

The Skyscraper

Vol. 35 no. 2

The monthly publication of



Amateur Astronomical Society
of Rhode Island

47 PeepToad Road
North Scituate, RI 02857

www.theskyscrapers.org

President

Glenn Jackson

1st Vice President

Steve Hubbard

2nd Vice President

Kathy Siok

Secretary

Nichole Mechnig

Treasurer

Jim Crawford

Members at Large

Jim Brenek
Joe Sarandrea

Trustees

Tracey Haley
Bob Horton
Jerry Jeffrey

Librarian

Tom Barbish

Editor

Jim Hendrickson

See back page for directions to
Seagrave Observatory.

Submissions

Please submit items for the newsletter
by February 15 to Jim Hendrickson, 1
Sunflower Circle, North Providence, RI
02911 or email to jim@distantgalaxy.com

Email subscriptions:

To receive The Skyscraper by email, send
email with your name and address to
jim@distantgalaxy.com. Note that you
will no longer receive the newsletter by
postal mail.

© 2008 Skyscrapers, Inc.

The Skyscraper

February 2008

February Meeting with Dr. Geoffrey Collins

FRIDAY, FEBRUARY 1ST AT NORTH SCITUATE COMMUNITY CENTER

Dr. Collins is an Associate Professor at Wheaton Collage and graduate of the Brown University Department of Geological Sciences. His most recent publication is a new study in the journal Icarus suggesting that there may be a sea of water trapped beneath the icy surface of Saturn's moon Enceladus and what this implies for the possibility of life on other worlds.

DIRECTIONS TO THE COMMUNITY CENTER: From Seagrave Observatory: North Scituate 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, in N. Scituate. Famous Pizza is on the corner of that intersection. Parking is across the street from the Community Center.

FEBRUARY 2008

1 FRIDAY	7:30PM	February Meeting North Scituate Community Center
2 SATURDAY	7:00PM	Public Observing Night Seagrave Observatory, weather permitting
9 SATURDAY	7:00PM	Public Observing Night Seagrave Observatory, weather permitting
16 SATURDAY	7:00PM	Public Observing Night Seagrave Observatory, weather permitting
23 SATURDAY	7:00PM	Public Observing Night Seagrave Observatory, weather permitting

IN THIS ISSUE

PRESIDENT'S MESSAGE Glenn Jackson	2
LUNAR DISAPPEARING ACT Dave Huestis	3
FROM THE EDITOR Jim Hendrickson	5
FEBRUARY 2008 NOTABLE EVENTS Craig Cortis	4
NO MARS ROCK UNTURNS PATRICK L. BARRY	6
JANUARY MEETING NOTES NICHOLE MECHNIG	7
TREASURER'S REPORT JIM CRAWFORD	7

President's Message

Glenn Jackson, President

January has been a very busy even though the skies have not been that great. We seem to be either clouded in or frozen in which does not make for a good night of stargazing. However, the office of the President has been busy. Earlier in the month I put together another trip to the White Mountains of California. We have confirmed reservation at both Furnace Creek Ranch in Death Valley and at Crooked Creek Lodge at the High Altitude Research Center in the White Mountains. If you haven't participated in the past this is an observing opportunity of a lifetime. Unquestionably the best skies in the USA. I also had the opportunity to present an overview of the White Mountain trip to the ASGH at Central Connecticut State University at their monthly meeting on January 16th 2008.

Upcoming Star Parties

Tuesday February 12th, 6:30pm

Portsmouth Middle School
250 students, minimum of 10 scopes needed!

Wednesday March 12th, 7:30pm

Seagrave Observatory
40 Boy Scouts, all Seagrave telescopes need to be in operation plus

Friday March 14th, 7:30pm

Seagrave Observatory
35 Boy Scouts, all Seagrave telescopes need to be in operation plus

Wednesday February 20th

lunar eclipse party details to follow

Star party requests are at an all time high. We have two schools with 250 students each that have requested a Star Party at their location. In addition to that we have three scout troops that are working on dates. Allen Schenck taught a Boy Scout Merit Badge class and they are anxiously waiting an observing date. Plus a Home School group has requested an evening at Seagrave Memorial Observatory. The word is out on what a great opportunity is available at the observatory. As a part of our Out Reach Program we would like to honor as many of

the request as possible. Only you the members can make that happen by volunteering your time and telescopes. Volunteers are urgently needed.

