



the Skyscraper

vol. 37 no. 3
March
2010

Amateur Astronomical Society of Rhode Island ★ 47 Peeptoad 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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March Meeting with Savvas Koushiappas

FRIDAY, MARCH 5, 7:30PM

NORTH SCITUATE COMMUNITY CENTER

Extreme Astrophysical Objects Through a Small Telescope

Prof. Koushiappas will discuss extreme astrophysical objects that can be viewed through a small telescope. Even though a small telescope is limited due to its small aperture (less than 6 inches), there is a plethora of mind-boggling objects that can be viewed. He will also discuss the observational properties of extreme objects and give an overview of the physical processes that give rise to these objects.

Professor Koushiappas works in the interface of particle astrophysics and cosmology. He is interested in the structure and

distribution of dark matter in the Universe, as well as astrophysical processes that can help identify the particle nature of it. He joined Brown University in the summer of 2008. Before that he was a postdoctoral researcher in the Theoretical Division at Los Alamos National Laboratory, and prior to that he was a postdoctoral researcher in the Department of Physics at ETH-Zurich (Swiss Federal Institute of Technology). He received his Ph.D. from The Ohio State University in 2004.

Executive Committee Meeting

WEDNESDAY, MARCH 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 (kathys5@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 March meeting.

Phases of the Moon



7



15



23



29

OTHER NOTABLE EVENTS: Venus is less than a degree south of Uranus on the 3rd. Mars is stationary on the 12th. Mercury is at superior conjunction on the 14th. Uranus is at superior conjunction on the 17th. Vernal Equinox is on the 20th. The Moon is near the Pleiades on the 20th. Saturn is at opposition on the 21st. The Moon passes open star cluster M35 on the 23rd-24th. Jupiter at superior conjunction on the 28th.

President's Message

Bob Horton

Snow, rain, ice and cloudy skies seem to be the norm lately, doesn't it? Although this weather pattern has interfered with most of our planned events, there have still been a number of clear nights this winter to enjoy some stargazing.

Several members have been busy taking some wonderful images of Mars over the last several weeks, and you can see them in this newsletter and on our web site. I too, have been enjoying the views of Mars whenever the seeing permits, and although the apparent size of Mars is now decreasing, you can still see plenty of detail on the planet's surface. Thanks to everyone for sharing observing reports and images for the rest of us to enjoy.

This month, we are very pleased that Brown Prof. Savvas Koushiappas will be our meeting speaker. Savvas has been an enthusiastic amateur astronomer for many years, and recently joined Skyscrapers. He frequently travels with his TeleVue refractor, ready to enjoy observing under dark skies whenever he has the opportunity. His talk will be about the many wonderful objects you can observe with a small telescope, as well providing us with an understanding of the fascinating physical nature of these objects.

Our March meeting also marks the start of the process to choose new officers, members at large, and a trustee.

The Nominating Committee, consisting of Kathy Siok, Rick Arnold and Bob Napier,

have spent the last couple of months looking for members interested in taking on the responsibilities of running our Society in the coming year. If you have been mulling over the idea of running for any office, please contact the chair of the Nominating Committee, Kathy Siok, as soon as possible. She can be reached via e-mail at kathys5@cox.net or you may call her at 885-1608. At the March meeting, the Nominating Committee will be presenting their recommended slate of nominees for the elections, which will be held at the Annual Meeting in April.

Any member in good standing and over 18 years of age may run for office. After the Nominating Committee presents their nominees, the floor will be open for anyone to be nominated by another member. Once all nominations have been made, the nomination process will be closed and the names of candidates will be listed on a ballot that will appear in the next newsletter.

March also marks the time that the Executive Board submits its proposed operating budget to the membership for approval. This budget will be introduced under New Business, and we will explain the various categories of expenditures and income. A discussion and vote on the budget will happen under Old Business at the April meeting.

I hope to see all of you at the March meeting.

Clear Skies, Bob Horton

March 29 is the 150th birthday of Frank Evans Seagrave.

Skyscrapers will be observing this sesquicentennial celebration at our April monthly meeting. I will be giving a very brief Powerpoint presentation on Frank's life and accomplishments. Giving the time constraints, especially during the April elections, I will publish an article in the April Skyscraper newsletter highlighting many of those accomplishments for you to read. Then, during my presentation, I will concentrate on a couple of interesting topics, some of which only a handful of people have any knowledge of.

All I ask is for you to read that article when it appears before you attend the April meeting.

Dave Huestis, Historian



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 **March 19** 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.

Astronomical Potpourri

Dave Huestis

It seems like a lot of my columns start out with a weather report. When I began this column during the last weekend in January we had been plunged into the deep freeze once again. A week or so before, mild temperatures and heavy rain melted all the remaining three to four inches of snow up here in Pascoag. Left behind were only the piles created by snow removal equipment. With the deep freeze came up to four inches of new snow and treacherous road conditions.

This weather pattern has become typical for us southern New Englanders over the last few years. Luckily we dodged the two huge snowstorms in February which crippled the mid-Atlantic states. Unfortunately our telescopes are not “powerful enough” to penetrate the still persistent cloud cover, particularly on public observing nights at the local observatories.

The one event my fellow associates and I will gladly welcome during March is the vernal equinox, the beginning of spring, on the 20th at 1:32 pm. We were unable to host our January Saturday evening open nights at Seagrave Observatory because of the weather and its aftermath, and Ladd Observatory was able to open just one of two planned evenings. February’s weather has not provided any improvements to date (02/16/2010). We are all hoping the weather patterns will shift once we pass the equinox, but only time will tell.

There are many astronomical events for one to see, both through our and your telescopes, and with the naked-eye from your own backyard. We can’t wait for clear skies so we can continue our public outreach programs of sharing the wonders of the universe with everybody.

If the weather has kept you from observing until now, Mars is still visible and awaiting your observation. Since last month we have pulled away quite some distance from our desert neighbor. Back on January 27 we were at our closest to Mars for this cycle — 61,721,726 miles. On March 1st that distance

will be 72,471,936 miles. The image will be noticeably smaller and dimmer than it was late January. You’ll want to make Mars an observing priority as soon as possible before it will be too difficult to see any of its surface detail. The North Polar Cap should still be visible, but most likely will also be smaller as spring in Mars’ northern hemisphere progresses into summer.

One important event to remember during mid-month is most of the United States begins Daylight Saving Time on Sunday morning at 2:00 am on March 14. Many of my colleagues think it is an archaic practice which has outlived its usefulness and should be retired. I agree.

