

# 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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See back page for directions to  
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# The Skyscraper

March 2006

## March Meeting with Dr. Steven D'Hondt

FRIDAY, MARCH 3RD AT NORTH SCITUATE COMMUNITY CENTER

### THE NATURE AND ASTROBIOLOGICAL SIGNIFICANCE OF LIFE BENEATH EARTH'S SEAFLOOR

A better understanding of the Earth's deep biosphere is essential because it can serve as a model for life on other planets, and it is a critical component of the Earth's biogeochemical cycles. The University of Rhode Island (URI) Team works to gain a fundamental understanding of the life in deeply buried marine sediments. Interdisciplinary sets of projects are carried out to take advantage of the considerable URI expertise in marine sedimentary microbiology, sedimentary biogeochemistry and deep ocean drilling. URI objectives are to understand the subsurface microbial ecosystems of marine sediments, their role in Earth's biogeochemical cycles, and their relevance to the search for life on other planets

Dr. D'Hondt, NASA Principal Investigator from the University of Rhode Island and NASA Astrobiology Institute, will give a presentation entitled The Nature and Astrobiological Significance of Life Beneath Earth's Seafloor

**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.

## MARCH 2006

**3**

FRIDAY

7:30PM **March Meeting**  
North Scituate Community  
Center

**4**

SATURDAY

7:00PM **Public Observing Night**  
Seagrave Observatory,  
weather permitting

**11**

SATURDAY

7:00PM **Public Observing Night**  
Seagrave Observatory,  
weather permitting

**18**

SATURDAY

7:00PM **Public Observing Night**  
Seagrave Observatory,  
weather permitting

**25**

SATURDAY

7:00PM **Public Observing Night**  
Seagrave Observatory,  
weather permitting

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## President's Message

*Dave Huestis, President*

Once again please accept my apologies for the lack of a speaker for the February monthly meeting. Our speaker, Ron Dantowitz, failed to arrive that evening. He had mistakenly penned his engagement with us for February 4.

Ron sent an email to Glenn Jackson and asked to express his apologies to the members of Skyscrapers. A portion of that email is copied here:

"I was so looking forward to visiting with you all... Had a special presentation for your folks with some never before seen images. Please extend my sincere apologies to the Skyscrapers."

This situation very rarely occurs, but we have implemented some new guidelines to help prevent this unfortunate incident from happening in the future.

Thanks to Bob Howe for his contribution in this issue to the "How I Became an Amateur Astronomer" series. Gerry Dyck is on deck for April. I'm looking for someone to take us into May and beyond. Share your story with the membership.

Don't forget that elections are coming up in April. We are still looking for a treasurer to round out the ballot. If you can help out our great organization we'd surely appreciate it. Contact Dan Lorraine or myself before the March meeting.

We are pleased to welcome to Skyscrapers Dr. Steven D'Hondt, NASA Principal Investigator from the University of Rhode Island and NASA Astrobiology Institute. His talk will be on "The Nature and Astrobiological Significance of Life Beneath Earth's Seafloor." A better understanding of life in the Earth's marine sediments can help us search for life on other planets.

Please be advised: Dr. D'Hondt's talk will begin sharply at 7:30 pm, followed by our refreshment break and then our business meeting.

And don't forget, our March monthly meeting will be held on March 3 at the North Scituate Community Center. If weather is an issue, those with email will be so informed. WPRO AM, WPRO FM and B101 will carry any necessary cancellation announcement as well. You can find other meeting cancellation information on our web site.

See you at the March monthly meeting.

## How I Became an Amateur Astronomer

*Bob Howe*

Well, Let Me See –

I guess it all started when I was 8 or 9 years old. Once again, November arrived and, at this time, the frostfish also arrived on the sandy shores of upper Narragansett Bay. These are Whiting, normally about 12" long; they chase shiners along the beaches and are very tasty! One needed a pair of boots, a sharp spear and a light of some sort. On a clear, calm and cool night we were usually successful.

Now, shoreline fish after dark also meant a sky full of stars! I, with my Dad, plied the still waters in the early evenings but, the sky above beckoned. In the mid 1940's we were under wartime blackout conditions and it was truly dark!

