



the Skyscraper

vol. 41 no. 8
August 2014

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

In this issue

- 2 President's Message
- 3 Dog Days
- 4 "Meteor-ocre" Prospects for Perseids &
- 4 What's Up in Cygnus
- 5 Double Star in Cygnus 61 Cygni
- 7 The Invisible Shield of our Sun
- 8 Secretary & Treasurer

Friday, August 1, 7pm at Seagrave Memorial Observatory

Attendees are encouraged to bring a dessert to share. Coffee and cold drinks will be provided.

The Hunt for Exomoons with Kepler by Dr. David Kipping

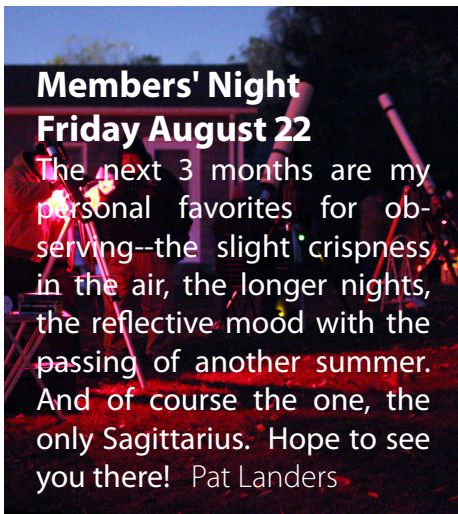
Dr. Kipping will talk about why exomoons are so fascinating to astronomers, offering a potentially huge number of additional habitats for life in the cosmos as well as revealing deep insights into how planetary systems form. He will then explore the ways in which exomoons may reveal their presence and the expected sensitivity achievable with Kepler and future space based missions. Finally, he'll give a tour of results to date and outlook for this emerging field.

Dr. Kipping is a NASA Carl Sagan fellow at Harvard University and principal investigator of the Hunt for Exomoons with Kepler (HEK) project. He devised several of the techniques used to look for exomoons which formed his PhD thesis at University College London in 2011. Since that time, he has been leading the observational efforts with NASA's Kepler Mission to try and detect moons outside of our solar system.

Volunteer Opportunities with the Digital Access to a Sky Century at Harvard (DASCH) by David Sliski

David is a member of the DASCH Project team. He will describe the status of the DASCH project and outline important volunteer tasks that people can perform from their homes.

Observing with the telescopes at Seagrave Memorial Observatory will follow the presentations, weather permitting.



Phases of the Moon

First Quarter Moon
August 4 00:50

Full Sturgeon Moon
August 10 18:09

Last Quarter Moon
August 17 12:26

New Moon
August 25 14:13





President's Message

Bob Horton

AstroAssembly 2014 is now just two months, but planning for our annual event began months ago. This year is a special one for us, as we will be celebrating the 100th anniversary of Seagrave Observatory.

Co-chairs Steve and Kathy Siok have put together a nice program of speakers and exhibits, and new for this year will be a morning poster session. Have you built your own telescope or observatory, made some interesting observations, or taken some nice photos? Then please consider exhibiting your work at the poster session. More information about our program this year can be found in this newsletter, or contact Steve and Kathy Siok.

The Trustees and members of the Observatory Committee have also been busy the last several months making improvements to our buildings and grounds. If you have been to a meeting recently, or attended a Saturday open house, you may have notice that the interior of our meeting hall is looking rather nice. A new ceiling was installed, the interior walls repainted, windows repaired, and new cabinets were installed at the back of the meeting hall. A special thanks to Tom Thibault for arranging the donation of those cabinets!

More work sessions are being planned for August and September, and any assis-

tance will be greatly appreciated. The trustees will soon be announcing dates for work sessions. No special skills are required – we need help to repaint some of the buildings, clean telescopes, cut brush, and mow the lawn. We will provide pizza and cold drinks for lunch. Let's work together to make Seagrave Observatory look great for its 100th birthday!

I have another special announcement to make concerning AstroAssembly, and a request to all of you.

Our youngest member, Alex Bergemann, who joined Skyscrapers at age 9, and is now 14 years old, has made a proposal to Skyscrapers concerning his Eagle Scout project for the Boy Scouts. That project, as outlined in his letter that I have attached below, is to build a deck and roof on the north end of our meeting hall, so that we will have a place to set up our grills at AstroAssembly. All of this work will be done by Alex and other Boy Scouts, with the guidance of some of their leaders. Plans have already been drawn up and approved by the Skyscrapers Board of Directors. Alex is now in the process of raising funds for the materials he will need, and has already raised more than half of the money he will need. If you would like make a contribution towards this project, please make your

check out to Skyscrapers, and put "Eagle Scout Project" in the memo line.