Saturn begins a hopefully great observing season this month. While you could have been observing this ringed world since the beginning of winter between midnight and dawn, Saturn will now be rising at a reasonable hour before midnight. It will be at its closest to the Earth on March 21 at approximately 790 million miles. On that date at 9:00 pm Saturn will be the bright yellowish star about half way up off the eastern horizon. Saturn’s beautiful ring system is still only tilted at an angle of just three degrees, providing us a view of the northern face of the rings. It is quite a beautiful sight.

We’ll be observing Saturn for months from the local observatories, so you’ll have plenty of time to get a good look.

During the last week in March you will certainly notice a bright object above the western horizon after sunset. While you may initially think it is one of the many planets which fly into Warwick, you’ll quickly see it is not approaching your location. This object will be the planet Venus. Watch it climb higher and higher into the sky as the month progresses. At month’s end and continuing into early April, Mercury will join Venus. They will be closest to each other (approximately four degrees – eight full moon diameters) during the first week of April. This conjunction, as it is called, occurs with the two planets only about ten degrees above

the western horizon, so you’ll need an unobstructed view or close to a “dead” horizon. Few people ever get to see Mercury, so this time will be a good opportunity to do so.

And finally, March 29 is an important date in the history of Skyscrapers, Inc., the Amateur Astronomical Society of Rhode Island. On that date in 1860 Frank Evans Seagrave was born. The 8¼-inch Alvan Clark refractor residing in the domed observatory in North Scituate on Peeptoad Road was young Frank’s 16th birthday present in 1876. He originally built an observatory to house this instrument at 119 Benefit Street in Providence, then later built a new observatory in North Scituate and relocated the telescope there in 1914. Skyscrapers purchased it in November 1936, and we have been its caretakers ever since.

Please join with us as we celebrate the sesquicentennial year of Frank Seagrave’s birthday. Frank would be very proud of the dedication of the Skyscrapers organization in maintaining the observatory and telescope. And we have preserved his legacy by keeping the public informed of special astronomical events, very much like he did in the Providence area for many decades until his death in 1934. Happy 150th birthday Frank Evans Seagrave.

If you’d like to observe with Frank Seagrave’s 16th birthday present then please visit Seagrave Observatory (<http://www.theskyscrapers.org>) on Peeptoad Road in North Scituate on any clear Saturday night (7-9pm). Other telescopes are also available for viewing. 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 these 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.

Skyscrapers is offering a telescope making class starting in early April at Ladd Observatory, supervised by the club’s own Ed Turco and Bob Horton! Participants will be involved in making a telescope mirror for

a 6" f/8 reflector, with directions for making the tube assembly and Dobsonian mounting. Emphasis will be on acquiring skills to make other telescopes of short focus or larger diameter. Telescope makers in previous

classes have produced telescopes that rivaled and even surpassed those offered by professionals. Close attention will be paid to making the telescope at the lowest possible cost. Eyepieces will be offered for sale at very low prices for

those who need them, though this is not a requirement to join the fun! Hey, if Horton and Turco can do it, anybody can! For more information, please contact Bob Horton at Stargazerbob@aol.com.

Tom Thibault

Southern Viewing at Sea

This year my wife and I had booked a cruise to the Eastern Caribbean during January. We planned to fly to Tampa, Florida and stay with my parents the day before and drive to Fort Lauderdale, to catch the ship. My parents would be joining us on the cruise as they did two years previously.

The ports of call on the March, 2008 cruise were in the Western Caribbean. During that cruise we visited San Juan, Puerto Rico, St. Thomas, V.I., Dominican Republic, and Haiti. This January, of 2010 the cruise included the cities of Belize City, Belize and Costa Maya, and Cozumel, Mexico.

My advice to all considering a cruise is to bring with you either large pair of binoculars or a small aperture telescope. One would think conditions on the ship would provide both enhancements and some challenges for viewing. The dark sites achieved at sea are fantastic with slight interference from the ship lighting. The low elevation and the possibility of a thin fog that may arise depending on water versus air temp are the main challenges. The other perceived issue most would think is the movement of the ship on water, but my experience on both cruises has shown this not to be significant obstacle due to the ships size and calm seas.

On both cruises we had balcony suites, nothing like having the view of the sea 24/7. It's nice to have an early morning coffee, a late night drink or to just get away by your selves for a while. It also provides a great observing platform after the sun has set and skies have darkened.

The first cruise I packed a pair of Zhumell 20x80 binoculars and a simple camera tripod. Each night after dinner and various entertainments, we would retire to our stateroom and I would break out the equipment and set up on the balcony. This trip as with the next located us between the latitudes of 15 and 25 degrees. The first observation I made was how high the constellation Orion was positioned in the sky. It was floating 10 to 15 degrees down from directly overhead and stood out brightly every night. The 20x80's easily detected the nebulosity of the Orion Nebula centered in Orion's sword. The Southern Cross was the other celestial gems that stood out, a site we in the north are unable to enjoy. On the evening of March 14, 2008, we set sail from Labadie, Haiti for our return to the US. I set

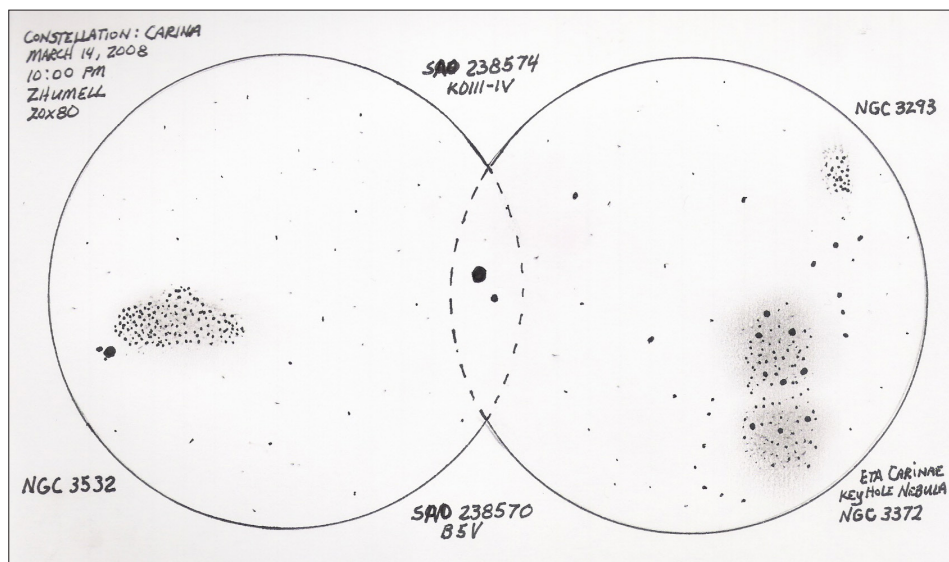
up on the balcony and began scanning the southern horizon.