Research regarding Edwin Hubble's connection to Rhode Island was request by the RI Philatelic Society. They are preparing for a new Edwin Hubble stamp that will be released March 6th 2008.

Several people received a gift of a star for Christmas. Now they are anxious to be able to locate their star and have asked our assistance in locating their star. Several star maps and constellation diagrams have been sent off. Two of the stars purchased are in the constellation of Gemini. The new owners plan on attending a Public Night to see if they can actually see their star.

Planning continues for the Lunar Eclipse on February 20th, Messier Marathon in March, Astronomy Day May 10th, Variable Star Workshop in May and AstroAssembly in September. Do you have some special talent? Are you able to assist your society in any of these projects? The organization is only as good as it's members. I hope to see you at some of the above events.

Proposed Trip to White Mountain California

June 28-July 5, 2008

Glenn Jackson

I have done some initial planning and made some initial reservations for an Observing Trip to University of California High Altitude Research Center in the White Mountains of California.

The trip would leave PVD on Saturday June 28th fly to Las Vegas, Nevada. Rent cars at the airport and drive to Furnace Creek Inn at Death Valley. Spend remainder of Saturday and all day Sunday in Death Valley. Monday travel to Crooked Creek Lodge at 10,500' above sea level for observing on Monday, Tuesday Wednesday, and Thursday nights. Friday travel to Death Valley. Saturday leave Death Valley and travel to airport in Las Vegas for the return trip home.

Expenses as I can best determine TODAY. Airfare will change +/- Southwest is not yet booking June flights. Vehicles, large Suburban that will hold four easily cost \$438/wk with a 1000 mile limit. Chevy Trail Blazers (smaller) cost \$373/wk but probably limited to 3 people with telescopes but with unlimited mileage.

The rooms at Furnace Creek Inn at Death Valley are \$125/night with 2 queen size beds. The lodging at Crooked Creek on White Mountain is \$59 per individual. Some private rooms some dorm type rooms. This includes all meals on the mountain. Meals while traveling and at Death Valley are on your own basis.

Cost as best as I can determine: Flight, Vehicle, and individual room at Death Valley \$1,211.00. Flight, vehicle and double room at Death Valley \$1,023.00.

Possible Day Trips while at Bishop California: Volcanic Tablelands and Ancient Indian Petroglyphs • Ancient Bristlecone Pine Forest • Devil's Post Pile National Monument at Mammoth Lake • Mono Lake • Bishop Creek Canyon • Rock Creek Canyon • Yosemite National Park • Sequoia National Park • Owens Valley Radio Telescope Observatory (Tour potential on Monday)

Telescopes and Equipment would have to be shipped UPS to Furnace Creek Inn at Death Valley and return shipped from the same. Or you could air fare them with you as you travel.

Date selection based on new moon. The first available date at Crooked Creek is the first week in June IF the snow is gone. There is already another group booked in the event that the snow is gone. Next new moon is July 3rd. Thus the dates June 28th - July 5th. The August new moon conflicts with Stellafane.

If you are interested, have any comments or concerns or suggestions call me 884-1513 or e-mail skyscraper Glenn@aol.com.

Lunar Disappearing Act

Dave Huestis

Location, location, location. Last August New England missed a total lunar eclipse because of our geographic position on the Earth's surface. Observers west of the Rockies were better positioned to witness that event. We only saw the first half of the eclipse before the Moon set. Well, now we will have our chance.

On the night of February 20-21, we will have an opportunity to observe a total lunar eclipse in its entirety. And we will not have to stay up until the wee hours of the morning, for totality will be over before 11:00 pm. Now if only the weather will cooperate.

A total lunar eclipse occurs when the Sun, Earth and Moon are in alignment. With the Earth placed in the middle of this celestial configuration, its shadow is projected onto the lunar surface. The duration of such an eclipse, particularly of totality, is determined by how precisely the three bodies are aligned.