Alex has been interested in astronomy and space exploration from a very young age, and frequently helps out at our public Saturday night observing sessions and star parties at other locations. On behalf of Skyscrapers, I wish to thank Alex for wanting to help out Skyscrapers as part of his Eagle Scout Project, and for all of his contributions to our organization.

Clear Skies,
Bob Horton

Alex Bergemann's Eagle Scout Proposal:

I wish to build a 8x12 foot pavilion for a nonprofit organization called Skyscrapers Inc, the Amateur Astronomical Society of Rhode Island. They provide astronomy education to adults and children. Skyscrapers has been teaching me (now 14) since I was 9 years-old. Everything I know about astronomy I learned at Seagrave Observatory. I am now able to teach children just like myself and inspire them to go further in astronomy. I would like to repay Skyscrapers for everything they have done for me by giving them a covered shelter to house their grills during cookouts and other events without the hassle of setting up a tent.

Alex Bergemann



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

Directions

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

Submissions

Submissions to The Skyscraper are always welcome. Please submit items for the newsletter no later than **August 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.

President

Bob Horton Robert_Horton@brown.edu

1st Vice President

Kathy Siok kathys5@cox.net

2nd Vice President

Steve Siok ssiok@cox.net

Secretary

Tina Huestis qthuestis@gmail.com

Treasurer

Linda Bergemann lbergemann@aol.com

Members at Large

Pat Landers pblanders5@gmail.com

Matt White ka1bqp@msn.com

Trustees

Conrad Cardano cardanoc@verizon.net

Jim Crawford jrcrawford@cox.net

Tom Thibault DeepSpaceViewer@aol.com

Public Outreach Coordinator

Matt White ka1bqp@msn.com

Public Relations Spokesperson

Francine Jackson Francine_Jackson@brown.edu

Observatory Committee Chairperson

Conrad Cardano cardanoc@verizon.net

Membership Activities Coordinator

Pat Landers pblanders5@gmail.com

Librarian

Alex Bergemann astroalex@verizon.net

Historian

Dave Huestis dhuestis@aol.com

Archivist

Jim Crawford jrcrawford@cox.net

Editor

Jim Hendrickson jim@distantgalaxy.com

Friday, August 8

Enjoy A Starry Tale at the URI Planetarium

University of Rhode Island Planetarium
Upper College Road
Kingston, RI

Friday, August 8th, 2014
6:00 and 7:00 P.M.

Contact: Francine Jackson: 401-527-5558

Through the magic of the digital projection facilities of the URI Planetarium, we will be brought back to the mythical ages, when gods and goddesses came down from the sky and watched over us. See the motions of the sky, from season to season, and millennium to millennium, yet always con-

stant and beautiful.

A Starry Tale will follow *Losing the Dark*, a six-minute introduction to light trespass and its potential consequences; after the main program, you will be shown the Stars over the URI Campus, a live presentation introducing the seasonal constellations visible at this time.

Admission is only \$5.00, to benefit the University of Rhode Island planetarium fund.

The University of Rhode Island Planetarium is located on Upper College Road, on the Kingston campus, across from the Art Center.

The University of Rhode Island Plan-



etarium is available for programming for schools and other organizations. For more information, please contact Francine Jackson at 401-527-5558.



Dog Days

Francine Jackson

As we move into the normally hottest time of the year, we often hear a saying believed to have significance because of our sweet, constant, normally happy companions, our dogs. At this time, however, they very often become lethargic, often getting underfoot, as they are so warm because of the increased temperature; in fact, it is believed they are affected more than we are because dogs have no sweat glands, and therefore are only able to cool themselves off by panting as much as they can. From this, it is said the phrase “Dog days” arises. However, this term is actually much older than any of our canine companions.

In ancient Egypt, as now, water was not a plentiful commodity. Growing food was therefore a very serious business, capable of occurring only because of the Nile River. When the temperature would rise, the snows would melt and join with the river waters, flooding its banks, allowing the farmers to capture some of the water by digging trenches into their properties. It would behoove them to dig these ditches before the waters rose, but when exactly did this occur? For guidance, they looked to the stars.

