

The Skyscraper

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The monthly publication of



Amateur Astronomical Society
of Rhode Island

47 Peepthead Road
North Scituate, RI 02857

www.theskyscrapers.org

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Seagrave Observatory.

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Please submit items for the newsletter by
April 15 to Jim Hendrickson, 1 Sunflower
Circle, North Providence, RI 02911 or
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The Skyscraper

April 2007

April Meeting with Dr. Darby Dyar

FRIDAY, APRIL 6TH AT SEAGRAVE OBSERVATORY

ROVERS ON MARS: JOYS AND FRUSTRATIONS OF REMOTE SPECTROSCOPY

Dr. Darby Dyar of Mt. Holyoke College will present: "Rovers on Mars: Joys and Frustrations of Remote spectroscopy"

The primary goal of Darby Dyar's research is to understand how hydrogen and oxygen are distributed throughout our solar system, particularly in terrestrial bodies such as the Earth, the Moon, Mars, and the parent bodies of meteorites. Dr. Dyar uses several different types of spectroscopy to study rocks that originated from 90- to 0-km depth in the Earth, as well as lunar rocks and Martian meteorite samples collected from Antarctica.

Dr. Dyar specializes in: Minerals; minerals and health; Mössbauer spectroscopy; Mars; Moon; planetary science; optical spectroscopy; synchrotron spectroscopy; FTIR spectroscopy; metamorphic geology; water in minerals. Her lab has one of two Mossbauer Spectrometers. The other spectrometer is on Mars.

APRIL 2007

6

FRIDAY

7:30PM **April Meeting**
Seagrave Observatory

7

SATURDAY

8:00PM **Public Observing Night**
Seagrave Observatory,
weather permitting

14

SATURDAY

8:00PM **Public Observing Night**
Seagrave Observatory,
weather permitting

21

SATURDAY

8:00PM **Public Observing Night**
Seagrave Observatory,
weather permitting

28

SATURDAY

8:00PM **Public Observing Night**
Seagrave Observatory,
weather permitting

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President's Message

Dave Huestis, President

Unless the weather changes dramatically, we expect to hold the April Skyscrapers monthly meeting back at Seagrave Observatory!!! It will be good to be back "home" once again.

April is a busy month for our organization.

First, it's election time. In this issue you will find a ballot. Follow the instructions to cast your vote. Good luck to everyone who is running for an office. Elected officers assume their positions after the May business meeting.

Second, believe it or not, April begins our 2007-2008 fiscal year. And with that membership dues are once again payable. Everyone renewing is required to fill out a renewal form so we can be sure we have the correct information in our database. More critical than ever is that we have your current email address. You can either mail your renewal in to our

mailing address, or you can renew your membership at any monthly meeting. Make checks payable to Skyscrapers, Inc. A renewal form is provided in this issue of the Skyscraper.

A quick note. If you just joined Skyscrapers during January, February or March, you do not have to renew until April 2008.

Don't forget about our May banquet on Saturday, May 5, to celebrate our 75th Anniversary. See this issue for details about this gala event.

Don't forget, we will be meeting back at Seagrave for our April meeting!

Our guest speaker for April will be Dr. Darby Dyar of Mt Holyoke College. Her presentation will be "Rovers on Mars: Joys and Frustrations of Remote Spectroscopy"

Dr. Darby's lecture will begin at 7:30 pm, followed by a refreshments break and then our business meeting.

Hope you can attend.

75TH ANNIVERSARY BANQUET & MEETING

MAY 5, 2007

To celebrate the 75th Anniversary of Skyscrapers (May 5, 1932 - May 5, 2007), a banquet is being held on Saturday, May 5, 2007, 5:30 pm, at the Cafe Romanzo in Coventry.

