powerful lasers to extract from these instruments every possible degree of optical performance. Even more advanced telescopes are on the drawing board.

Executive Committee Meeting

WEDNESDAY, FEBRUARY 3RD AT 7PM
LADD OBSERVATORY
210 DOYLE AVENUE
PROVIDENCE

All members are welcome to attend.

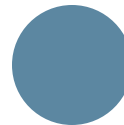
Nominations Committee for 2010 Elections

The members of the nominating committee for Skyscrapers elections are: Kathy Siok (kathyss@cox.net or 885-1608), Bobby Napier (bob_napier@hotmail.com) and Rick Arnold (rcarnold@worldnet.att.net) If you would be interested in running for one of the offices, please contact one of the members prior to the February meeting.

Phases of the Moon



5



13



21



28

OTHER NOTABLE EVENTS: Mars is closest to the Beehive Cluster (M44) on the 3rd. Neptune is at superior conjunction on the 14th. Vesta passes close to Algjeba (γ Leo) on the 16th and is at opposition on the 18th. The Moon is near the Pleiades on the 21st. The Moon passes open star cluster M35 on the 23rd-24th. Jupiter at superior conjunction on the 28th.

Bob Horton

President's Message

In last month's issue of the Skyscraper, we featured observation reports for the Geminid meteor shower. It was really enjoyable to read the various reports that so many of you submitted, and I hope that in future issues of the Skyscraper this will become a regular feature.

Mars is now nearing opposition, and throughout the winter months we should be able to get some good views of the Red Planet. I would like to encourage as many of you to submit your observations, drawings and images to our newsletter editor, Jim Hendrickson for publication in the next issue of the Skyscraper.

Skyscrapers members have been invited to an evening of observing at Van Vleck Observatory, located on the campus of Wesleyan University, in Middletown CT, on Saturday, February 13th at 8pm.

This will be a great opportunity to observe Mars using a 20" Alvan Clark refractor. If the seeing conditions are good that night,

we will be in for a real treat. Syrtis Major, one of the most prominent markings on Mars will be visible at that time, as well as the polar ice cap.

On behalf of Skyscrapers, I would like to thank Al Hall for making these arrangements for us, and a very special thank you to the Astronomical Society of Greater Hartford and Wesleyan University for hosting this event.

Please contact me at Stargazerbob@aol.com or 401-556-8091 if you are interested in going to Van Vleck Observatory. If I know who is going, I will be able to keep you informed of any last minute changes due to weather or any other factors. And if enough of us plan on going, perhaps we can arrange for carpooling from Seagrave.

You can read more about Van Vleck Observatory, including directions and parking information at <http://www.wesleyan.edu/astro/events/>.

Clear Skies, Bob Horton



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 February 22 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.

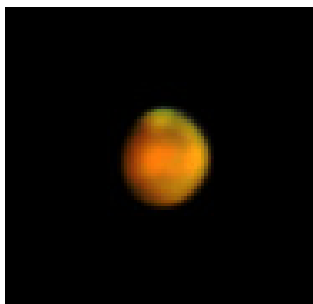
The Return of Mars

Dave Huestis

It's been two years since I've written about our planetary neighbor Mars. Why? As it is with most things astronomical, events in our solar system occur in a cyclic manner. Earth and Mars have a close encounter every 26 months. During the last few months the Earth has been catching up to Mars in our respective orbits. Back on January 27 these two planets approached each other to within 61,721,726 miles at their closest. That distance is still quite large, considering back on August 27, 2003, the Earth and Mars were only 34,646,418 miles apart. Unfortunately not all Mars close encounters are favorable ones. That fact is due to the eccentricity of Mars' elliptical orbit and its distance from the Sun.

Some of my associates have already been observing and imaging Mars with their telescopes. They've had to schedule their observing time for the late hours of the night or wee early morning ones when Mars gained some

altitude in our sky. Skyscrapers member Tom Thibault of Blackstone, Massachusetts, took the accompanying Martian image back on December 4 between four and five am when Mars was still 85,696,854 miles from the Earth. It's a nice image, considering



how small Mars appeared in the eyepiece of the telescope. More about what the image shows a little further on.

For those of you who enjoy observing at more reasonable hours, this brief Mars observing guide will help you to discern and appreciate the planetary detail a telescope may show you of this desolate world. While this apparition is not one of the closer ones, medium sized backyard telescopes should still coax some detail out of the small image. And of course the local observatories will be able to share even more Martian detail if we get a reprieve from all the snow we've been receiving.