Situated to the ESE at about 10 degrees above the horizon was Spica and to the SSW was Canopus. As I scanned from west to east I came upon large group of stars in three tight groups. The two larger groups stacked one above the other to almost appear as one and within a distinct nebulous glow. Inside the FOV and to the north and slightly to the west was the smaller group of which I detected no nebulosity. As I panned to the east and just prior to these three clusters falling out of the FOV, I came upon two bright stars, one above the other spaced at an angle of each other. One was a distinctive red in color and the other white. As I continued east, and again just prior to these two stars exiting the FOV, I came upon another great tight cluster of stars. This cluster was smaller in size than the close nebulous pair and appeared extended from east to west. It also had a flatten appearance on the bottom while the top was rounded like a rolling hill. When I referenced a computer version of TheSky software and the internet, I was able to identify that I had observed first the Eta Carina (Key Hole Nebula) NGC 3372 with NGC 3293 to the NE and NGC 3532 to the west. The two stars between were SAO 238574, spectral K0III-IV and SAO 238570, spectral B5V. This was an unforgettable view that I will always remember, see the attached sketch from my log book.

Our second cruise this past January, I packed an IOptron 80mm reflector and a

small tripod as well as 5, 15, 20, and 40mm lenses. This cruise provided views of Jupiter setting in the west and Mars rising in the east. This cruise did not have the exceptional viewing conditions of the first; we had more clouds drifting in and out of view. We also had occasions when haze obscured the horizon slightly due to air and water temperature variations. Orion was positioned slightly high than the last cruise and with the use of the lenses available the fish mouth of the Orion Nebula could be seen. During our port of calls and as we sailed back from Belize, our balcony faced the south. Canis Major was entirely in view standing on its rear legs to the south with Sirius shining brightly. I soaked in for quite some time, the view that my home in the north does not offer. While exploring Canis Major I came upon M41, an Open Cluster, which I struggle to see at home due to the tree line in my backyard and the glow of the cities of Woonsocket and Providence to the south. On this cruise I was unable to surpass the views I had on the first, but this by no means was disappointing, the views were still great.

The quiet time below the stars while the sound of the ocean lightly washing against the ship below can't be beat. The darks skies and the views of the celestial wonders we are not offered here in the north are beautiful. I strongly suggest that if you have the opportunity to vacation in the south, even if it's on a cruise, bring either binoculars or a telescope and take in the heavenly sights.



h 3945 Canis Majoris

Glenn Chaple's
Sky Object of the Month

What is the most colorful double star in the night sky? Most amateur astronomers would vote for β Cygni (Albireo). Others might cite γ Andromedae (Almach), ι Cancri, ξ Bootis, or η Cassiopeiae. Sadly overlooked is a double star that might challenge them all – h 3945 in Canis Major. It is arguably the most colorful double star in the winter sky and, in fact, has been nick-named the “Winter Albireo.”

h3945 (aka 145 Canis Majoris) is one of more than 5500 double stars catalogued by John Herschel (William's son) in the early 1800s. The magnitude 5.0 primary is accompanied by a 5.9 magnitude companion 26.8 arc-seconds away. Their spectral types (K0 and F0) give rise to a stunning color contrast. In her book *Double Stars for Small Telescopes*, Sissy Haas writes, “Showcase pair: A bright, wide, and easy pair with deep colors. The stars are bright citrus orange and royal blue; these colors are seen vividly and in strong contrast.” In early 2008, 3945 was the subject of a forum on the Cloudynights website. The general consensus was that this is one of the most beautiful double stars in

the night sky. That was my thought when I included h3945 in a “Top 100 Doubles” series written for *Deep Sky Magazine* in 1983.

Despite these kudos, h3945 still gets the cold shoulder from most backyard astronomers. In the February, 1980, issue of *Deep Sky*, I described h3945 as “one of the most colorful, yet underrated, double stars in the heavens.” Richard Dibon-Smith, on his Constellation Web Page (www.dibon-smith.com) concurs, noting that, “h3945 is a gorgeous - h3945 is a binary.” In the *Cambridge Double Star Atlas*, co-author James Mullaney laments that h3945 is “Largely unknown & unobserved – a pity!”

Why would such a beautiful double star be so grossly ignored? There are two parts to the answer - h3945 is in a southerly location, and it isn't as bright and easily seen as Albireo or Almach. The first isn't a problem if your observing site affords a clear view of the lower half of Canis Major. As for finding h3945, just trace a line from θ^1 CMA past θ^2 CMA and extend it about 3 degrees beyond (see finder chart).

Sissy Haas, Richard Dibon-Smith,

James Mullaney, your truly, plus a batch of backyard astronomers on the Cloudynights website have all raved about h3945. Now it's your turn to experience one of the night sky's true gems.

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

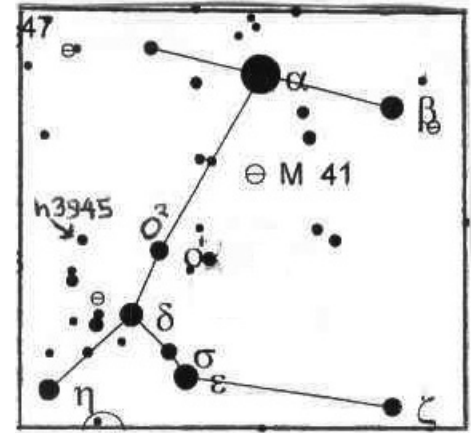


Chart for h3945 CMA
From Cartes du Ciel

February Reports

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

EXECUTIVE COMMITTEE MEETING

WEDNESDAY, FEBRUARY 3, 2010

LADD OBSERVATORY

TOM THIBAUT

ATTENDEES: Bob Horton, Bob Napier, Bob Forgiel, Lloyd Merrill, Tom Thibault, Jim Brenek, Tom Barbish, Dave Huestis, Jim Hendrickson, Rich Arnold, Jim Crawford

ITEMS DISCUSSED:

2010-2011 PROPOSED OPERATING BUDGET REVIEWED: Lloyd Merrill summarized line items for the proposed budget. • Executive members discussed the possibility of a small increase in membership dues to help support Seagrave future improvement projects. It's estimated that the last increase was 1997-98 for the rates currently in use. • Line item to cover yearly printing cost was added to the proposed budget.

SEAGRAVE EXTERIOR SIGN: Tom Thibault did a walk-thru of his presentation to be given at Friday, February 5th monthly meeting.