Where **Café Romanzo**

495 Washington Street (Rt. 117)
Coventry, RI 02816
821-8720

Schedule **5:30pm Appetizers and Dinner**

Cash Bar

Appetizers: Cheese Table • Bruschetta • Stuffed Mushrooms

Dinner (served): Fresh Garden Salad* • Penne Pasta with Pink Vodka Sauce • Chicken Kiev • Smashed Potatoes • Green Beans Almandine

Dessert Pastries* (miniature pastries made on the premises) • Coffee, Tea

* The salad and desserts are being served family style (all-you-can-eat).

8:00pm Meeting & Presentations

(members unable to attend the banquet are invited to arrive at this time for the abbreviated May monthly business meeting and special program.)

- Installation of new officers
- "Skyscrapers at 75" produced by Gerry Dyck
- "Skyscrapers - An Historical Perspective" by Dr. William Penhallow

Tickets **\$32 per person**

Tickets available from Dolores Rinaldi at all meetings or by mail.

If by mail, send check* to: **DOLORES RINALDI, 17 PEMBROKE DRIVE, JOHNSTON, RI 02919**

For more information contact Kathy Siok (kathys5@cox.net) or call 885-1608 or Dolores Rinaldi (starangel1953@aol.com).

*Checks should be made payable to: "Skyscrapers Inc."

Last Month's Total Lunar Eclipse: an Update

Dave Huestis

As many of you may know, a total lunar eclipse was scheduled to be visible from our area back on March 3. Scheduled might not be the correct word, since the eclipse was going to happen, whether we saw it or not.

At one point we had perhaps 300 people waiting at Tasca Field in Scituate for the Moon to rise. A dozen telescopes set up by Skyscrapers members dotted the landscape, waiting to be pointed at the Moon. While waiting, we showed the crowd Venus, and we talked to many individuals and families about various topics in astronomy.

Well, Mother Nature foiled us that evening. The Moon did disappear from view, but for us observers it was low, thick clouds that were the "eclipsing" agent. And those pesky clouds did not thin out until the totality phase was over. Between 7:05 pm and 7:10 pm the clouds thinned enough to see that the lunar surface was already being bathed by sunlight once

again as it slid out of the Earth's dark shadow.

A huge cheer was offered by the now small group who had stuck around, mostly our members, and perhaps 15 or so guests. Observers got a good look at the subtle shadings of orange and copper coloration on the lunar surface still within the umbral shadow. Very quickly the clouds departed and the rest of the partial phase was visible in a cloud-free sky.

Timing is everything.

And speaking of timing, the next total lunar eclipse will be on the morning of August 28. However, the Moon will be setting in the west at around 6:07 am, about 30 minutes before the mid-totality time-frame. Observers with a fairly decent view to the west will be able to watch the partial phase up until totality and moon-set.

The next total lunar eclipse seen here in its entirety will occur on February 20, 2008.



Above: Nearly 300 people joined us at Tasca Field in Scituate hoping to spot the eclipsed Moon through a stubborn overcast. Only at the very end of the eclipse did the skies clear enough to see it. Right: Dave Huestis gives an interview for the local news. Photos by Glenn Jackson.



Astronomical Events Determine Easter Observance

Dave Huestis

The motion of the heavens is a precise clock and calendar which can be used to determine when to celebrate special events. One doesn't have to observe the sky for too long a period of time to notice the cyclic phases of the Moon, or the changing position of the Sun relative to the horizon over the course of a year.

It should therefore not be surprising that many religions celebrate special events that are connected to the clockwork of the heavens. For instance, Christians celebrate Easter every year, but the date for the celebration changes. Since we can barely even remember birthdays and anniversaries that always occur on the same date, it's time for me to enlighten you with the facts of how the date of Easter is determined.

Think back to Easter celebrations of years past. Was it cold or snowy and you had to bundle up? Or, were Spring outfits proudly worn amidst warming sunlight and returning songbirds? Why the extremes of weather? Well, if the date for the celebration of Easter occurred on the same Sunday every year, our fickle New England weather could easily account for the differences in attire.