We are fortunate that we

will be able to observe this total lunar eclipse from start to finish. The eclipse technically begins at 7:35 pm when the Moon slides into the Earth's light penumbral shadow. Though this initial phase is undetectable, as the Moon slides deeper into the penumbral shadow a keen-eyed observer will see a subtle shading of the lunar surface. The Moon will be moving eastward as it encounters the shadow, so the left portion of the lunar surface will slowly begin to darken. It is just prior to the Moon entering the Earth's dark umbral shadow that one notices that the moonlight looks somewhat subdued.

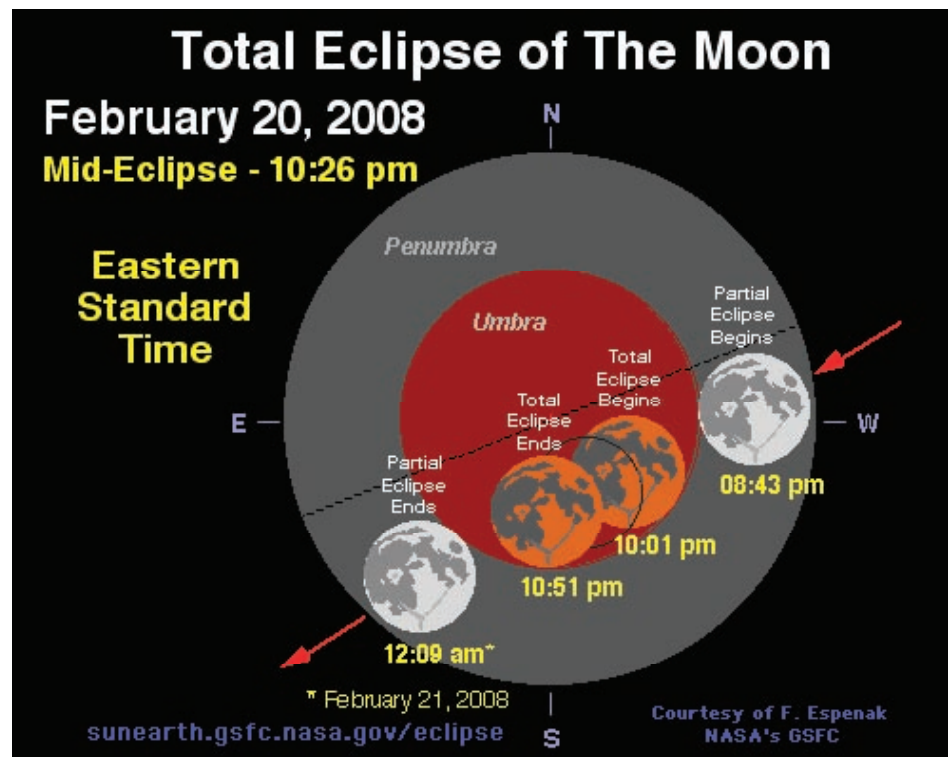
When the Moon enters that dark umbral shadow at 8:43 pm, the partial phase of the eclipse begins. For one hour and 18 minutes the Moon will move deeper and deeper into the dark shadow, generally from left to right. Then at 10:01 pm the Moon will be completely enveloped by the dark shadow and totality begins. Totality will last until 10:52 pm. That's only 51

minutes - a short duration because the Moon will not be passing through the central portion of the shadow. Will this be a dark eclipse? Will the Moon completely vanish from the sky? We'll know by mid-totally at around 10:26 pm.

During those 51 minutes of totality, note the various hues of color on the lunar surface. Enhance your view with binoculars or a small telescope if you have them. The lunar landscape often looks ashen during totality, with subtle copper, orange or red tones scattered about. And the colors often change as totality progresses. So watch carefully. It is truly a beautiful sight to observe.