INSURANCE COVERAGE: Discussed what coverage we may have when Skyscrapers hosts

various outreach programs. Treasurer will get clarification from our insurance agent.

CLARK TELESCOPE MAINTENANCE: Jim Brenek provided summary of items needing to be done to improve the Clarks drive operation. E-Board members requested a more detailed estimate and how much time would be needed to perform the work. Some of the important items are list below:

Paint main tube, lubricate main bearings, need additional drive weight added during winter months, fabricate RA slow-motion system to replace the missing one, clean the lens.

NOMINATION COMMITTEE: Bob Napier provided update on the Nominating Committees progress. • Rick Arnold requested updated member list to ensure the committee has current member information. Secretary will provide list.

TREE PRUNING OF THE SOUTHERN EXPO-

SURE: Jim Brenek recommended we trim some of the trees at southern end of property to improve Clark Telescope viewing.



FEBRUARY MEETING

FRIDAY, FEBRUARY 5, 2010

NORTH SCITUATE COMMUNITY CENTER

Monthly Meeting 7:30 p.m.
Bob Napier welcomed all members.

FEBRUARY SPEAKER: Alan Hirshfeld on “Astronomy and Technology”

SECRETARY'S REPORT: January report accepted by membership.

FINANCIAL REPORT: January report submitted with no corrections.

1ST VP BOB NAPIER: Speaker for March meeting is Savvas Koushiappas. Topic not selected as of this report.

2ND VP STEVE HUBBARD: No Report
HISTORIAN DAVE HUESTIS: Just another



John Kocur, Jack Szelka, Tom Barbish, Rick Arnold, Jim Hendrickson, Dave Huestis, Glenn Jackson, Joel Cohen, Roger Forsythe, Dan Lorraine, Tom Thibault, Jim Crawford.

reminder that the sesquicentennial of Frank Seagrave’s birth (1860-2010) occurs on March 29. During the April meeting Dave will do a brief PowerPoint presentation on Seagrave’s life. We will also be offering a commemorative postal cache to celebrate the occasion.

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

STAR PARTY COORDINATOR BOB FORGIEL: Portsmouth HS cancelled twice due to poor weather conditions but is planning to reschedule in this fall. Bob has done a magnificent job in coordinating our outreach Star Parties and wanted the organization to

show it’s thanks to all the members who assisted in each event. Bob contacted and received “Certificates of Appreciation” from the NASA Night Sky Network. See photo below of those receiving the award.

TRUSTEE REPORT: Tom Barbish reminded the membership that the organization should consider trimming the trees about 16 inches lower to improve view of the southern exposure.

NEW BUSINESS: Kathy Siok, will report at the March meeting, names of those volunteering for new officer positions. If you’re interested please submit your name or nomination to either Kathy, Bob Napier or Rick Arnold.

OLD BUSINESS: None.

GOOD OF THE ORGANIZATION: Tom Thibault gave a presentation on the proposed new sign. The sign will have a light (red lens) and provide visitors with building locations, safety reminders and a few rules of consideration. The Executive Board members will make final changes and bring it to the membership for a vote. • Skyscrapers welcome Mr. Jim Wardell and John Soucy to be voted into the organization during the March meeting under old business. • Skyscrapers was invited to hold one of its monthly meetings at Charlestown Frosty Drew Observatory. The Executive Board will discuss it at next meeting.

Business Meeting Adjourned at 9: 30pm

Cash Flow
1/23/2010- 2/21/2010

INFLOWS

Dues	
Regular	120.00
Senior	20.00
TOTAL Dues	140.00
Interest Inc	13.86
TOTAL INFLOWS	153.86

OUTFLOWS

Refreshment Expense	30.49
Trusteexp	400.00
Electric	8.88
TOTAL OUTFLOWS	439.37

OVERALL TOTAL -285.51

Banking Accounts

Citizens Bank Checking	2,270.92
Capital One Money Market	16,329.56
Total Cash	18,600.48

Photographing the Orion Nebula

Dave Huestis

Soon after I joined Skyscrapers in January of 1975, I purchased my first 35mm SLR camera. Back in those days, before T-adapters were readily available, we used to hand hold our cameras up to the telescope eyepiece and snap an image. For the Moon, Jupiter, Saturn and Venus you could easily acquire a decent picture, even hand holding it for up to one second!

Anything fainter than that was impossible with the Clark telescope, since the drive was not accurate for long exposures. Being new to the organization I did not know that. And being such a neophyte to this fascinating hobby, I decided to try to

photograph one of my then favorite objects....the Orion Nebula.

Well, one night I chose a low power eyepiece and proceeded to snap a few pictures on film, most likely High Speed Ektachrome 200. Rick Lynch had visited me up in the dome while I was in the process of photographing this great nebula.

Later that evening I returned to the meeting hall to warm up. I left my camera on the front table and either went back out to observe or make a run to Mary’s Country Store for a late snack.

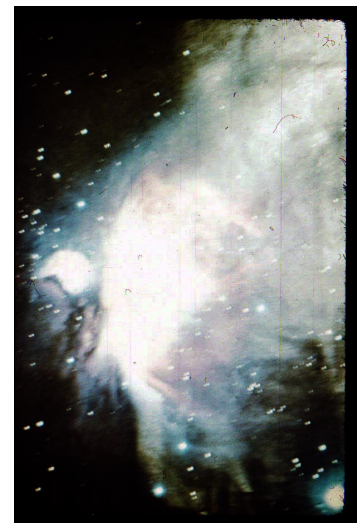
A week or two later I processed the film and was happy to find that I had gotten several fantastic images of the Orion Nebula. I was so thrilled that my first astrophotography session proved

so successful that I showed the slides at one of our monthly meetings.

I explained to the membership how I had taken the images. There seemed to be some doubt among those present that I could have accomplished this feat. Rick Lynch spoke up and said that yes, he had been out there with me for a while as I took the images. Thank you Rick for backing me up.

However, some of the members were snickering. Seems when I left my camera on the front table, a couple of members used it to take a few images of a poster on the wall in the meeting hall which just happened to be you guessed it.....the Orion Nebula.

This is one of those stories that will be fondly remembered for decades to come.



Constitution

ARTICLE I: NAME

The name of this Society shall be “Skyscrapers, Inc. (Amateur Astronomical Society of Rhode Island).”

ARTICLE II: OBJECT

The object of this Society shall be to educate the general public and membership on matters pertaining to astronomy. It shall be an educational, nonprofit organization.

ARTICLE III: LEGAL STATUS

This Society is incorporated as a non-business corporation under the laws of the State of Rhode Island.