However, in some years Easter can occur as early as March 22 or as late as April 25. Why this range? The varying date for the observance of Easter is determined by astronomical circumstances. And in 2007 Easter is celebrated almost midway between these two dates, on April 8.

The story began many moons ago when the

Christian Church first developed. Since this holy day was determined in conjunction with Passover, Easter often fell on a weekday. However, in 352 A.D. the Council of Nicaea declared that it should always fall on a Sunday. They determined that Easter would fall on the first Sunday after the Full Moon on or next after the vernal equinox (Spring... March 20 or 21). However, if the Full Moon occurs on a Sunday, Easter is celebrated on the following Sunday. This scenario happened in 2001.

This year the vernal equinox was on Tuesday, March 20, at 8:07 pm, EDT. The Full Moon on or after that date occurs on Monday, April 2. Therefore, Easter is celebrated on Sunday, April 8, six days after the Full Moon.

People aren't as observant of sky happenings these days as they once were long ago. Light pollution in and surrounding urban areas has blocked all but the brightest stars and planets from view. The Milky Way galaxy, our own island universe, can now be seen to best advantage only from dark rural skies. Let's not lose our connection to the stars from which we were born. Proper lighting can promote safety if effectively installed. Keeping stray light from polluting the night sky will allow starlight to shine down from the heavens. Then maybe folks will begin to notice and appreciate the beauty of the starry heavens once again.

Have a happy Easter, and remember to keep your eyes to the skies!

April Meteor Shower

Dave Huestis

I haven't written about the April Lyrids for a few years now because the shower had been in decline, and the observing conditions were always poor to fair at best. Well, this year the shower will be best observed on the peak night of April 22-23, after the almost first quarter Moon sets around 1:00 am on the 23rd.

The constellation Lyra, from where the meteors will appear to radiate, will be well up in the eastern sky at this time. The swift and bright Lyrid meteors disintegrate after hitting our atmosphere at a

moderate speed of 29.8 miles per second. They often produce luminous trains of dust that can be observed for several seconds.

Even with the Moon gone from the sky, perhaps no more than a dozen or so meteors per hour can be seen by an observer well away from city lights. Since the Lyrids are a narrow stream of particles, expect less than six meteors per hour maximum during the night before and the night after peak.

Good luck. Let's hope a rain shower doesn't spoil the view!

Early Bird Gets the Worm or "Black Hole Breakfast"

by Dr. Tony Phillips

We all know that birds eat worms. Every day, millions of birds eat millions of worms. It's going on all around you! But how often have you awakened in the morning, stalked out in the dewy grass, and actually seen a bird having breakfast? Even though we know it happens all the time, a bird gulping a worm is a rare sight.

Just like a black hole gulping a star...

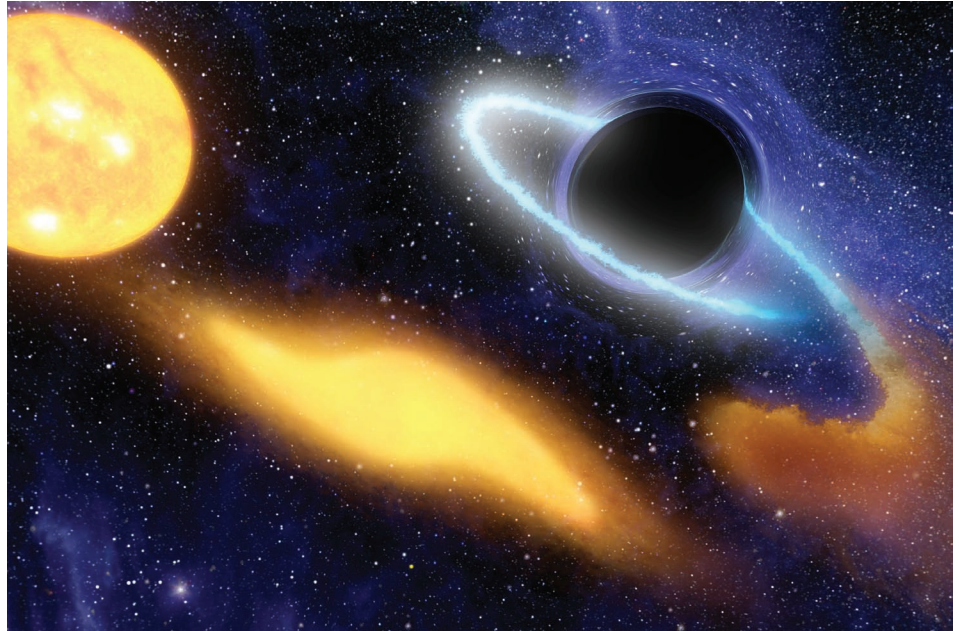
Every day in the Universe, millions of stars fall into millions of black holes. And that's bad news for the stars. Black holes exert terrible tides, and stars that come too close are literally ripped apart as they fall into the gullet of the monster. A long burp of X-rays and ultraviolet radiation signals the meal for all to see.