If you’ve ever gotten up early in the morning, right before sunrise, and faced east, you might just be able to see a couple stars low in the horizon, just for a few minutes, before the sunlight washes their

light away. The next morning, you’ll see those again, but perhaps one or two more, lower, or to the east, of the previous morning’s objects. The first morning you can see a star (or planet) in the east before sunlight overpowers it is called that object’s heliacal rising.

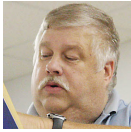
The Egyptians, in looking eastward in the mornings, soon realized that the sky’s brightest star, Sirius, the Dog Star, underwent its heliacal rising right before the hottest time of year. For them, it was the signal to begin creating ways for water to flow onto their properties when the Nile would flood. They also noted that there was an indicator to Sirius’s heliacal rising – another star that would rise just about a day

beforehand. This was Procyon, the “before the dog” star, brightest in Canis Minor. When these stars would rise in the morning, the time became known as the days of the dogs, the dog days, time for life-giving water to rise.

Therefore, even though we do equate these days as those for our poor suffering puppies, the real “Dog Days” served a much more important purpose. But, when does this actual heliacal rising now take place? It is now, at this time of year. If any of you have a good eastern horizon, find out for yourselves when you can first detect Sirius in the morning. Let us know when it happens for you.



“Meteor-ocre” Prospects for Perseids & What’s Up in Cygnus



Dave Huestis

My August column is usually one of the easiest articles to pen because I can highlight the annual and often productive meteor shower of the year—the Perseids. Who doesn’t love to sit outside on a warm summer evening to watch “burning rocks” blaze across the sky? Though the meteors are really not burning, these particles shed by Comet 109P/Swift-Tuttle do completely disintegrate as they plunge into our atmosphere at around 134,222 miles per hour (or approximately 37 miles per second). Unfortunately the prospects are not ideal for this year’s display.

The Perseids peak on the night of August 12–13. While an observer located well away from light-polluted skies can usually expect to see 60+ meteors per hour at peak, a bright waning gibbous Moon (Full on the 10th) will be in the sky the entire night. This circumstance will severely reduce the number of meteors that can be observed. It is fortunate that some members of the Perseids are bright and often explode as fireballs. Perhaps only 20 or so green, red or orange meteors per hour will be seen. Should hazy summer skies prevail, the visibility of the Perseids will be further reduced. The peak is forecast to be around 8:00 p.m. EDT, so one could begin observing as soon as evening twilight ends. However, the better time would be after midnight when the Earth plows into the particles nearly head-on.

While the area of the sky where the meteors appear to radiate from is in the constellation of Perseus, one can scan for shooting stars across the entire sky. Early in the evening after twilight Perseus will be just barely above the north-northeast horizon. By midnight the constellation will be well up in the northeast sky. (See accompanying finder chart.) If one can locate the constellation of Cassiopeia, which looks like an “M” or “W” tipped sideways, then it’s close enough. Face in this general direction when first beginning the observing session and gradually follow the radiant across the sky. The number of meteors should increase as the morning progresses.

The weather is always a concern during astronomical events, especially those that occur only on a specific day. Despite

the interfering moonlight I hope it is clear for the Perseids. But if history is any lesson, I’d like to provide an additional topic worth exploring during the entire month of August and beyond. We’re bound to get a few clear nights!

One of my favorite constellations is Cygnus the Swan (also known as the Northern Cross), and during mid-August at 11:00 p.m. EDT you can find this rich star region at zenith (directly overhead). Review the accompanying star chart to help identify a few stars comprising this star pattern, as well as to locate two star clusters.

In a dark sky even one’s naked-eye will reveal just how star-rich this region of the heavens is. Here one can observe the gossamer cloud of tenuous light called the Milky Way that begins in Perseus to the north and stretches through Cygnus to the heart of our galaxy in Sagittarius to the south. In the middle of Cygnus, the Milky Way divides into two separate streams of stars. Scan with a pair of 7 X 50 binoculars for an amazing view. Just north of Deneb is a large open cluster of stars. It’s called M39, the 39th catalogue entry of a famous as-