ARTICLE IV: MEMBERSHIP

§1 Membership in this Society shall be of five classes: Junior, Senior, Contributing, Senior Citizen and Honorary.

§2 An applicant for junior, senior, contributing or senior citizen membership shall submit the standard form of application together with dues as specified in ARTICLE I, Section 2, of the By-Laws, shall be proposed by an existing member, and shall become a member upon receiving a favorable majority vote at a regular meeting of the Society.

§3 Junior members shall be between 13 and 17 years of age both inclusive, and upon reaching 18 years of age shall automatically become senior members without payment of additional dues for the dues year in which this occurs. Junior members shall be entitled to all the privileges of senior members except those of voting and holding office.

§4 Senior members and senior citizen members shall have the privilege of voting and holding office. Senior members must be 18 years of age or older; senior citizen members must be 65 years of age or older.

§5 Contributing members shall be senior members who pay the additional dues prescribed by the By-Laws. They shall be entitled to all the privileges of senior members.

§6 Honorary membership may be conferred upon any person for unusual and outstanding accomplishment in science. It may be conferred upon a non-member for outstanding contribution to the Society. Honorary membership is conferred by unanimous vote of those present at any Annual Meeting, the name having been proposed at a previous regular meeting of the Society. An honorary member shall have all the privileges of a senior member except those of voting and holding office. This

membership shall be for life and no dues shall be required.

ARTICLE V: OFFICERS

§1 The officers shall consist of a President, First Vice-President, Second Vice-President, Secretary and Treasurer. Their duties shall be such as are implied by their respective titles, and as prescribed by the By-Laws.

§2 The officers shall be elected by ballot at the Annual Meeting for a term of one year or until their successors are elected and take office. A majority vote shall be required to elect.

§3 No member shall hold the same office for more than two consecutive terms.

§4 Vacancies occurring in office may be filled by appointment of the President until successors are elected and take office.

ARTICLE VI: MEETINGS

§1 The Annual Meeting shall be held in April of each year at the call of the President. The membership shall be notified 10 days in advance thereof.

§2 Regular meetings shall be held monthly at the call of the President

§3 Special meetings may be called by the President or on a petition directed to the Executive committee and signed by any 10 members. The call shall state the pending business and no other business shall be transacted. The call shall be mailed to the membership at least 5 days in advance of the special meeting.

ARTICLE VII: EXECUTIVE COMMITTEE

There shall be an Executive Committee, whose membership and powers shall be as prescribed by the By-Laws.

ARTICLE VIII: BOARD OF TRUSTEES

There shall be a Board of Trustees, whose membership and powers shall be as prescribed by the By-Laws.

ARTICLE IX: AMENDMENTS

The Constitution and By-Laws may be amended at any regular meeting by two-thirds ($\frac{2}{3}$) vote of all senior and contributing members present, provided said amendment has been presented in writing and read at the previous regular meeting, a notice incorporating said amendment has been mailed to the membership

ARTICLE X: BUDGETS AND EXPENDITURES

§1 The President and Executive Committee shall present a proposed yearly operating budget for membership approval

at the annual meeting.

§2 The Executive Committee shall have the authority to approve non-recurring expenditures only if these expenditures have been given prior approval by the society, either by approval of the yearly operating budget, or by passage of a motion at any monthly meeting.

§3 The Executive Committee shall have the authority to approve any expenditure deemed necessary to protect the assets of the Society during emergency situations. When an emergency situation occurs, the Executive Committee is required to inform the Society of the nature of the emergency, the steps taken to protect the property of the Society, and the amount of money that was spent, at the next monthly meeting.

ARTICLE XI: CODE OF CONDUCT

Any individual that violates Local, State, or Federal Law, or conducts themselves in any behavior that compromises the reputation of the Society, will be referred to a disciplinary board consisting of the Executive Committee and the Board of Trustees.

Bylaws

ARTICLE I: FISCAL YEAR & DUES

§1 The fiscal year shall be from April 1 through the following March 31. The dues year shall be the same as fiscal year.

§2 Dues are payable in April for the dues year then beginning. The annual dues shall be: \$10.00 for Junior Members; \$40.00 for Members; \$50.00 for Family Members; and \$10.00 for Senior Citizen Members. Persons applying for membership during the months of April through December pay the above stated annual dues for the current fiscal year (April – March). Persons applying for membership during the months of January through March pay the above stated annual dues, but their membership extends through the next fiscal year. Persons making donations over and above the foregoing amounts shall be called Contributing Members. Four distinguished categories of Contributing Members shall be designated: Sponsors (\$60); Supporters (\$100); Patrons (\$250); and Benefactors (\$500).

§3 The Secretary may, with the approval of the Executive Committee, drop from membership any member who is three months or more in arrears.

ARTICLE II: OFFICERS

§1 The regular term of all Officers,

Members-at-Large and Junior Trustee shall commence at the adjournment of the May meeting.

§2 The President may at any time appoint such additional officers, chairmen and committees as may be required. The terms of all of these (except, as appropriate, special committees) shall expire with the term of the appointing President. The President shall be, *ex officio*, a member of all committees.

§3 In the absence of the President the First Vice-President shall assume his duties. In the absence of both, second Vice-President shall assume the duties of the President.

§4 The President shall:

1. Preside over all regular monthly meetings and Executive Committee meetings.
2. Establish an operating budget, with the assistance of the Executive Committee, for approval by the members of the Society, per ARTICLE X of the Constitution.
3. Oversee the business and legal responsibilities of the Society.
4. Be the official spokesperson for the Society.

§5 The 1st Vice President shall:

1. Provide programs for monthly meetings.
2. Assist the President in communicating to the general public the activities of the Society.

§6 The 2nd Vice President shall:

1. Act as the Chairperson of the AstroAssembly Committee.
2. Submit a proposed operating budget for AstroAssembly to the Executive Committee prior to the Annual Meeting.
3. Have the authority to direct the Treasurer to pay any expenses associated with the operation of AstroAssembly, providing said expenses have been given prior approval by the Society, per the approved operating budget, as defined by ARTICLE X of the Constitution, or by motions approved by the members of the Society at any regular monthly meeting.
4. Submit a report of all expenses and income from AstroAssembly at the December monthly meeting.

§7 The Secretary shall:

1. Take the minutes of all meetings, regular, special, Annual and Executive.
2. Maintain an accurate, classified list of the membership of the Society.
3. Notify applicants for membership of

their election or rejection, unless they were present at the meeting where this occurred.