Yet astronomers rarely catch a black hole in the act. "It's like the problem of the bird and the worm," says astronomer Christopher Martin of Caltech. "You have to be in the right place at the right time, looking in the right direction and paying attention."

A great place to look is deep in the cores of galaxies. Most galaxies have massive black holes sitting in their pinwheel centers, with dense swarms of stars all around. An occasional meal is inevitable.

A group of astronomers led by Suvi Gezari of Caltech recently surveyed more than 10,000 galactic cores — and they caught one! In a distant, unnamed elliptical galaxy, a star fell into a central black hole and "burped" a blast of ultraviolet radiation.

"We detected the blast using the Galaxy Evolution Explorer (GALEX),



In this artist's concept, a giant black hole is caught devouring a star that ventured too close.

an ultraviolet space telescope," explains Gezari. Her team reported the observation in the December 2006 issue of *The Astrophysical Journal Letters*. "Other telescopes have seen black holes devouring stars before," she adds, "but this is the first time we have been able to watch the process from beginning to end."

The meal began about two years ago. After the initial blast, radiation diminished as the black hole slowly consumed the star. GALEX has monitored the process throughout. Additional data from the Chandra X-ray Observatory, the Canada-France-Hawaii Telescope and the Keck Telescope in Hawaii helped Gezari's team chronicle the event in multiple wavelengths

Studying the process in its entirety "helps us understand how black holes feed and grow in their host gal-

axies," notes Martin.

One down, millions to go.

"Now that we know we can observe these events with ultraviolet light," says Gezari, "we've got a new tool for finding more."

For more on this and other findings of GALEX, see www.galex.caltech.edu. For help explaining black holes to kids, visit The Space Place at spaceplace.nasa.gov.

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

Skyscrapers 2007-08 Elections Ballot

Please fill out this ballot and bring it to the Skyscrapers' Annual Meeting on Friday, April 6, 2007, or mail it to the address below:

Skyscrapers, Inc. - Ballot
47 Peepoad Road
North Scituate, RI 02857

Mailed ballots must arrive at Skyscrapers by the April 6th Annual Meeting. **Mailed ballots and ballots brought to the meeting must have the member's name on the outside of the envelope for membership verification.** All entries must be marked "Ballot" on the envelope. Verified ballots will be accepted and counted without identity.

PRESIDENT

- Glenn Jackson _____
- (write-in) _____

1ST VICE PRESIDENT

- Steve Hubbard _____
- (write-in) _____

2ND VICE PRESIDENT

- Kathy Siok _____
- (write-in) _____

SECRETARY

- Nichole Mechnig _____
- (write-in) _____

TREASURER

- Jim Crawford _____
- (write-in) _____

* Dolores Rinaldi has withdrawn her nomination for Treasurer.