The current apparition of Mars positions

it almost twice as far from the Earth as it was during the 2003 encounter, and that fact means the apparent size of the Martian disk is almost less than half the size it was back then. And now that we have “lapped” Mars in our respective orbits, Mars’ image size will gradually be getting smaller. Due to our greater orbital speed we will be pulling away from Mars at about half a million miles per week. Make no mistake about it. Observing details on the Martian surface is going to be a challenge for small telescopes.

The one favorable circumstance during this Mars observing season is that its hourly progression across the sky will take it high overhead, thereby escaping any horizon haze and turbulence, providing we have steady seeing conditions overall. This factor will certainly help to counter the tiny image, which can easily be distorted by the smallest amount of atmospheric turbulence.

Even if you have a small telescope I encourage you to try observing Mars. First you will need to locate Mars in the sky. At around 8:00 pm on February 1st Mars will be about 40 degrees (about halfway) above the eastern horizon in the constellation of Cancer. This star pattern is to the upper right of Leo, a portion of which looks like a backwards question mark, with the bright star Regulus as the period in the question mark. Mars will also be quite near the Beehive Cluster of stars, easily visible from a dark sky location. And Mars can’t be missed, since its bright pumpkin orange color will certainly pinpoint its location.

Since Mars’ north pole is currently tilted

towards the Earth, the first detail that should catch your attention will be the North Polar Cap (NPC). That feature is the bright spot at the top of Tom’s image. Spring in Mars’ northern hemisphere began back on October 27 of 2009, so the NPC has had some time to melt. As more time passes, an observer should be able to notice the NPC shrinking and breaking up. Mars’ image will be fairly small, so one should wait for steady seeing conditions to observe as much detail as possible. While the NPC will continue to shrink, the Earth/Mars distance will be increasing and the image size will be decreasing. Summer begins in Mars’ northern hemisphere on May 13, but by then the image will be even smaller, since the planet will be about 129 million miles away. For this apparition of Mars an observer should “crank up” the magnification (power) as far as possible without severely distorting the image.

While the NPC should be rather apparent, the rest of the planet will appear as a rust-colored beach ball. However, several dark features can also be seen. Notice the dark feature in upper right below the NPC in Tom’s image. Utilizing a JavaScript utility called Mars Profiler provided online by Sky and Telescope magazine (<http://www.skyandtelescope.com/observing/objects/javascript/mars>), Tom was able to identify the area as Mare Acidalium and Niliacus Lacus. These features are the underlying rock exposed by the shifting sands during intense dust storms. The relatively small image will make it somewhat of a challenge to identify much detail, and the dark surface features

may be fleeting. Despite this handicap a keen-eyed observer should be able to catch a few glimpses of a dark area like Syrtis Major or a bright one like Hellas Basin.

Also please keep in mind that Mars rotates once in 24 hours and 38 minutes. That means if you observe a feature at a specific location at a specific time on one night, you’ll have to wait an additional 38 minutes each successive night for it to be at the same spot, since the Earth rotates once every 24 hours.

In conclusion, be patient when observing Mars. The planet’s disk will be small. Wait for steady seeing conditions. Don’t try observing Mars if the stars are twinkling. Take your time in observing this fascinating planetary neighbor, and your efforts will be well rewarded.

If you don’t own your own telescope, or the view through the one you do own is too small to see much detail, plan on visiting Seagrave Observatory (<http://www.theskyscrapers.org>) on PeepToad Road in North Scituate on any clear Saturday night (7-9pm). You can also visit Ladd Observatory (<http://www.brown.edu/Departments/Physics/Ladd/>) located on Hope Street on Providence’s East Side on any clear Tuesday night (7-9pm). Dress warmly and take advantage of the views their larger telescopes can provide. Please check the above websites for any cancellation notices before venturing out for a visit, since snow and ice at the facilities can force closures even when the skies are clear.

Keep your eyes to the skies.

Visual Observing with the Yerkes 40-inch Refractor

Steve Hubbard

With its incredible 40-inch refractor, Yerkes Observatory in Williams Bay Wisconsin has long been on my list of “those places that I’d love to visit, but just haven’t been able to make it to yet.”