Totality ends at 10:52 pm when the Moon begins to leave the dark shadow and sunlight returns to its surface. For one hour and 17 minutes the partial phase will continue until the entire Moon is completely illuminated once again, at 12:09 am. For a while the Moon's light will still look somewhat subdued as the Moon

Moon enters penumbra (eclipse begins - not detectable)	7:35pm
Moon enters umbra (partial begins)	8:43pm
Moon completely within umbra (totality begins)	10:01pm
Mid-Eclipse	10:26pm
Moon begins to leave umbra (totality ends, partial begins)	10:52pm
Moon completely leaves umbra (partial ends, penumbral begins)	12:09am
Moon leaves penumbra (eclipse ends - not detectable)	1:17am



February 2008 Notable Events

Craig Cortis

	1	7:00am	Venus 0.59° N of Jupiter
	2		Candlemas/Groundhog Day (1 of 4 Cross-Quarter Days, ½-way between solstices and equinoxes)
	6	1:00pm	New Moon
	6	10:44pm	Mercury at inferior conjunction
	8	17h UTC	Alpha Centaurids meteor shower peaks
	10	9:00pm	Neptune at superior conjunction
	13	10:33pm	First Quarter Moon
	20	10:29pm	Full Moon (Total Lunar Eclipse)
	24	4:00am	Saturn at opposition (mag 0.2)
	27	4:00am	Mercury (mag 0.3) 1.1° NNW of Venus (mag -3.9)
	28	9:19pm	Last Quarter Moon
	29		Leap Day



Bob Forgiel's astrophotography setup.

will remain within the light penumbral shadow until 1:17 am when the eclipse ends. (In a dark sky you may be able to detect this shadow soon after the partial phase completes. Thereafter the remaining phase will hardly be noticeable at all as the Moon begins to return to full brightness.)

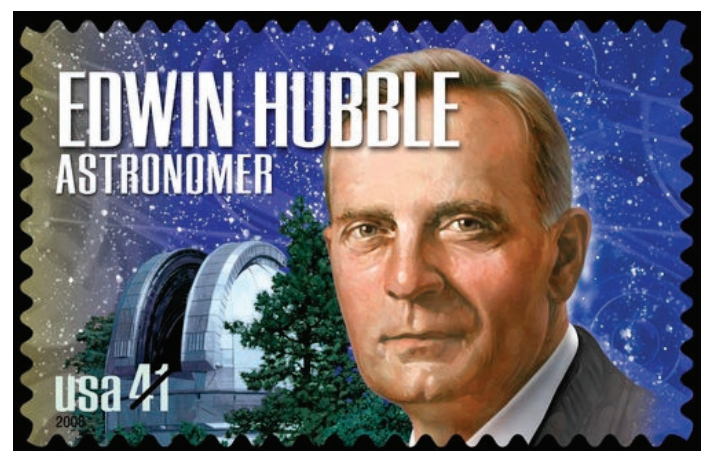
February's eclipse will occur with the Moon well above the horizon, so you shouldn't have too much difficulty finding a good location from which to observe. The event will take place in the constellation of Leo the Lion. Leo's brightest star, Regulus, will be just above the Moon, while salmon-hued Saturn will be below and a short distance to the left.

If the weather is favorable make every effort to observe this beautiful celestial show. The next total lunar eclipse for us New England won't take place until December 20-21, 2010. So make the best of this upcoming opportunity.

On page 3 is a quick glance chart of the important phases of the February 20-21, 2008 total lunar eclipse. All times are Eastern Standard Time and are approximate. I noted several discrepancies of up to a minute among the sources I researched for this article.

Good luck and keep your eyes to the skies.

And remember, Seagrave Observatory is normally open every Saturday night for public viewing, weather permitting of course. However, snow and icy conditions on the property may close the observatory in winter. Please visit our web site at <http://www.theskyscrapers.org> for information.



Release date march 6th 2008

**From the Editor:
10 Years of
The Skyscraper**

Jim Hendrickson

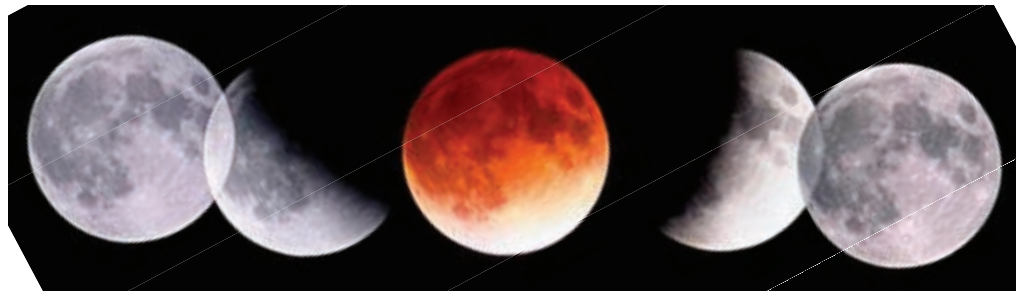
I am reminded by the recently published *75 Years of Skyscrapers* (page 42) that I became editor of *The Skyscraper* ten years ago this month. It is hard to believe that it has been a full decade, and after reading the book (several times) it is even more challenging to grasp how much how much history has passed through these pages over the past 120 issues.