I never asked my Dad how he came to know the sky and, much later, I realized his knowledge was sketchy at best but, for then, he was my mentor. He knew Cygnus, Ursa Major and Orion. I was amazed at the ease of how to find the North Star.

I remember at one of my Cub Scout outings I was the only one who could find night time North!



Bob Howe with his home-built 8-inch Dobsonian telescope.

I know I missed a lot of fish because I spent a lot of time looking up!

At 9 years old I received my own boots-Size 9-My feet swam in them and, sometimes literally, as often the fish were out too deep and I flooded over

the top.

The next summer, I attended a camp in N.H. and, for the first time, looked through a telescope at the Moon. I've never forgotten that experience and, often hope that the youngsters we entertain at our observing sessions might also be moved to an interest in the heavens.

In the years to follow, at camp in N.H. and Scout Camp, I won several Astronomy prizes and my Astronomy Merit Badge. But, as often happens, the pre teen and high school years showed me other things that occupied my attention. Oh, there were those times when a glance upwards still showed that which I had always seen before, still there. There was a partial solar eclipse in the late 1940's and Dad helped me make a pinhole box-not impressed!

High school and college flew by and I found myself aboard a Navy ship heading for Florida. There was a bright and large comet in the sky that I couldn't get enough of. (Mar. '56). With the very dark ocean sky,

the comet and stars together was a wonderful sight.

After several more years-marriage, children and other priorities, I slowly got back to looking up more often and needed to get reacquainted since my children were now entering scouts and we always did 'sky stuff' at our overnights.

I found a totally clapped out 4" reflector in a junk pile, fixed it up, somehow got it collimated and was off and running. When I saw the Orion Nebula for the first time I was completely hooked.

In the 1960's, my Dad was taking courses at Brown with Dr. Smiley and he started getting Sky and Tel. Which I poured over immediately and grabbed the sky chart to work with. That took some getting used to as there was a huge difference in scale from chart to sky!

After many frustrating months in my yard dodging trees and a huge lacking in my expertise, I joined Skyscrapers in 1987 or '88,— And as is often stated, That's a whole 'nuther' story!

## Springtime for Stargazers

*Dave Huestis*

Are you tired of these winter months? Can't wait for spring? Well, it's been absolutely lousy for amateur astronomers the last few months. First we had the snow and cold of December and early January, then the rain and mild weather of most of January. There haven't been many clear nights when we stargazers could scan the heavens with our telescopes.

I feel sorry for any of you who may have received a telescope for the holidays and haven't had many decent nights to explore the night sky. Though we will shortly transition into another season, that doesn't necessarily mean the good weather will follow. Don't forget, we had snow during the first week of May back in 1977! Yes, every year seems to surprise us with a few new extremes that rewrite the record books. I'm not sure where or when I heard this quote, but it is very appropriate when describing New England weather, "Climate is what you expect. Weather is what you get!"

Well, spring occurs astronomically when the Sun crosses the Earth's equator on its journey northward in our sky. Actually, it's the tilting Earth that causes the Sun's apparent motion. The date and time of the vernal equinox this year is March 20 at 1:26 pm. If you were

standing at any point on the equator you would see the Sun directly overhead at local noon. The Sun will continue its northward trek until it reaches a point directly above the Tropic of Cancer, a line of latitude. That is the time when we northern hemisphere dwellers experience the beginning of summer, called the summer solstice, in June. The Sun doesn't move any more northward in our sky. It is always south of a point directly overhead at local noon.

So let's hope that when spring technically arrives on March 20, Mother Nature will reward us with some warm weather conditions and cloud free skies. At least that's a goal I hope can be met, for we still have Mars high overhead soon after it gets dark enough for observing. And don't forget Saturn, more than halfway up above the eastern horizon. It will be another month or so before we can observe Jupiter early in the evening, but if you want to get a jump on observing this gas giant, Jupiter pops above the eastern horizon just after 11:00 pm at the beginning of the month. I'll give you a few more details about Jupiter observing in a future column.