At the end of September 2009, I and Dan Lorraine, Jack Szelka, Joe Sarandrea, Jim Hendrickson, Glenn Jackson and John Briggs of The Skyscrapers Inc. amateur astronomy society of Rhode Island got the chance to not only visit Yerkes, but had the rare opportunity of a night of exclusive observing with the 40-inch.

If I’ve caught your interest, perhaps you’d like to know a bit about our trip and what the observing was like with such a unique and

historic instrument.

Landing in the nearby city of Chicago, our intrepid group first visited the historic Adler Planetarium. If you’ve never been there, it’s a must see for anyone with an interest in astronomy.

Home to the Atwood Sphere, Chicago’s oldest Planetarium built in 1913, The Adler also houses many historic instruments and books and an historic Zeiss Planetarium Projector.

While we were at the Adler, we were fortunate to arrive during the time when there was a display of telescopes through the ages including an 1863 4 inch Alvan Clark refractor and the original wooden tube and mount

from the 18 inch Dearborn Michigan refractor also made by Alvan Clark and Co. circa 1864. Since we were to shortly to visit the 40-inch also built by the Clark corporation, seeing some of its predecessors was a great way to whet our appetite for more.

While at the Adler, we were also treated to one of the more unusual, boy is this a small world type of coincidences that one could have in life.

In the bottom floor of the building, there was an exhibit devoted to cosmology. Contained within the exhibition, was an exact copy of a notebook that the Adler has in its possession that was once owned by Dr. Alan Guth. Dr. Guth is the cosmologist

who proposed the theory of Cosmic Inflation now considered a part of the standard hot Big Bang theory of the creation of the universe. The notebook on exhibit contained his notes detailing his breakthrough calculations and notes on his insight into his theory.

Dr. Guth is on the faculty of M.I.T. not far from Rhode Island and we had him at one of our meetings in April of 2008 as a speaker so we were very familiar with him. The reason I mention this is that while we were perusing the cosmology exhibit, who should show up there, but none other than Dr. Guth himself! He was in town for the birthday party of a colleague. It felt like the Adler had a special button installed next to Dr. Guth's notebook which if you pressed it would have Dr. Guth pop up out of the floor and talk about his theory for you. A truly amazing coincidence!

After this, we reluctantly left the Adler and made the 2 hour journey to Williams Bay in nearby Wisconsin. If you've never been to Yerkes, you should know that it is located in what is now a typical suburban type of area and not far from a local lake. The area is a mecca of tourist activity. Not where you'd expect to find your typical big time observatory!

No visit to Yerkes is complete without a tour of the outside because of the incredible ornate architecture. To do that, we had made prior arrangements with Richard Dreiser, director of public relations and tours, and an expert in the lore of the fabulous old building.

Yerkes is a terrific example of late 19th century construction. Every square inch seems to be taken up with a carving or ornamentation, many of which are astronomical in nature or faces of people involved with Yerkes or the University of Chicago which built it. No one knows for sure any longer what some of the carvings mean because, after the architect who designed the building died, all of his papers were burned and much of the history of the construction of the building was lost.

Inside the building there is lots of dark wood, ornate tile and more carvings as well as an incredible feeling that some of the famous astronomers of old who worked there are still roaming the halls longing for a telescope to look through again.

After a cloudy, overcast day, fortuitously the sky began to clear in the evening. The time had come to get down to business and spend some quality time with the 40-inch scope. The 40-inch isn't used for public viewing. However, one of our society's members who was along with us on the trip, John Briggs, had worked for 14 years at Yerkes

and we were given unfettered access to that magnificent instrument. Nothing can really prepare you for the experience of seeing this immense telescope for the first time. To get to the dome housing the 40-inch, you first have to go from the main floor of Yerkes to a grand and imposing two story marble staircase truly fitting for such a historic instrument. You climb up all those marble stairs and finally pass through a large metal double door to a vast space beyond. The dome itself is 90 feet in diameter and the observing floor that can rise and fall with the motion of the telescope is covered with hardwood flooring and 75 feet across. The floor has a range of motion up and down of 23 feet and is controlled by a push button arrangement at the eyepiece end of the telescope. When you first enter the dome, it seems almost big enough that you expect to see occasional clouds up near the top of the dome. After getting over our first bout of shock and awe at seeing the enormous

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Over the course of the 6 hours or so that we had access for viewing, we saw Jupiter, the Moon, M15, the Ring Nebula and the Saturn Nebula.