Now that the book is done (thanks to Dave and Tina for making the book a reality), I've been considering other projects that could occupy the extra time I find myself with these days. I realize that the web site is in need of some updates, so plans are in the works to make it more informative, better organized, and easier to navigate. I'm also able to put more time into making the newsletter, and I will be making a new template for it in the coming months. The template used for this newsletter is the same one I built in July 2005 when I was just learning how to use Adobe Indesign. Visually, any changes will be subtle and for the purpose of making production more efficient and layout more consistent.

I plan to make 2008 the year I start an observing log (for the 3rd time) and update it on a regular basis. I have thought about it a bit during the past few weeks, but what really encouraged me was seeing Rick Lynch's presentation "40 Years of Comet Observations" at the January meeting. Thanks Rick for the inspiration. Now only if I can back-log everything I've seen since the early 1980s...

I also have been contemplating a more significant, long-term project involving the web, but I won't go into much detail on that just yet.

If you haven't ordered your copy of the *75 Years of Skyscrapers* yet, please see Dave Huestis at the next meeting. We have only about 20 copies left of the first printing.



Photos of Past Total Lunar Eclipses

Top: Lunar eclipse at Seagrave Observatory, Wednesday, October 27, 2004. Photo by John Kocur. Bottom: Lunar Eclipse multiple exposure. November 8, 2003. Photo by Bob Horton.



No Mars Rock Unturned

By Patrick L. Barry

Imagine someday taking a driving tour of the surface of Mars. You trail-blaze across a dusty valley floor, looking in amazement at the rocky, orange-brown hillsides and mountains all around. With each passing meter, you spy bizarre-looking rocks that no human has ever seen, and may never see again. Are they meteorites or bits of Martian crust? They beg to be photographed.

But on this tour, you can't whip out your camera and take on-the-spot close-ups of an especially interesting-looking rock. You have to wait for orders from headquarters back on Earth, and those orders won't arrive until tomorrow. By then, you probably will have passed the rock by. How frustrating!

That's essentially the predicament of the Spirit and Opportunity rovers, which are currently in their fourth year of exploring Mars. Mission scientists must wait overnight for the day's data to download from the rovers, and the rovers can't take high-res

pictures of interesting rocks without explicit instructions to do so.

However, artificial intelligence software developed at JPL could soon turn the rovers into more-autonomous shutterbugs.

This software, called Autonomous Exploration for Gathering Increased Science (AEGIS), would search for interesting or unusual rocks using the rovers' low-resolution, black-and-white navigational cameras. Then, without waiting for instructions from Earth, AEGIS could direct the rovers' high-resolution cameras, spectrometers, and thermal imagers to gather data about the rocks of interest.

"Using AEGIS, the rovers could get science data that they would otherwise miss," says Rebecca Castaño, leader of the AEGIS project at JPL. The software builds on artificial intelligence technologies pioneered by NASA's Earth Observing-1 satellite (EO-1), one of a series of technology-testbed satellites developed by NASA's New Millennium Program.