The only major event during March for us is a penumbral lunar eclipse. That type of eclipse is where the Moon



John Kocur snapped this image with his digital camera held up to the eyepiece of the Clark refractor at Seagrave Observatory on February 3.



slides into the dim portion of the Earth's shadow. It can be hard to detect, especially if you don't know it's occurring. And this particular one is already in progress as the Moon rises on the 14th. The Moon rises around 5:38 pm, and the maximum effect of the penumbral shadow can possibly be seen just over an hour later at 6:47 pm. However, when the Moon is this low in the sky, it usually displays orange hues due to atmospheric effects. You may not notice anything unusual at all. Though the Moon will rise higher and higher every minute, it will also continue to move out of the lighter shadow. Depending upon sky conditions an observer may see a slight pale shading of the lunar surface that is closest to the eastern horizon. The eclipse ends at 9:13 pm. Give it a try and see if you can detect any evidence of this celestial event.

Watch for news from Africa and Turkey on the 29th regarding a total solar eclipse from that part of the world. Northern Africa will see the Sun completely obscured by the Moon for just over four

## Secretary's Report

*Joel Cohen, Secretary*

Monthly Meeting

February 3, 2006, North Scituate Community Center

Meeting Start - 7:45 PM

**Secretary's Report** - accepted as published

**Treasurer's Report** - accepted as read and posted

**Trustees' Report** - Jack Szelka reported some wind damage to the Clark Dome was under repair but that the major portion of the work may need to wait until better weather. Squirrels have caused some damage to the Clark Ante Room ceiling and Ted Ferneza has been able to remove all suspected live squirrels from the building.

**Upcoming Speakers** - in addition to the list of upcoming speakers published on the website, Glenn Jackson announced Jay Pasachoff will be the featured speaker at the Annual Cookout in July 2006.

**Librarian's Report** - Dan Lorraine reported that two telescopes were loaned out last meeting.

**Historian's Report** - Dave Huestis announced that, through the efforts of Dan Lorraine's contact with Bill Sheehan, Skyscrapers was able to obtain copies of correspondence between Percival Lowell and Frank Seagrave. The correspondence concerned Lowell's desire to have the calculations regarding the orbits of the as yet undiscovered Pluto be performed by Seagrave. We thank both Dan and Bill for this important historical confirmation.

**Nomination Committee** - Dave reported that most positions for the upcoming year have candidates but that a few still need to be addressed. Please contact Dan Lorraine and offer your time.

**New Business** - Membership applications were received for

minutes, while Turkey experiences this breathtaking phenomenon for just over 3« minutes. Unfortunately we are too far from the eclipse path to witness even a partial solar eclipse.

Finally, on the 30th, check low in the western sky after sunset and see if you can spot what "Alice in Wonderland" would think was the Cheshire Cat. Hanging directly above the sunset point will be a very thin crescent Moon, with the cusps of the Moon pointing upwards and away from the Sun. It will look a big grin!

Seagrave Observatory is open to the public every Saturday night, weather and condition of our parking lot permitting of course. Though the skies may be clear, if our parking lot is inaccessible due to snow and ice, we will remain closed. Check our web site at <http://www.theskyscrapers.org> for snow/ice cancellations.

Keep your eyes to the skies.

Kevin Correnti and Janet Bessette.

**Old Business** - The memberships of Larry Gould and family, Steve Massarone, and Gregory LaQuadra were accepted unanimously.

**Good of the Organization** - Heavens Above website now offers tracking and position information on the debris from International Space Station set adrift in a Russian spacesuit complete with radio transmitter sending regular signals. Dan Warren announced that RIC was hosting a talk by Dr. Darby Dyer on Missions to Mars.

Your writer shared comments that viewing Saturn with the Clark recently brought the clearest, brightest, most detailed images I've ever seen. Saturn is just starting to move away from opposition which occurred the weekend of January 27th.

Dan Lorraine talked about the upcoming trip to New Mexico and asked that any one interested in joining the traveling group contact him. Dave thanked Steve Hubbard for his article in the recent Skyscraper. Dave noted that the Observer was recently purchased by the Valley Breeze and appreciated the support given our organization over the years by the staff at the Observer. Dave mentioned the RI State Science Fair, March 11th and that the organization usually presents an award for the best exhibit related to astronomy. Dave also asked for volunteer judges for the event.