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telescope tube, giant gears and setting circles all resting on a huge metal pedestal built like a battleship we got down to business.

Climbing up a set of stairs to the balcony near the skirt of the dome, John Briggs pushed some buttons on a control and we all watched as the 85 foot long double slit opening gracefully split apart to its widest extent providing an opening 13 feet across through which we would soon be pointing and actually viewing through the world's largest refractor.

Here's where things got really interesting. While the telescope is motorized, most of the work of moving it around to point it to different sky objects is actually done the old fashioned way. That is, pushing it around by hand, lining things up as close as possible with the giant setting circles and then using a 6 inch $f/15$ refractor finderscope to zero things in. It's much the same way things were done a hundred years ago when the scope was young. There is no better way to get the feeling that

you are in the dome with people like George Ellery Hale or E.E. Barnard who would have used and viewed through the scope.

A scope this big was surprisingly easy to move around, though there is a huge amount of momentum and inertia that you had to be aware of. If you push it fast enough and hold on, you can find yourself dangling 5 or 6 feet above the floor. Not that any of us did this of course. Well, all right John did this once just to show us. One of the unexpected things about observing with the 40-inch had to do with the elevated observing floor. To function well and not induce any vibrations, the floor has a bit of play and sways a bit after moving or when people are walking around on it. The best way that I can describe the sensation was being on a boat on the ocean with a small amount of wave action. Apparently one of the reasons that the public isn't invited to observe with the 40-inch is that some people have actually become sick from this motion.

At the business end of the scope there is a rig used for taking photographic plates. To use it visually, John had to attach a special interface that allowed us to insert a 2-inch 55mm eyepiece that we had brought with us. Despite the fact that this was a 55mm, this turned out to be a perfect choice for an $f/19$, 40-inch scope and the things we viewed filled the field of view nicely.

So, what do astronomical objects look like through this famous old scope? Over the course of the 6 hours or so that we had access for viewing, we saw Jupiter, the Moon, M15, the Ring Nebula and the Saturn Nebula. I know that 5 things over a number of hours doesn't seem like a lot, just keep in mind that changing from one object to another with a big scope like this takes time. Time to move the scope to the right places on the setting circles, time to center the objects, time to get the elevated floor to the right position and most important of all, time for everyone to get multiple views and tear themselves away from the eyepiece. Jupiter was amazing and appeared huge and detailed. Enough light is collected by such a large scope that when you put your hand just behind the eyepiece, you can see a bright image of Jupiter projected there. The Great Red Spot was easily visible near the meridian, many festoons and smaller ovals were seen and finally we were treated to a shadow of one of the moons on the planet followed by a transit across its face. Unfortunately, we didn't have an ephemeris to let us know which moons were involved. The Galilean moons were large and had clear, distinct discs, though the seeing wasn't good enough to see any detail on any of them.

In some ways, viewing the moon through such a scope was even more impressive. We were treated to awe inspiring views of the Appenine Mountain area, the Alpine valley and many craters and other details. The only disappointing part of seeing the moon through the 40-inch was the fact that by the time we got around to it, the moon was not too far from the horizon and the seeing wasn't all that great. Following this, we turned the scope to the M15 globular cluster. Magnificent and resolved easily to the core with bright stars that appeared yellow in color to me.

Following this we turned to the Ring nebula. It almost filled the field of view! The

most amazing thing about it was the color that we all saw. No longer just a round smoke ring, like in a smaller scope, it was much more oval shaped with a distinct light reddish coloration near the oval extensions and blue green throughout the rest. The central star was easily seen and the center area of the ring was not just lightly filled in, but bright and much more apparent than I had ever seen.

The most memorable view of the evening for me was the Saturn Nebula. This was a delight! Strongly glowing in a bright greenish blue, multiple shells were seen and the 2 so called antennae on either side were bright and distinct. Of all the objects seen, this is the

one that looked most like the pictures that I've seen and responded very well to a large instrument like this.

Regretfully after this, we had to tear ourselves away from this magnificent place. A two hour drive back to Chicago was ahead of us and while it would have been nice to see even more wonders through this scope, none of us wanted to trade those views for the fatigue that would make the return trip unsafe. Not that any of us felt cheated in any way. A few hours spent with the ghosts of such famous astronomers as George Ellery Hale and Edward Emerson Barnard left us with wonderful memories that will last a life time.