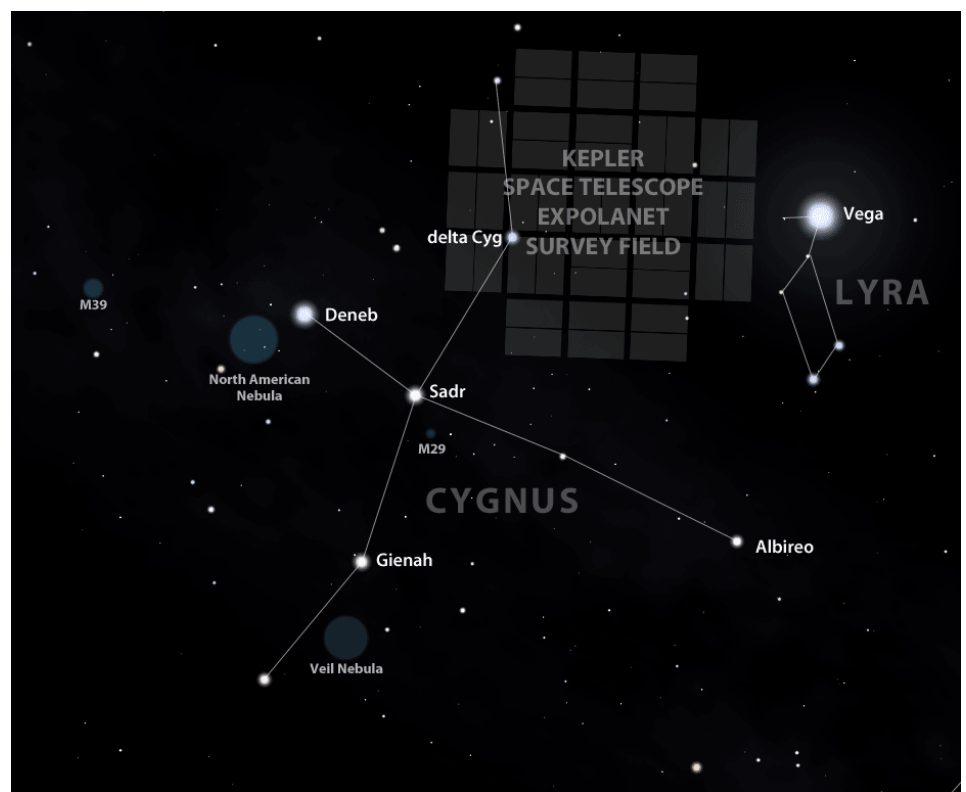
tronomer Charles Messier (1730–1817), and contains about 20 bright stars.

Just south from Sadr is another open cluster called M29. This one only contains about eight bright stars, but the cluster is more compact than M39. The four brightest stars of this group form a square.

Both of these clusters can be found using binoculars, but a telescope of any aperture with a low-power eyepiece will enhance the view.

In addition, for telescope users there’s one of the finest double stars in the sky in Cygnus. It’s named Albireo and it represents the beak of the Swan (or the bottom end of the Northern Cross). When double star observing was somewhat new, every observer tried to outdo one another when describing the colors of the double stars they were observing. For instance, the components of Albireo were described as sapphire blue and topaz yellow. Well, I call them the “Cub Scout” stars—blue and gold. The scouts who visit us at Seagrave Observatory certainly like that description!

And finally, stars in a region straddling the Cygnus-Lyra border were the target of



the Kepler Mission's search for habitable exoplanets (extra-solar planets). Launched on March 7, 2009, the Kepler telescope found more than 3,845 candidate worlds. To date 966 have been confirmed. And this search covered a very tiny fraction of the sky. When I was growing up we only knew about the nine planets of our solar system. In grade school and high school during the 60's and early 70's, planetary formation was thought to be an exception. No longer.

Even before the Kepler Mission, many planets were found around other stars. Detecting these planets is a great achievement in itself. But the burning question we all want answered is, can any of these planets support life? If they orbit their star in the habitable zone where liquid water can exist, then life could be a possibility. A vast majority of Kepler's discoveries are larger than the Earth. However, on April 17 of this

year, it was announced that an Earth-sized world was discovered within the habitable zone of a red dwarf star about 500 light years away. This planet, one of five known in the system, was named Kepler 186-f.

While we may never know if Kepler 186-f supports life, discovery serves to stimulate conversation on whether the Earth is the only planet capable of supporting life in this vast universe. The Kepler Mission has succeeded in exponentially increasing the possibilities for extraterrestrial life. The challenge going forward will be to detect it.