Jack Szelka asked for volunteers for the upcoming star parties. Please respond to his e-mails.

E-board meeting scheduled for Feb 4th at 4 pm at the Meeting Hall. Topics include: Budget for Astro Assembly and renewal for the Domain Name.

Adjournment - 8:13 PM

Following refreshments a number of members went to the Observatory as our monthly speaker had a scheduling error. ( see forwarded apology in President's e-mail )

# Micro-sats with Macro-potential

by Patrick L. Barry

Future space telescopes might not consist of a single satellite such as Hubble, but a constellation of dozens or even hundreds of small satellites, or "micro-sats," operating in unison.

Such a swarm of little satellites could act as one enormous telescope with a mirror as large as the entire constellation, just as arrays of Earth-bound radio telescopes do. It could also last for a long time, because damage to one micro-sat wouldn't ruin the whole space telescope; the rest of the swarm could continue as if nothing had happened.

And that's just one example of the cool things that micro-sats could do. Plus, micro-sats are simply smaller and lighter than normal satellites, so they're much cheaper to launch into space.

In February, NASA plans to launch its first experimental micro-sat mission, called Space Technology 5. As part of the New Millennium Program, ST5 will test out the crucial technologies needed for micro-sats—such as miniature thrust and guidance systems—so that future missions can use those technologies dependably.

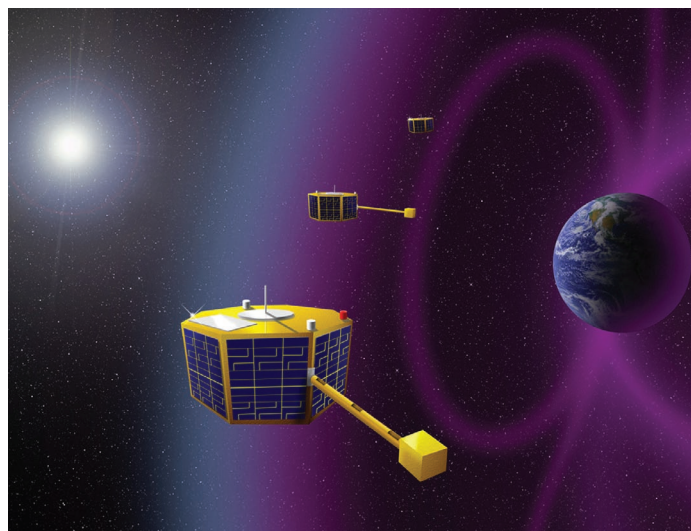
Measuring only 53 centimeters (20 inches) across and weighing a mere 25 kilograms (55 pounds), each of the three micro-sats for ST5 resembles a small television in size and weight. Normal satellites can be as large and heavy as a school bus.

"ST5 will also gather scientific data, helping scientists explore Earth's magnetic field and space weather," says James Slavin, Project Scientist for ST5.

Slavin suggests some other potential uses for micro-sats:

A cluster of micro-sats between the Earth and the Sun—spread out in space like little sensor buoys floating in the ocean—could sample incoming waves of high-speed particles from an erupting solar flare, thus giving scientists hours of warning of the threat posed to city power grids and communications satellites.

Or perhaps a string of micro-sats, flying single file in low-Earth orbit, could take a series of snapshots of violent thunderstorms as each micro-sat in the "train" passes over the storm. This technology would combine the continuous large-scale storm monitoring of geosynchronous weather satellites—which orbit far



The Space Technology 5 mission will test crucial micro-satellite technologies.

from the Earth at about 36,000 kilometers' altitude—with the up-close, highly detailed view of satellites only 400 kilometers overhead.

If ST5 is successful, these little satellites could end up playing a big role in future exploration.

The ST5 Web site at [nmp.jpl.nasa.gov/st5](http://nmp.jpl.nasa.gov/st5) has the details. Kids can have fun with ST5 at [spaceplace.nasa.gov](http://spaceplace.nasa.gov), by just typing ST5 in the site's Find It field.

This article was provided by 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, RI 02857