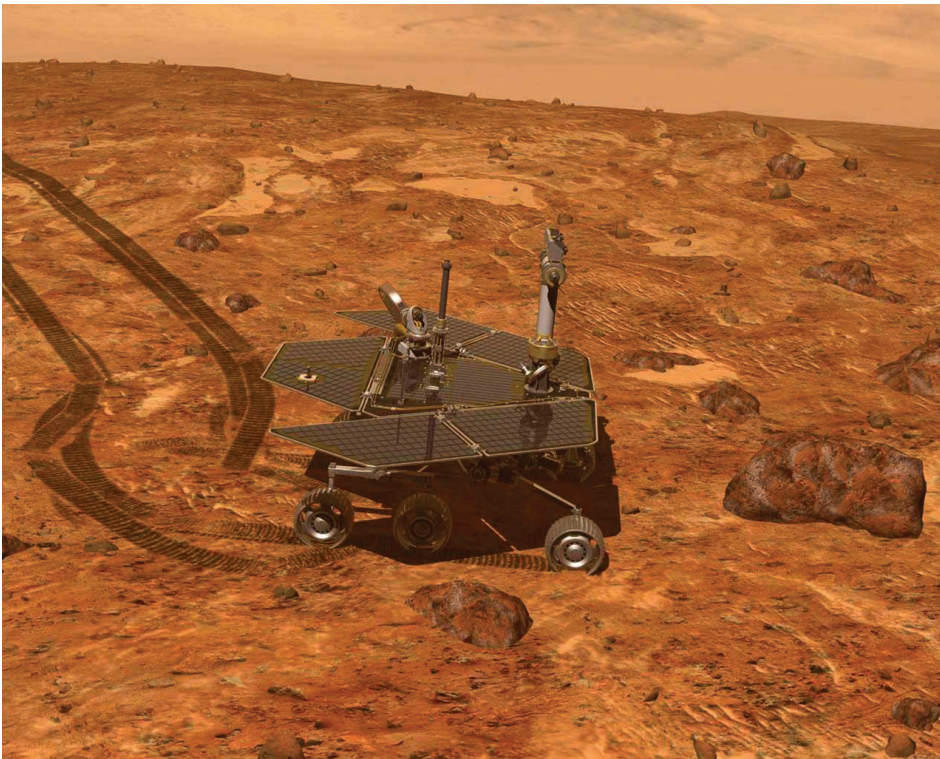
AEGIS identifies a rock as being interesting in one of two ways. Mission scientists can program AEGIS to look for rocks with certain traits, such as smoothness or roughness, bright or dark surfaces, or shapes that are rounded or flat.

In addition, AEGIS can single out rocks simply because they look unusual, which often means the rocks could tell scientists something new about Mars's present and past.

The software has been thoroughly tested, Castaño says, and now it must be integrated and tested with other flight software, then uploaded to the rovers on Mars. Once installed, she hopes, Spirit and Opportunity will leave no good Mars rock unturned.

Check out other ways that the Mars Rovers have been upgraded with artificial intelligence software at nmp/TECHNOLOGY/infusion.html#sciencecraft.

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



Are these rocks of any scientific interest? With the new AEGIS software, the Mars Rovers, Spirit and Opportunity, will be able to judge for themselves whether a scene is worth a high-resolution image. (Artist's rendering.)

January Meeting Notes

Nichole Mechnig, Secretary

Monthly Meeting, January 4, 2007, North Scituate Community Center

Meeting called to order at 7:32pm by Glenn Jackson: Glenn Jackson opened the meeting with the announcement that the 75th anniversary book was here!!

Secretary's Report: Secretary's Report for the month of November that as published in the December issue of Skyscrapers was: Approved • Secretary's Report for the month of December as published in the January issue of Skyscrapers was: Approved

Treasurer's Report: Checking Account as of 12/24/07 \$3,059.64 • Savings Account as of 12/24/07 \$15,682.36 • Treasurer's Report as published in the January issue of Skyscrapers: Approved

1st V.P. Steve Hubbard, Scheduled Speakers: February 1st Geoffrey Collins "Enceladus and Cassini" • March 7th Ken Launie "Historical Astronomy" • April 4th Alan Guth "Inflationary Cosmology" • May 2nd Arne Herndon "AAVSO" • July 12th Father Doug McDonagle "Science and Religion"

2nd V.P. Kathy Siok, Astro Assembly: looking for a new facility for the evening program • Suggestions? See Kathy

Historian Dave Huestis: Congratulations to Dave Huestis and Jim Hendrickson for a job well done on the 75th anniversary book. Followed by standing ovation!!

Librarian Tom Barbish: Nothing New to report

Star Party Coordinator Bob Forgiel: February 11th-15th 8th grade at Portsmouth 250 students TBA • March 11th 20 Boy Scouts @ Seagrave • March 1st Warwick ALAP, by Ted Ferneza

Hospitality: Dolores Rinaldi has stepped down as the chairwomen. The group thanked her for all her time and efforts.