Visit the local observatories to marvel at the wonders of the universe than can be observed from this pile of rock called Earth orbiting in the habitable zone of our star, Sol. Seagrave Memorial Observatory (<http://www.theskyscrapers.org>) in North Scituate is open every clear Saturday night. 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's Ninigret Park is open every clear Friday night. Be sure to check all the websites for the schedules and opening times before visiting these facilities.



M39 in Cygnus. Photo by Jim Hendrickson

edu/Departments/Physics/Ladd/) in Providence is open every clear Tuesday night. Frosty Drew Observatory (<http://www.frostydrew.org/>) in Charlestown's Ninigret Park is open every clear Friday night. Be sure to check all the websites for the schedules and opening times before visiting these facilities.



Double Star in Cygnus 61 Cygni

Glenn Chaple

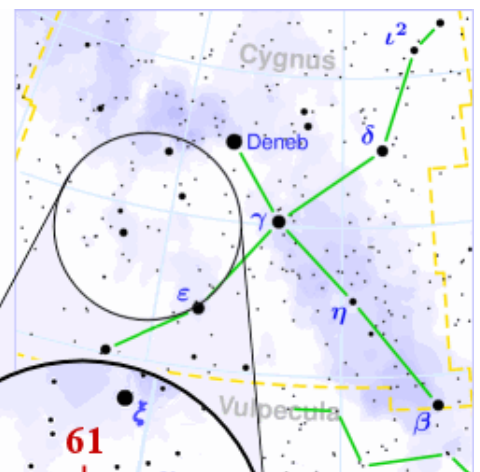
Our August "Sky Object of the Month" takes us on an 11.4 light year journey to the binary star 61 Cygni. Discovered in 1753 by the English astronomer James Bradley, 61 Cygni has historical significance as the first star (besides the sun) whose distance was accurately determined.

In 1792, the Italian astronomer Giuseppe Piazzi observed 61 Cygni and noted that its

location was noticeably different from what Bradley had recorded. "Piazzi's Flying Star" was zipping across the sky at a rate of 5 seconds of arc per year – fast enough to cross a distance equal to a moon diameter in just 360 years! Reasoning that 61 Cygni must be a relative neighbor to Earth, astronomers began an earnest effort to calculate its distance through an accurate parallax determination. The feat, finally accomplished by the German astronomer Friedrich Wilhelm Bessel in 1832, is one of the greatest in modern astronomy.

61 Cygni is an easy split, but not an easy find. The accompanying chart shows its location relative to a trapezium formed by xi (x), nu (n), sigma (s), and tau (t) Cygni. There's no need for high magnification. The same low power (25 – 50X) normally used to locate sky objects will easily bridge the 31.6 arcsecond gap separating its magnitude 5.2 and 6.1 components. Both sport K-type spectra and appear golden yellow in the eyepiece. They complete an orbit in a little over 650 years

I could write more about this celebrated system, but an article on 61 Cygni, written by Alan MacRobert coincidentally appears



Saint Louis Science Center (www.slsc.org)



Double Star 61 Cygni

www.windows2universe.org



32 years later

on pages 50 and 51 of the current (August, 2014) issue of Sky and Telescope. MacRobert includes a simple observing project to document 61 Cygni's proper motion against the background stars.

Congratulations to Skyscrapers President Bob Horton for winning First Place Optical at the 2014 Stellafane Convention for his 4.25" f/6.6 Newtonian telescope. Bob has brought this telescope to Seagrave Observatory many times over the past year to show members and guests very pleasing views of the Moon, planets and double stars.



Bob presented a talk Friday night about his experiences photographing the International Space Station and his contact with Expedition 34 Commander Kevin Ford as the Space Station passed over Ladd Observatory in February 2013, during which he used this telescope to view the space station.



The Invisible Shield of our Sun

By Dr. Ethan Siegel

Whether you look at the planets within our solar system, the stars within our galaxy or the galaxies spread throughout the universe, it's striking how empty outer space truly is. Even though the largest concentrations of mass are separated by huge distances, interstellar space isn't empty: it's filled with dilute amounts of gas, dust, radiation and ionized plasma. Although we've long been able to detect these components remotely, it's only since 2012 that a man-made spacecraft -- Voyager 1 -- successfully entered and gave our first direct measurements of the interstellar medium (ISM).