MEMBERS AT LARGE (CHOOSE 2)

- Rick Arnold _____
- Jim Brenek _____
- Joe Sarandrea _____
- (write-in) _____
- (write-in) _____

TRUSTEE

- Jerry Jeffrey _____
- (write-in) _____

March Meeting Notes

Mercedes Rivero-Hudec, Secretary

March 2, 2007, North Scituate Community Center

FEATURED SPEAKER: Our guest speaker was **Dr. F. Peter Schloerb** from the Astronomy Department, University of Massachusetts (Amherst); the title of Dr. Schloerb's seminar was "Large Millimeter Telescope." The large millimeter telescope (LMT or el gran telescopio milimétrico) is under construction in Mexico; it is the largest collaborative project between the US (University of Massachusetts at Amherst) and Mexico (Instituto Nacional de Astrofísica, Óptica y Electrónica - INAOE). It is a 50-m diameter dish, whose base is about the size of a baseball diamond; it is capable of continuum and spectroscopic mapping at millimeter wavelengths. Millimeter waves offer views that are invisible to large optical telescopes, e.g. molecular clouds (coldest and densest forms of interstellar gas and dust). Upon completion the LMT will be the most sensitive, single antenna for millimeter-wave astronomy.



BUSINESS MEETING: The business meeting was called to order by **President Huestis** at 9:15 p.m.

SECRETARY'S REPORT: Approved as posted in the February issue of *The Skyscraper*. • Amendments to the January 2007's report presented and accepted at the February meeting were: a reminder about the 75th anniversary (under historian's report); **Jerry Jeffrey** announced that **Bob Horton** was elected trustee (under old business); **President Huestis** thanked **Rick Lynch** for donating a display case, and **Bob Horton** and **Rick Lynch** expressed a desire to and volunteered to turn the anteroom into a museum to display Seagrave and Skyscrapers history (under item 4, presidential announcements).

TREASURER'S REPORT: Approved as posted in the February issue of *The Skyscraper*.

TRUSTEES' REPORT: Trustee **Bob Horton** announced that the Observatory Committee will meet on March 31.

MONTHLY SPEAKER: First vice-president **Glenn Jackson** announced that April's speaker will be Dr. Darby Dyar from Mount Holyoke.

LIBRARIAN'S REPORT: Tracey **Haley** announced that **Sam Robbins** made several donations to the library: "Intrinsic Redshift" by Halton Arp, 2000 (video); and "Hamlet's Mill: an essay on myth and the frame of time" by Giorgio de Santillana and Hertha von Dechend, 1969 (book).

75TH ANNIVERSARY: **Kathy Siok** reminded the membership about the dinner on May 5 at Café Romanzo in Coventry, and about other opportunities to celebrate, such as the July picnic and AstroAssembly. **Kathy** also mentioned that orders can be placed for commemorative hats and shirts.

OLD BUSINESS: The pending motion to admit **Ed Haskell** into membership was passed.

NEW BUSINESS: **Lee Carpenter**, a new applicant, was introduced to the membership. His application will be voted on at the April meeting under old business. • **Bob Napier**, chair of the nominations committee, presented the slate of candidates: president - **Glenn Jackson**, first vice-president - **Steve Hubbard**, second vice-president - **Kathy Siok**, secretary - **Nicole Mechnig**, treasurer - **Jim Crawford**, members at large - **Jim Brenek** and **Rick Arnold**, trustee - **Jerry Jeffrey**. There were two nominations from the floor: treasurer - **Dolores Rinaldi**, member at large - **Joe Sarandrea**.

GOOD OF THE ORGANIZATION: **Ted Femeza** announced that **Dolores Rinaldi** purchased a globe showing constellations, to be used for educational purposes. • **Jim Brenek** made a new clamp for the Clark's eyepiece. • Two members - **Joel Cohen** and **Mercedes Rivero Hudec** - mentioned they attended "The Great Pluto Debate" at the Clay Center, Brookline, MA; the two members presented their views about the debate, as well as their personal opinions about Pluto. • **Bob Napier** mentioned that streaming videos can be seen at the IAU (International Astronomy Union)'s website. • Reminder about total lunar eclipse tomorrow, March 3.