Trustees: Bob Horton, Tracy Haley, Jerry Jeffrey: Approx 20 trees have been removed from the property • Southwest view has been improved dramatically • Parking lot is an issue because of the weather the parking lot is very mudding and the trustees would like our members to use extreme care when going over to use the scopes the trustees did not know about the New Years

Eve gathering that was going to be happening that evening until they got the e-mail sent and they asked that the trustees be notified before any large gathering occurs at the meeting hall • Gas tank no longer leaks

Expansion Committee: Jerry Jeffrey: Thalmann Engineering Quote, engineering only \$7,260 • Survey work \$1,000 • The above necessary before any expansions plans can be submitted to the town • Expansion round 2 • Port a John 2 stalls w/water, 300 gallon holding tank, handicapped accessible (Deluxe Version) \$18,000-\$22,000 • Needs to be pumped out on a regular basis

Skyscrapers field trips: Joe Sarandrea Any ideas? See Joe

New Business: New member Peter Campbell, will be voted in on the next meeting

Old Business: None

Good of the Organization: February 1st Friday meeting at the Community Center • Membership @ 106 or 90% of 2006 • Ugly Light" article front page of Sunday ProJo • Bob Napier major contributor

President Info: E-board meeting December 13th • Astro Assembly (new facility) • Capital One Money Market (transfer 10k) • Nominating Committee Jack Szelka, Joel Cohen, and Rick Lynch • Audit Committee Dave Huestis and Bob Napier • Telescopes closed 1hour/month for our guest speakers • Next E-board meeting January 24th 6:30pm @ Bentley's Tavern, come have dinner with us. (NEED BUDGET INPUT) now the time for members voices to be heard!

Messier Marathon: March 15th best date (full moon) • Next best date March 29th • Second best date March 9th • Interested in participating? See Charles Piso or Glenn Jackson

Question, Concerns or Ideas: See, call or e-mail Glenn Jackson 884-1513 or e-mail Glenn.Jackson@cox.net

Motion to adjourn meeting 9:37pm
January monthly speakers were given by the members: Jerry Dyck's "3-D Presentation" • Bob Napier "Remote and Robotic Control of a Telescope" • Rick Lynch "40yrs of Comet Observing"

Treasurer's Report

4/1/2007 - 1/21/2008

Jim Crawford, Treasurer

INFLOWS	
Anniversaryinc	1248.00
Astro Ass'y Registration and Banquet	4020.45
Other astroincome	1309.00
75th Anniversary Bookincome	1240.00
cookoutinc	442.00
Collationdonation	116.00
Other donation	150.00
TOTAL donation	266.00
Donation, Xmas Party	50.00
dues: Contributing	891.00
Family	970.00
Junior	10.00
Regular	1800.00
Senior	200.00
TOTAL dues	3871.00
Interest Inc	31.89
magincome	
Astronomymaginc	230.00
skytelmagincome	494.25
TOTAL magincome	724.25
Starparty	347.00
TOTAL INFLOWS	13559.26
OUTFLOWS	
Uncategorized	38.50
Anniversaryexp	2270.12
Astrocater	1050.00
Astrorestroom	110.00
Astrosupplies	128.76
Speaker Fee	203.18
T-Shirts	386.10
Tentrental	585.00
Other astroexp	1148.03
TOTAL astroexp	3611.07
Auto	
Fuel	20.00
TOTAL Auto	20.00
collation	410.98
Cookoutexp	650.00
Corporationfee	30.00
Insurance	
TOTAL Insurance	2397.00
Meals & Entertn	100.00
membersubscriptions	
Astronomymagexp	136.00
Skytelexp	503.24
Other membersubscriptions	126.95
TOTAL membersubscriptions	766.19
Misc	94.60
Portajohn	35.00
Postage and Delivery	61.18
Trustexp	2023.68
Utilities	
Electric	140.22
Propane	423.15
TOTAL Utilities	563.37
TOTAL OUTFLOWS	13071.69
OVERALL TOTAL	477.91
Checking Acct. (Avail Bal)	4178.96
Savings Acct. (Avail Bal)	15685.11
Capital One Acct. (Avail Bal)	102.39

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, RI 02857