What we found was an amazing confirmation of the idea that our Sun creates a humongous "shield" around our solar system, the heliosphere, where the outward flux of the solar wind crashes against the ISM. Over 100 AU in radius, the heliosphere prevents the ionized plasma from the ISM from nearing the planets, asteroids and Kuiper belt objects contained within it. How? In addition to various wavelengths of light, the Sun is also a tremendous source of fast-moving, charged particles (mostly protons) that move between 300 and 800 km/s, or nearly 0.3% the speed of light. To achieve these speeds, these particles originate from the Sun's superheated corona, with temperatures in excess of 1,000,000 Kelvin!

When Voyager 1 finally left the heliosphere, it found a 40-fold increase in the density of ionized plasma particles. In addition, traveling beyond the heliopause showed a tremendous rise in the flux of intermediate-to-high energy cosmic ray protons, proving that our Sun shields our solar system quite effectively. Finally, it showed that the outer edges of the heliosheath consist of two zones, where the solar wind slows and then stagnates, and disappears altogether when you pass beyond the he-

liopause.

Unprotected passage through interstellar space would be life-threatening, as young stars, nebulae, and other intense energy sources pass perilously close to our solar system on ten-to-hundred-million-year timescales. Yet those objects pose no major danger to terrestrial life, as our Sun's invisible shield protects us from all but the rarer, highest energy cosmic particles. Even if we pass through a region like the Orion Nebula, our heliosphere keeps the vast majority of those dangerous ionized particles from impacting us, shielding even the solar sys-

tem's outer worlds quite effectively. NASA spacecraft like the Voyagers, IBEX and SOHO continue to teach us more about our great cosmic shield and the ISM's irregularities. We're not helpless as we hurtle through it; the heliosphere gives us all the protection we need!

Want to learn more about Voyager 1's trip into interstellar space? Check this out: <http://www.jpl.nasa.gov/news/news.php?release=2013-278>.

Kids can test their knowledge about the Sun at NASA's Space place: <http://spaceplace.nasa.gov/solar-tricktionary/>.



Image credit: Hubble Heritage Team (AURA / STScI), C. R. O'Dell (Vanderbilt), and NASA, of the star LL Orionis and its heliosphere interacting with interstellar gas and plasma near the edge of the Orion Nebula (M42). Unlike our star, LL Orionis displays a bow shock, something our Sun will regain when the ISM next collides with us at a sufficiently large relative velocity.



Members, With the downsizing of the Skyscrapers library, selected books will be offered to the membership at the August and September monthly meetings for a nominal donation of no more than \$5 each. Those remaining will be sold at AstroAssembly. See Dave Huestis if you are interested in any of the titles that will be on display.

JUNE REPORTS



Secretary

Tina Huestis

Skyscrapers July Meeting Minutes – 7/12/2014

The meeting was called to order by president, Bob Horton. He talked briefly about Skyscrapers.

There were no reports from the Secretary or Treasurer.

New members attending their first meeting were introduced and they each shared a little information about themselves: Al Calderone Joseph Filoco

They will be voted in at the next meeting at which they are present

AstroAssembly report: This year's event will be held on Sept 26 & 27. The theme is celebration of the 100th anniversary of Seagrave Observatory (1914-2014). Several speakers will give presentations. Ray Wolf, local historian, will talk about Scituate's past on Friday night. On Saturday, Dave Huestis, Skyscraper historian, will review the history of Seagrave Observatory, Rich Sanderson, Springfield MA planetarium director, will discuss the construction his planetarium's projector – one of the first in New England. This year also marks the 100th Anniversary of Zeiss' first projector. A member of the team from the Harvard Smithsonian will preview the Magellan Large Telescope, which is now in the planning stages. There will be a reception and annual banquet. The evening speaker is Dr. Owen Gingrich, prof emeritus of the History of Astronomy at Harvard. His topic is "The State of Astronomy in 1914". The registration cost is \$25 (\$20 for members) and the banquet will be \$25. A flier will be available soon.

Monthly Meetings: Our next meeting will held on Friday, Aug 1st at the Observatory. Dr. David Kipping of Harvard will share details of Kepler discoveries. The September Meeting will take place on Friday, September 5th at the North Scituate Community Center. The speaker is well-known author, Dava Sobel, who will talk about Galileo Galleli.

Trustees: Several telescopes and some eyepieces were on display to be given away to members.