4. If required by the President, notify all additional officers, chairmen and committees of their appointment.
5. Send all required notices to the membership.
6. In general, conduct the correspondence of the Society.
7. Have custody of the records of the Society.

§8 The Treasurer shall:

1. Pay on his/her authority any routine bills for periodic, recurring expenses as defined by the operational budget, per ARTICLE X of the Constitution.
2. Pay any other non-recurring bills that have been approved.
3. Keep an itemized account of all receipts and disbursements and submit a written report to be published in the Skyscraper newsletter, and presented at each regular monthly meeting.
4. Submit an annual report of all receipts and disbursements for the past fiscal year at the Annual Meeting. Auditors appointed by the President shall audit this report, and the report of the auditors shall be submitted at the next regular monthly meeting.

ARTICLE III: EXECUTIVE COMMITTEE

§1 The Executive Committee shall consist of the President, First Vice-President, Second Vice-President, Secretary, Treasurer and two Members-at-Large.

§2 The Members-at-Large shall be elected at the Annual Meeting, and their terms shall be the same as those of the officers.

§3 The powers of the Executive Committee shall be:

1. To advise the President and assist in carrying out the duties of the office.
2. To take any action that might be taken by the Society, unless such action is reserved to the Society at Large in the Constitution or By-Laws.

§4 The Executive Committee shall meet at the call of the President or on application of any two members. The President shall be, *ex officio*, chairman.

§5 Any Officer, Committee Member and/or appointed Board Member upon the termination of their duties or vacancy of position shall immediately turn over all Society records, property, files, documents, policies, etc. to the presiding President for transmittal to the appropriate party.

ARTICLE IV: BOARD OF TRUSTEES

§1 The Board of Trustees shall consist of three Trustees, the term of each to be three years. No Trustee shall serve two consecutive terms. One Trustee shall be elected each year at the Annual Meeting. The Trustee with the longest continuous service shall be the Senior Trustee and serve as the Chairperson of the Observatory Committee. Vacancies occurring in office shall be filled by special election to be called by the President with at least 10 days notice to the membership.

§2 The Board of Trustees shall have custody of the grounds, structures and equipment belonging to the Society. They may at any time establish or amend rules for use of said grounds, structures and equipment, and establish policies for members comprising the Observatory Committee. They may at any time grant or withdraw permission to individuals to use the grounds, structures and all equipment belonging to the Society.

§3 The Board of Trustees shall be responsible to the Society. Decisions of the Board of Trustees may also be overruled by five members of the Executive Committee, all voting In the affirmative.

The Board of Trustees shall conduct an annual inventory of equipment and property belonging to the Society, and submit said inventory list to the Executive Committee prior to the Annual Meeting.

ARTICLE V: QUORUM

Twelve (12) senior and contributing members shall constitute a quorum for the transaction of business at any meeting as defined in ARTICLE VI of The Constitution. At no time shall the lack of a quorum prevent those present from proceeding with the program of the day or evening.

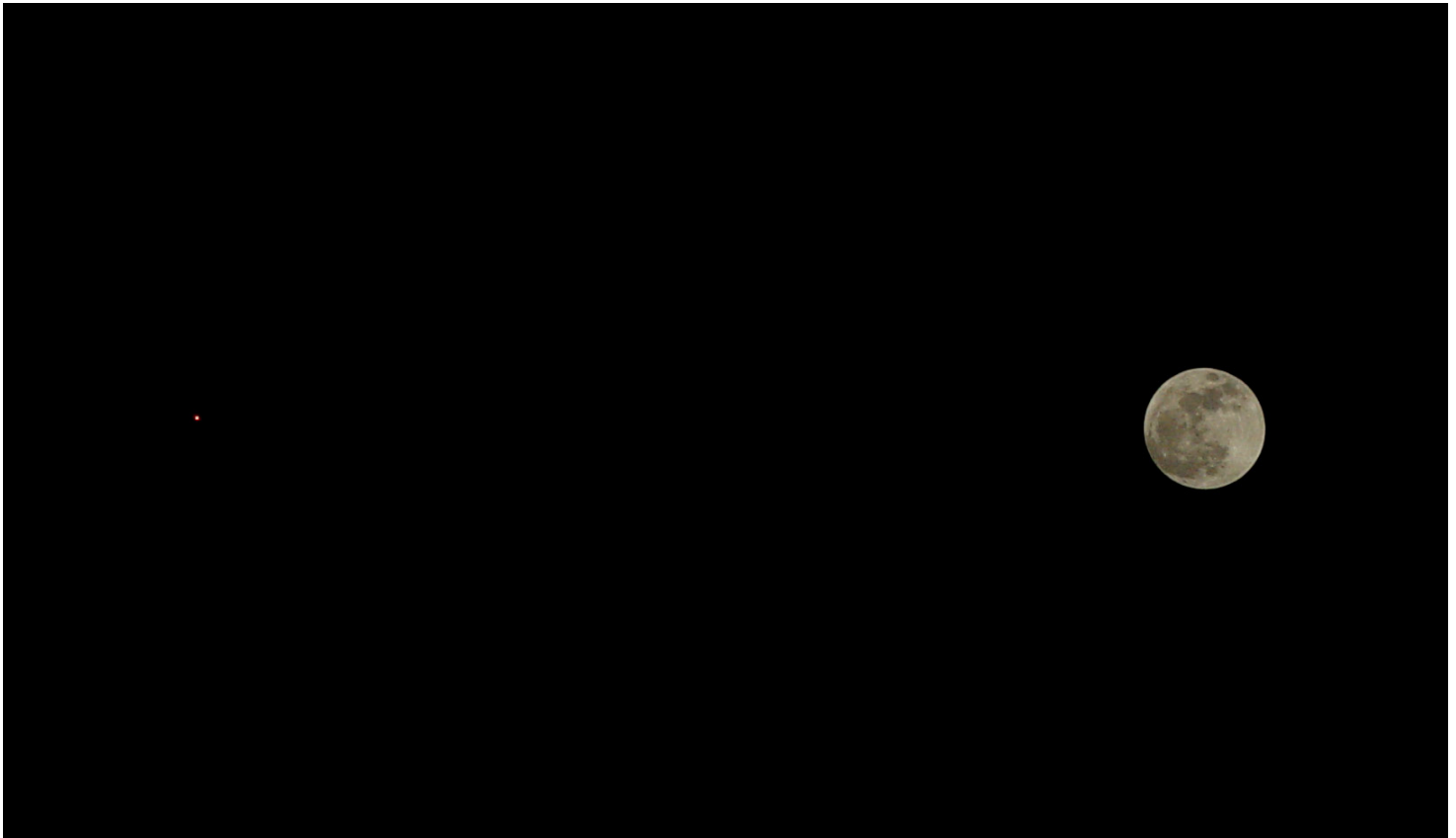
ARTICLE VI RULES OF ORDER

The rules contained In 'Robert's Rules Of Order, Revised' shall govern the Society in all cases to which they are applicable and in which they are not inconsistent with the Constitution and By-Laws.