Building a Case Against Ozone

By Patrick Barry



When it comes to notorious greenhouse gases, carbon dioxide is like Al Capone—always in the headlines. Meanwhile, ozone is more like Carlo Gambino—not as famous or as powerful, but still a big player.

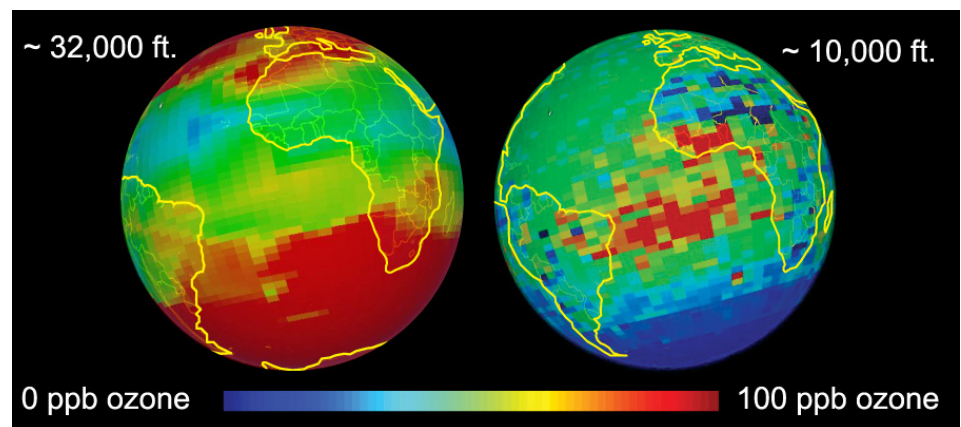
After tracking this lesser-known climate culprit for years, NASA's Tropospheric Emission Spectrometer (TES) has found that ozone is indeed a shifty character. Data from TES show that the amount of ozone—and thus its contribution to the greenhouse effect—varies greatly from place to place and over time.

“Ozone tends to be localized near cities where ozone precursors, such as car exhaust and power plant exhaust, are emitted,” says Kevin Bowman, a senior member of the TES technical staff at the Jet Propulsion Laboratory. But the ozone doesn't necessarily stay in one place. Winds can stretch the ozone into long plumes. “Looking out over the ocean we can see ozone being transported long distances over open water.”

Unlike CO₂, ozone is highly reactive. It survives in the atmosphere for only a few hours or a few days before it degrades and effectively disappears. So ozone doesn't have time to spread out evenly in the atmosphere the way that CO₂ does. The amount of ozone in one place depends on where ozone-creating chemicals, such as the nitrogen oxides in car exhaust, are being released and which way the wind blows.

This short lifespan also means that ozone could be easier than CO₂ to knock off.

“If you reduce emissions of things that



These images are TES ozone plots viewed with Google Earth. Colors map to tropospheric ozone concentrations. The image on the left shows ozone concentrations at an altitude of approximately 32,000 feet, while the one on the right shows ozone at approximately 10,000 feet. The measurements are monthly averages over each grid segment for December 2004.

generate ozone, then you can have a quicker climate effect than you would with CO₂,” Bowman says. “From a policy standpoint, there's been a lot of conversation lately about regulating short-lived species like ozone.”

To be clear, Bowman isn't talking about the famous “ozone layer.” Ozone in this high-altitude layer shields us from harmful ultraviolet light, so protecting that layer is crucial. Bowman is talking about ozone closer to the ground, so-called tropospheric ozone. This “other” ozone at lower altitudes poses health risks for people and acts as a potent greenhouse gas.

TES is helping scientists track the creation and movement of low-altitude ozone over the whole planet each day. “We

can see it clearly in our data,” Bowman says. Countries will need this kind of data if they decide to go after the heat-trapping gas.

Ozone has been caught red-handed, and TES is giving authorities the hard evidence they need to prosecute the case.

Learn more about TES and its atmospheric science mission at tes.jpl.nasa.gov. The Space Place has a fun “Gummy Greenhouse Gases” activity for kids that will introduce them to the idea of atoms and molecules. Check it out at spaceplace.nasa.gov/en/kids/tes/gumdrops.

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

Glenn Chaple's Sky Object of the Month

β Orionis (Rigel)

You won't need a finder chart to locate this month's featured sky object. It's the first magnitude star β Orionis, better known by its proper name Rigel. Seventh brightest star in the night sky, Rigel dazzles us with a diamond-white color; especially striking when compared with Orion's other first-magnitude star, the ruddy-hued Betelgeuse.