New Business: None



Steve Siok

Old Business: Trustees Motion made last month to transfer \$3500 from capital accounts into budget to cover the costs of improvements this year. So far \$1700 has been used for needed repairs and improvements to the meeting hall. The remaining \$1800 will be used for future work. This motion was passed unanimously. The trustees welcome more volunteers to help with maintenance work.

Motion to adjourn was passed unanimously.

The meeting continued with presentations by two members.

Respectfully Submitted, Kathy Siok, Secretary Pro Tem

Board of Directors Meeting – 7/21/2014

Attendees: Linda Bergemann, Conrad Cardano, Jim Crawford, Ed Haskell, Bob Horton, Dave Huestis, Tina Huestis, Pat Landers, Bobby Napier, Kathy Siok, Steve Siok, Tom Thibault, and Matt White.

Bob Horton, President: Bob called the meeting to order at 7:06PM at Seagrave.

Conrad Cardano, Trustee: Conrad reported that an offer for the Society's 10-inch Meade SCT was received. He mentioned that the 10-inch Dobsonian will also be placed up for sale. It was agreed that the Secretary would email a notice to the membership informing them of the opportunity to purchase these telescopes.

Matt White: Matt noted the following upcoming star parties: Tuesday, July 22, (7:30pm) at the Jessie Smith Memorial



Bob Horton

Library in Harrisville (rain date 7/29) and Friday, October 3, at Steere Farm in Burrillville. • He reported that July 18th's Gloucester Manton Public Library event was successfully held. • Matt raised the question of rain dates. The Board agreed that rain dates are appropriate for large star parties, whereas smaller ones would be decided on a case-by-case basis. • Matt remarked that the observing session following July's meeting had exceptional viewing, with approximately 50 people attending. Conrad said that an image of Saturn had been projected inside the Meeting Hall that night with about 40 people watching. Bob noted that increased turnout was the result of publicity by Francine Jackson. • The Board agreed that having an additional member on duty to coordinate crowd control should be adopted. • Conrad reported that three new members joined the Observing Committee.

Kathy Siok, 1st Vice President: Kathy and Steve Hubbard collaborated on the AstroAssembly flyer and copies will be ready for distribution at Stellafane. • Ray Wolf will speak Friday night on the history of the Scituate Reservoir and the "lost" villages it displaced. If clear, observing will follow. Informal talks are also planned. • Kathy noted that since tables are in high demand at AstroAssembly, attendees are being encouraged to bring their own swap table. • It was noted that a dedication to Bill Luzader will be included in the evening program. • Dave and Tom are planning a 5-minute presentation "if the Observatory was being built today." • Letters and emails



Treasurer

Linda Bergemann

Cash Flow YTD as of July 18, 2014
(4/1/14 through 7/18/14)

INFLOWS

Donation	
Misc Donation	\$655.00
Refreshment Donation	\$23.00
TOTAL Donation	\$678.00
Dues	
Contributing	\$10.00
Family	\$60.00
Junior	\$15.00
Regular	\$493.35
Senior	\$222.90
TOTAL Dues	\$801.25
Misc Income	
Interest Inc	\$9.22
TOTAL Misc Income	\$9.22
Star Party Donations	\$38.00
Subscription Income	
Sky & Telescope	\$32.95
TOTAL Subscription Income	\$32.95
FROM PayPal Account	\$357.46
TOTAL INFLOWS	\$1,916.88

OUTFLOWS

Contingency	
Speakers Fees	\$100.00
TOTAL Contingency	\$100.00
Corporation, State Fee	\$20.00
Postage and Delivery	\$14.35
Printing and Reproduction	\$10.70
Refreshment Expense	\$20.29
Subscription Payments	
Sky & Telescope	\$32.95
TOTAL Subscription Payments	\$32.95
Trustee Expense	
Capital Equipment	\$184.89
Property Maintenance	\$1,858.91
TOTAL Trustee Expense	\$2,043.80
Utilities	
Electric	\$77.05
Porta-John	\$297.00
Propane	\$80.25
TOTAL Utilities	\$454.30
TO Checking	\$357.46
TOTAL OUTFLOWS	\$3,053.85
OVERALL TOTAL	\$1,136.97

Cash and Bank Accounts - As of 7/18/14

Capital One Bank	\$12,347.69
Checking	\$10,096.98
PayPal	\$0.00
TOTAL Bank Accounts	\$22,444.67



Steve Hubbard set up his 6-inch Jaegers refractor for observing after the meeting.

soliciting prizes were sent out. • Caterer, tents, chairs have been reserved, and the state police will be notified in advance.