ARTICLE VII: DISSOLUTION

Upon dissolution of the corporation, the Board of Trustees shall after paying or making provisions for the payment of all liabilities of the corporation, dispose of all of the assets of the corporation in such a manner as to comply with, or to such organization or organizations organized and operated exclusively under, Section 501(c)(3) of the Internal Revenue Code of 1954.

Gallery



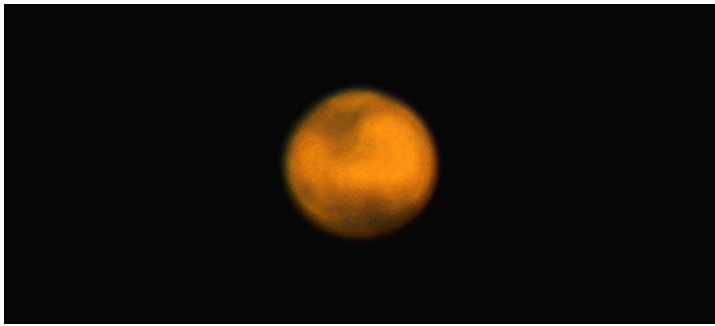
Mars at opposition & Moon at perigee: Attached is a photo I took on January 29th, 2010, at 8:20pm. This photo is a composite of two pictures taken with a Sony DSC-F707 camera using a 10x zoom. The picture of Mars was taken at f/2.4 aperture at a shutter speed of 1/10 set at ISO 100. The picture of the Moon was taken at f/6.3 aperture at a shutter speed of 1/1000 set at ISO 100. The final picture was com-

bined and processed in PStudio, software provided by Sony. I took this picture out through my garage door, it was too cold and windy to go out to the scope that night, but I did enjoy this view for a short while and periodically checked it out during the evening to watch the two progress together across the sky from east to west.

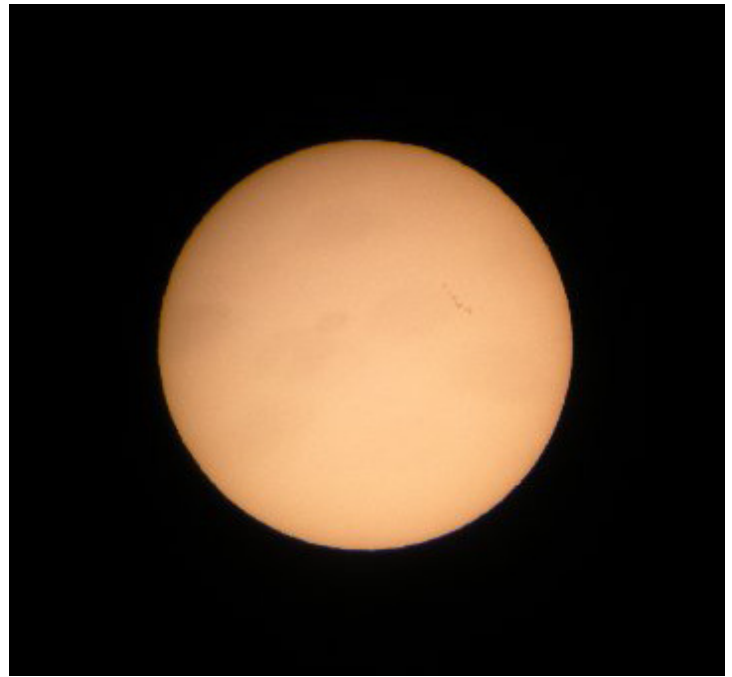


Above: STS-130 Space Shuttle Endeavour launches toward the International Space Station early morning on February 8. The engines were pulsing and this was the best rocket engine burst I got. I was able to view it for only 15 seconds. Canon XSi with 80mm Eon on photo tripod with panhead mount. 1/60 Sec, ISO 1600, f/6.25. Shot in continuous mode. Image enlarged and cropped, otherwise untouched.

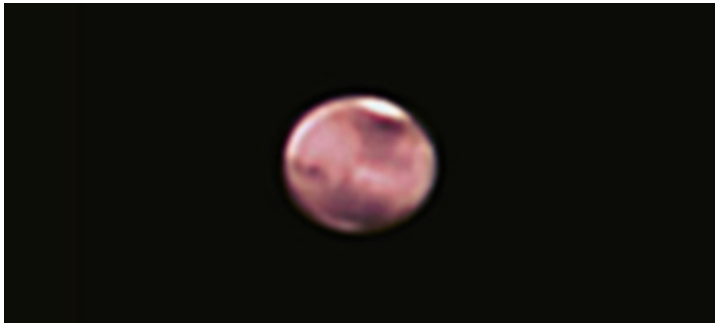
Left: Waning crescent Moon rises over the launch trajectory on the morning of February 8. Photos by John Kocur.



Mars, February 1, 2010. This is the best I could draw out of the data and equipment. It is the results from (3) 30 second video's that resulted in (3) photo's. Each photo was between 15 -30 frames stacked using RegiStax out of 450 frames per video. Each photo was then processed through MaximDL Essentials followed by Photoshop 7 and layered together in Photoshop as well. The darker northern Martian terrain listed from the north as, Mare Boreum, Mare Acidalium, and Niliacus Lacus, while running along the bottom is comprised of Sinus Sebeus, Sinus Meridiani, Sinus Margaritifer, Mare Erythraeum, Aurorae Sinus and Solis Lacus. Note; image is mirrored east to west. Videos were captured through an Orion C11 with a Orion Star Shoot camera and a 2X Barlow. Photo by Tom Thibault.



Sunspots, February 7. Photo by Dan Lorraine



I braved the cold and wind February 7 at 11pm and got this image of Mars. Taken with my Meade 10 inch SCT and a Mallincam video imager, 2 minutes of video processed with RegiStax. Image by Steve Hubbard, post processing done by Tom Thibault.

Messier Marathon with ASNH

FRIDAY/SATURDAY, MARCH 12TH & 13TH
 NORCROSS WEBSTER SCOUT RESERVATION (CSP SITE)
 ROUTE 44
 ASHFORD, CONNECTICUT

The Astronomical Society of New Haven cordially invites all astronomers to participate in a Messier Marathon on March 12th in Ashford, CT. It will be held at the June Norcross Webster Scout Reservation on Route 44 (The site of the Connecticut Star Party). Please arrive after 5:00 pm on Friday March 12th. Saturday the 13th is the fallback date. Please check <http://www.asnh.org> for updates and weather cancellations.