Many backyard astronomers are unaware that Rigel is a double star. Its companion (Rigel B) lies 9 arc-seconds away – a gap that should be easily breached by the smallest of telescopes. Unfortunately, it shines at magnitude 6.8, 400 times fainter than the primary. As a result, the little star often hides in the glare of its master.

In 1822, the first reliable measure of the Rigel system indicated a separation of 8.9" and a position angle of 2010, the latter meaning that Rigel B lay south and slightly west of the main star. Not much has changed in nearly two centuries. In 2004, the separation and P.A. had increased slightly to 9.4" and 2040. Because Rigel A and B share a common proper motion, astronomers believe they form a physical binary separated by a whopping 2500 AU – a distance over 60 times greater than the gap separating Pluto from the sun. Their orbital period is thought to exceed 25,000 years. The last time Rigel B was in its current orbital position the earth was in the grip of the Ice Age!

Because of the large disparity in bright-

ness between its components, Rigel offers a similar challenge to the one presented by the notoriously difficult Sirius. While Sirius and its white dwarf companion the "Pup" require absolutely steady seeing conditions and an 8-inch or larger telescope, Rigel may be split with a 6-inch under normal sky conditions. Years ago, on an evening of unusually steady skies, I managed to glimpse Rigel B with a 3-inch *f*/10 Edmund reflector (the classic model sold back in the 50s and 60s) and a magnifying power of 120X. I cheated, first spotting the companion with a 6-inch

reflector. Knowing where to look, I had no trouble capturing Rigel B with the 3-inch. It appeared as a tiny bluish speck just outside the brilliant sparkle of the main star.

Next time you turn your telescope skyward to admire the Orion Nebula, take a side trip to Rigel. Unlike the legions of backyard astronomers who have marveled at the great nebula, you'll be among a much smaller group of observers who have admired Orion's brightest binary star.

Your comments on this column are welcome. E-mail me at gchaple@hotmail.com.

Ladd Observatory

TUESDAYS AT 7PM

Ladd Observatory, located at 210 Doyle Ave in Providence, will be reopening to the public starting next Tuesday, January 19th at 7pm. The planet Mars will be near opposition at this time, and we should be able to enjoy some nice views throughout the winter months. Ladd's 12" refracting telescope, built in 1891, provides truly exquisite, high power views.

Check out Ladd's web site at <http://www.brown.edu/Departments/Physics/Ladd/>, where you may also sign up for a weekly e-mail newsletter that will keep you informed of the activities at Ladd, plus information on astronomical events visible from our area.

I hope you will visit Ladd Observatory sometime soon.

Skyscrapers founder Charles H. Smiley standing in front of Brown University's Ladd Observatory, May 8, 1940. From the Smiley slide collection.



January Reports

Jim Crawford, *Secretary*
Lloyd Merrill, *Treasurer*

EXECUTIVE COMMITTEE MEETING

WEDNESDAY, JANUARY 6, 2010

LADD OBSERVATORY

TOM THIBAULT

ATTENDEES: Bob Horton, Bob Napier, Bob Forgiel, Lloyd Merrill, Tom Thibault, Jim Brenek, Tom Barbish, Dave Huestis, Jim Hendrickson Tom Conlin and Dolores Rinaldi.

Items discussed:

2010 OPERATING BUDGET LINE ITEMS REVIEWED

Expense lines adjusted, added or removed
75th Astro T-shirts removed • Magazine Subscriptions – Member Direct purchase to be determined – Lloyd to follow-up • Permanent Port-a-John removed • Donations removed • Domain Name – Lloyd to review multiple year purchase for savings • Grass Mowing to be added to Trustee Expense • Trustee Observatory removed, to be included in Trustee Expense • Trustee Expense – Jim to determine budget estimate • Cookout to include Port-a-John rental expense only • Remaining lines dollar amounts adjusted • Newsletter printing and postage added

Income lines adjusted, added or removed
75th T-shirt removed • 75th Anniversary Book removed • Remaining lines dollar amounts adjusted

SEAGRAVE EXTERIOR SIGN

Review and discussion of final draft I
Remove Smoking Pad • Add “No Restroom Facilities” note • Plexi or Lexan cover to be utilized • Final sign pricing to be determined, mounting structure to be determined • Present to membership at Feb. meeting • Tom Thibault to revise and send out to Executive Committee for review • Additional discussion occurred concerning “No Trespassing” signage • Add to chain at entrance as well as material to highlight chain • Add to path at rear of property