Steve Siok, 2nd Vice President: Steve gave an update on the various poster sessions lined up for Saturday.

Dave Huestis, Historian: Dave reported that the commemorative post card is partially designed. He showed images being considered for the (fundraising) mug. It was noted that a larger 12-ounce size may have more appeal. • He mentioned that the Guest Blog had not yet been posted to the *Astronomy* website. Dave told the Board that he had sent an article out to the

Amateur Astronomy magazine today. In addition, the *Providence Journal* and one of the local TV stations are both considering running features on the event. • Also, Dave and Steve Siok will be addressing the library soon, so that the bookshelves can be repurposed and relocated to the front of the Meeting Hall.

Linda Bergemann, Treasurer: Linda said that volunteers will be needed for the Astro-Assembly Grille because it cannot be undertaken by the Scouts after all, as they are focused on the Eagle Project for the Observatory. • Bob added that Alex Bergemann is seeking donations towards

his project from the membership. Checks should be made payable to Skyscrapers and to note "Eagle Scout project" in the memo section.

Trustees: Tom gave a building/grounds work update. He also informed the Board that the painting and front bookcases/shelving would be finished by Astro-Assembly. • A work session is scheduled for 9:00pm Saturday, August 2nd. • The Trustees will also strengthen the Observatory deck's railing. In the interim, Matt said that he will install a chain to prevent access.

Pat Landers: Pat announced his intent to organize two Friday members' nights on August 22 and September 19.

Bob Horton: Bob told the Board that a letter was sent to the Center for Astrophysics requesting that an asteroid be named in honor of Frank Seagrave to commemorate this centennial year.

Meeting adjourned at 8:10PM

Submitted by Tina Huestis - Secretary



Francine Jackson demonstrates a small home-made planetarium she obtained during the conference of the International Planetarium Society in Beijing. This was the brainchild of Jim Sweitzer, who got a grant to have these made by middle school students, who learned such skills as soldering, woodworking, precision measurements, etc. They are meant for classes and informal education groups as a teaching tool for the night sky.





AstroAssembly 2014

Celebrating 100 Years of Seagrave Observatory

September 26 & 27

47 Peepoad Road North Scituate, Rhode Island

www.theskyscrapers.org/astroassembly2014

Friday Evening Talk & Stargazing: Seagrave Observatory 7PM

“The Lost Villages of Frank Seagrave’s Scituate and Building of the Reservoir”

Ray Wolf, Scituate Historian

Saturday Program All day at Seagrave Observatory

Poster Session, Swap Tables (please bring your own table), Solar Viewing

Astrophotography Contest, Homemade Telescopes (bring yours!!)

Famous Astro Bake-off Contest!!

10:00am **Poster Session begins.** Please contact Steve Siok (ssiok@cox.net) to present

12:00pm Lunch at the **Skyscraper Grille**

1:15pm ***“The 100th Anniversary of Seagrave Observatory”***

David Huestis, Skyscraper Historian

2:30pm ***“The Korkosz Brothers and Their Amazing Starball”***

Rich Sanderson, Director Springfield Planetarium

3:45pm ***“Searching for Earth 2.0 and Cosmological Fossils with the Giant Magellan Telescope”***

Dr. Andrew Szentgyorgyi, Center for Astrophysics

Saturday Evening Program at North Scituate Community Center

5:15pm **Reception (Hors d’oeuvres and soft drinks served)**

6:00pm **Evening Banquet (Pre-registration required)**

7:15pm **Words of Welcome, Awards, Raffle Drawing**

7:30pm **Special Presentation**

8:00pm ***“A Retrospective of the Science of Astronomy in 1914”***

Dr. Owen Gingerich, Center for Astrophysics

Name _____

_____ Registrations X \$25 each = \$ _____
(Members \$20 each)

Address _____

_____ Registrations (Free) Children under 14

_____ Banquet Tickets @ \$25 = \$ _____

_____ Banquet Tickets @ \$15 = \$ _____
for Children under 14

Send completed form and check (Made payable to Skyscrapers Inc.) to:

Linda Bergemann 41 Ross Hill Road, Charlestown, RI 02813-2605

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