PRESIDENT'S ANNOUNCEMENTS: • Next meeting on April 6, at Seagrave, weather permitting. • Reminder about the Steere Farm School's star party on March 23 in Pascoag, Burrillville • Mark Bronson, member of the

Alberta, Calgary RASC purchased under 500 issues of S&T from Skyscrapers and made a donation to Skyscrapers' archive preservation fund. Thank you, Mr. Bronson! • **Greg Shanos** says hi from Florida.

ADJOURNMENT: The business meeting was adjourned at 10:00 p.m.

TREASURER'S REPORT

Al Schenck, Treasurer

April 1, 2006 - Mar 21, 2007

INFLOWS	
Uncategorized	0.00
Anniversaryinc	448.00
astroincome	
Astroad	90.00
astrobanquet	1,615.00
astrogrille	328.15
astoraffle	1,176.00
astroregistration	1,978.00
TOTAL astroincome	5,187.15
Bookincome	750.00
cookoutinc	441.00
donation	
Collationdonation	37.00
Other donation	152.57
TOTAL donation	189.57
dues	
Contributing	1,096.00
Family	1,200.00
Senior	181.00
Other dues	2,120.00
TOTAL dues	4,597.00
Interest Inc	59.48
magincome	
Astronomymaginc	335.95
skytelmagincome	527.20
TOTAL magincome	863.15
magsales	221.00
Starparty	463.00
TOTAL INFLOWS	13,219.35
OUTFLOWS	
astroexp	
Astrocateter	1,170.00
astrogrillexp	129.69
Astroprinting	136.21
Astroreception	259.78
Astrorefund	34.00
Astrorestroom	110.00
Astroshuttle	25.00
Astrosupplies	148.00
Hallrental	150.00
Raffle	5.00
Tentrental	500.00
TOTAL astroexp	2,667.68
bldgandgrounds	140.00
Bookexp	802.50
Clarkproject	300.00
clubsubscription	60.00
collation	343.51
Cookoutexp	503.13
Corporationfee	20.00
Discretionary	125.00
Insurance	
Other Insurance	2,322.00
TOTAL Insurance	2,322.00
membersubscriptions	
Astronomymagexp	306.00
Skytelexp	560.15
Other membersubscriptions	34.00
TOTAL membersubscriptions	900.15
Newsletter	8.58
Portajohn	130.00
Postage and Delivery	13.26
Stevebellfunction	99.59
Trusteexp	200.00
Utilities	
Electric	153.61
Propane	49.86
TOTAL Utilities	203.47
TOTAL OUTFLOWS	8,838.87
OVERALL TOTAL	4,380.48

SKYSCRAPERS, INC. MEMBERSHIP RENEWAL

NAME _____
 ADDRESS _____

 CITY _____
 STATE _____ ZIP _____
 PHONE _____
 EMAIL _____

Membership Dues

	Annual Dues (choose one category)
JUNIOR (13-17) <input type="checkbox"/>	\$10
REGULAR <input type="checkbox"/>	\$40
FAMILY <input type="checkbox"/>	\$50
SENIOR (65+) <input type="checkbox"/>	\$10
CONTRIBUTING <input type="checkbox"/>	
(any amount in excess of annual dues is gratefully accepted as a donation) \$ _____	

Magazine Subscriptions*

Members may optionally subscribe to the following publications at a significant discount from their regular subscription rates.

*Magazine subscription rates subject to change at any time.

ASTRONOMY \$29.95*
 (\$13 savings)

SKY & TELESCOPE \$32.95*
 (\$10 savings)

TOTAL \$ _____

(Make check payable to Skyscrapers, Inc.)

Mail to:
 Membership Secretary
 Skyscrapers, Inc.
 47 Peepload Road
 North Scituate, RI 02857



47 PEEPTOAD ROAD
 NORTH SCITUATE, RI 02857