REVIEW MEMBERSHIP LIST

Bob completed contact to unpaid listed members

108 paid members to date • 12 members indicate payment will be made • 2010 budget will be based on 110 members • Lloyd will look into member payment through PayPal

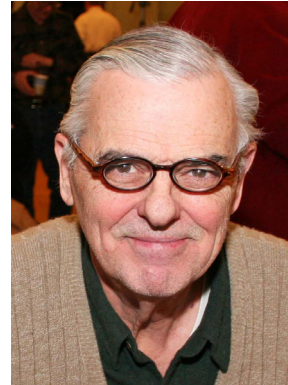
UPCOMING OBSERVATORY COMMITTEE MEETING

To be discussed at 1/16/10 meeting

Volunteers for Public Night to remain as is or assign nights

NOMINATION COMMITTEE

Kathy Siok to chair the Nomination Committee • Rick Arnold and Bob Napier to be on committee • Nominations to be held at the March Member Meeting



JANUARY MEETING

FRIDAY, JANUARY 8, 2010

NORTH SCITUATE COMMUNITY CENTER

Monthly Meeting 7:30 p.m.

Bob Horton welcomed all members.

JANUARY SPEAKERS: Gerry Dyck and Scott Tracy gave a presentation about Variable Star Observing.

SECRETARY’S REPORT: December report accepted by membership.

FINANCIAL REPORT: December report submitted with no corrections.

1ST VP BOB NAPIER: Speaker for Feb. meeting will be Alan Hirshfeld on “Astronomy and Technology: Partners in Discovery”.

2ND VP STEVE HUBBARD: No Report

HISTORIAN DAVE HUESTIS: The sesquicentennial of Frank Seagrave’s birth (1860-2010) occurs on March 29. During the April meeting I will do a brief PowerPoint presentation on Seagrave’s life. I will also be offering a commemorative postal cache to celebrate the occasion.

LIBRARIAN BRUCE MERRILL: Reports that Jim Crawford provided DVD’s of the Aug through Dec 2009 presentations given by Skyscrapers guest speakers. Members are allowed to check them out from the library.

STAR PARTY COORDINATOR BOB FORGIEL: No parties scheduled due to observatory grounds still having heavy snow cover.

TRUSTEE REPORT: Tom Barbish reported that the Observatory Committee is still seeking more volunteers to help out with various out-reach events especially during public nights. Another meeting will be scheduled as soon as the snow clears from

the grounds at Seagrave.

NEW BUSINESS: Kathy Siok was requested to lead the committee to nominate new Skyscrapers Executive Officers. Kathy also appointed Bob Napier and Rick Arnold to assist her in collecting names of members interested in being nominated. All positions are open so please submit your name or nomination to either Kathy, Bob or Rick.

OLD BUSINESS: Nothing to Report.

GOOD OF THE ORGANIZATION: Dan Lorraine brought to the membership’s attention that RI Congressman, Patrick Kennedy telephoned Skyscrapers Librarian, Bruce Merrill, notifying him that he is the Congressman’s number one choice to attend West Point Academy. “Congratulations Bruce”. Al Hall reported that StarConn will be held on Saturday June 5th at Wesleyan University, Middletown, CT. Al Hall report that the Clark Telescope is in need of some major maintenance, clean up and repainting. Trustees will hold special meeting to discuss plans and schedule to perform this needed maintenance.

Bob Horton rescheduled the Spectroscopy Workshop for January 23 due to the Observatory grounds still not cleared of snow. Bob will send e-mail to all if it’s a go or to be rescheduled for some future date.

Business Meeting Adjourned at 9:30pm

Cash Flow	12/22/2009-1/22/2010
INFLOWS	
Dues	
Regular	80.00
Senior	20.00
TOTAL Dues	100.00
Interest Inc	13.85
TOTAL INFLOWS	113.85
OUTFLOWS	
Refreshment Expense	19.00
Trusteexp	21.73
Electric	10.06
TOTAL OUTFLOWS	50.79
OVERALL TOTAL	63.06
Banking Accounts	
Citizens Bank Checking	2,570.29
Capital One Money Market	13,315.70
Total Cash	15,885.99

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