The event is free and open to all astronomers. This is not an open public viewing event .

Electrical power for clock drives (not heaters) will be available. The Dining Hall will be open for complementary coffee and as a warm room. You may spend the night and sleep over but must leave the camp by 11:00 am the following morning.

The members of ASNH hope you can attend.

Get Out and Observe the Night Sky!
 March 3-16, 2010

Engage students worldwide in observing the nighttime sky
 Encourage citizen and family science with a hands-on learning activity outside of the classroom
 Gather light pollution data from an international perspective

GLOBE at Night

www.globeatnight.org

Participation is open to everyone!

ASNH ESRI CAAV/ISS International Dark Sky Association NOAA

Flipping the Lights on Cosmic Darkness



Exploring the universe is a bit like groping around a dark room. Aside from the occasional pinprick of starlight, most objects lurk in pitch darkness. But with the recent launch of the largest-ever infrared space telescope, it's like someone walked into the room and flipped on the lights.

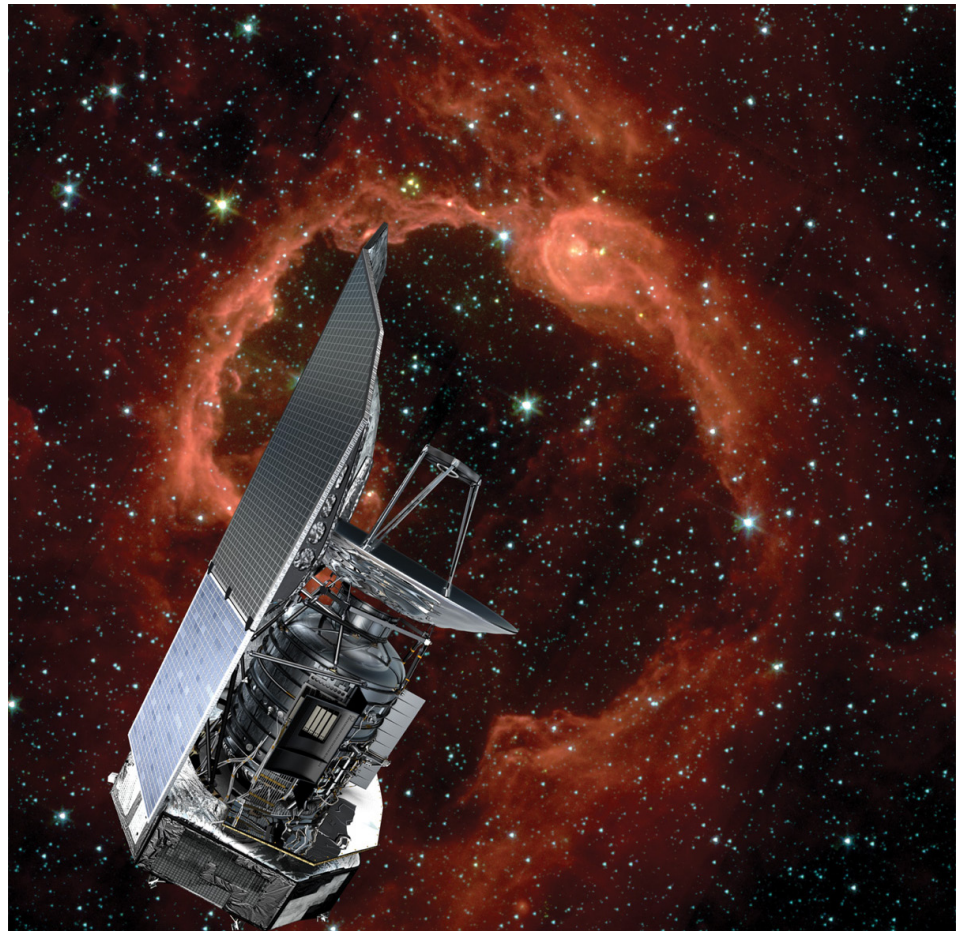
Suddenly, those dark spaces between stars don't appear quite so empty. Reflected in the Herschel Space Observatory's 3.5-meter primary mirror, astronomers can now see colder, darker celestial objects than ever before—from the faint outer arms of distant galaxies to the stealthy “dark asteroids” of our own solar system.

Many celestial objects are too cold to emit visible light, but they do shine at much longer infrared wavelengths. And Herschel can observe much longer infrared wavelengths than any space telescope before (up to 672 microns). Herschel also has 16 times the collecting area, and hence 16 times better resolution, than previous infrared space telescopes. That lets it resolve details with unprecedented clarity. Together, these abilities open a new window onto the universe.

“The sky looks much more crowded when you look in infrared wavelengths,” says George Helou, director of the NASA Herschel Science Center at Caltech. “We can't observe the infrared universe from the ground because our atmosphere blocks infrared light, and emits infrared itself. Once you get above the atmosphere, all of this goes away and suddenly you can look without obstruction.”

Herschel launched in May from the Guiana Space Centre in French Guiana aboard a European Space Agency Ariane 5 rocket. Since then, it has expanded the number of distant galaxies observed at far infrared wavelengths from a few hundred to more than 28,000. And with the instrument testing and system check-out phases finally completed, the discoveries are only now beginning.

Beyond simply imaging these dark



The Herschel Space Observatory has 3.5-meter primary mirror, allowing astronomers to see colder, darker celestial objects than ever before.

objects, Herschel can identify the presence of chemicals such as carbon monoxide and water based on their spectral fingerprints. “We will be able to decipher the chemistry of what's going on during the beginnings of star formation, in the discs of dust and gas that form planets, and in the lingering aftermath of stellar explosions,” Helou says.

And those are just the expected things. Who knows what *unexpected* discoveries may come from “flipping on the lights?” Helou says “we can't wait to find out.”

Herschel is a European Space Agency mission, with science instruments provided by a consortium of European-led institutes

and with important participation by NASA. See the ESA Herschel site at sci.esa.int/science-e/www/area/index.cfm?fareaid=16. Also, see the NASA sites at <http://herschel.jpl.nasa.gov>, www.herschel.caltech.edu, and www.nasa.gov/mission_pages/herschel. Kids can learn about infrared light by browsing through the Infrared Photo Album at The Space Place, http://spaceplace.nasa.gov/en/kids/sirtf/sirtf_action.shtml.

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

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