

SKYLIGHTS

Newsletter of the Astronomical Society of Northern New England



MAR. 2009



Member of NASA's
Night Sky Network



Astronomical League
Member

ASNNE MISSION

ASNNE is an incorporated, non-profit, scientific and educational organization with three primary goals:

- 1) To have fun sharing our knowledge and interest with others.
- 2) To provide basic education in astronomy and related sciences to all who are interested.
- 3) To promote the science of Astronomy.

What's Up In March

By Bernie Reim

The name of March comes from ancient Rome when it was the first month of the year and named after the Roman god of war. March always marks the beginning of spring in the northern hemisphere. That will happen at 7:44 am on Friday the 20th. Also called the vernal equinox, this moment is further defined by the sun on the ecliptic crossing over the celestial equator heading northward, higher into the sky. That day, along with the fall equinox in September, are the only two days each year that the sun rises due east and sets due west everywhere on Earth except at the poles. The days and nights will also be of equal length everywhere on Earth except at the poles within a few days of the two equinoxes.

Other than spring finally returning after another long winter, there will be four other interesting highlights this month. Venus will reach inferior conjunction with the sun later this month which means that it will be visible as a large and very thin crescent even without binoculars in both the evening and morning sky. Saturn reaches opposition on the 8th, and Comet Lulin, which was at its best towards the end of last month, will still be visible this month. Then Mercury, Mars, and Jupiter will continue their dance low in the morning sky 30 minutes before sunrise.

Our sister planet, Venus, which is about the same size as Earth, will reach inferior conjunction with the sun on March 27. That means that Venus and Earth will be lined up with the sun that day. That happens every 584 days, or about a year and a half. If we were also in the same plane, a transit of Venus across the face of the sun would occur. That last happened on June 8, 2004 and will happen again on June 6, 2012. After that pair of transits, we will have to wait 105 years for the next pair to occur.

Venus orbits the sun at 21.7 miles per second and the earth is a little slower at 18.6 miles per second. The ancient Mayans care-

fully studied the different patterns Venus etched into the sky and understood our neighboring planet quite well. Venus is just finishing a period of 260 days of being in our evening sky as the evening "star". Then it normally disappears for about a week around inferior conjunction until it emerges in the morning sky, where it will be for another 260 days until it reaches superior conjunction on the far side of the sun. It then disappears for nearly 2 months until it once again appears in the evening sky.

This year is special because every 8 years around inferior conjunction when Venus passes farther north of the sun than usual, it becomes visible at both dawn and dusk for three days. Since it is closest to Earth now, Venus is at its largest, nearly one full arc minute of the sky or only 30 times smaller than the full moon, which covers 30 arc minutes or half a degree of the sky. Venus is so close now that you can easily see its dramatic extremely thin crescent in binoculars, and many people will also be able to see its phase even without any optical aid.

If you look at Venus through a telescope for a few evenings before its conjunction, you

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will actually see that its crescent is more extreme than just a crescent moon. Due to sunlight scattering through its thick and poisonous atmosphere, the crescent will appear to extend almost all the way around the planet. This reminds me of that rare and exciting transit that I saw on June 8 of 2004. Since Venus is 100 times smaller than the sun, it took several minutes to appear to separate from the sun. I was watching it in astonishment that foggy morning because instead of just seeing a black dot emerging from the sun, I actually saw a very delicate, thin, brightly glowing silver semicircular arc around the planet outlined against the blackness of space through the telescope with a good solar filter. That was the very atmosphere of Venus backlit by the powerful sun, another 60 million miles behind the planet.

Saturn reaches opposition on March 8. It will be directly opposite the earth from the sun, similar to a full moon. That means the ringed planet will rise at sunset, reach its highest point in our sky at midnight, and not set until sunrise. All the superior planets from Mars out to Neptune go through opposition. That is the best time to see them because they are also closest to earth and brightest in the sky at that time. Saturn now glows with a soft golden light near the hind foot of Leo the lion. Through a telescope you would notice that its famous rings are very thin now, tilted just 2 degrees from edgewise.

Comet Lulin was discovered by a Chinese astronomer at the Lulin observatory in Taiwan back on July 11 of 2007. It became the brightest comet since Comet Holmes about a year and a half ago. Comet Lulin was at perigee, or closest to the earth at 38 million miles on the 24th of last month. It was in Leo in the evening sky near Saturn at that time and may have become bright enough to see without binoculars. Its glowing coma is 300,000 miles across, or 3 times the diameter of Jupiter. Its tail can stretch for tens of millions of miles and contains cyanogen and other poisonous gases, but is far too diffuse to affect anyone on Earth even if we pass right through the tail, which happens with a few comets. On March 5 Comet Lulin will pass right through the Beehive star cluster in Cancer. This comet is moving through our sky very fast, 5 degrees per day, because it is orbiting the sun in the opposite direction of all the planets.

March 1. Mercury, Mars and Jupiter are close together in the morning sky looking east-southeast. Then Mercury drops out and Mars and Jupiter get a little higher in the sky.

March 4. First quarter moon is at 2:46 a.m. EST.

March 6. Vega 1 made a close approach to Halley's Comet on this day in 1986.

March 8. Saturn is at opposition and Daylight-saving time begins.

March 10. Full moon is at 10:38 p.m. Also known as the Sap, Crow, or Lenten Moon.

March 13. William Herschel discovered the planet Uranus on this day in 1781.

March 14. Albert Einstein was born in this day in 1879. His General Theory of Relativity, published in 1915, redefined gravity simply as the topography, or curvature of the fourth dimensional space-time continuum.

March 18. Last quarter moon is at 1:47 p.m.

March 20. Spring begins in the Northern Hemisphere at 7:44 a.m.

March 22. The waning crescent moon will be near Jupiter 30 minutes before sunrise. Comet Hale-Bopp, a once-in-a-lifetime comet, made its closest approach to earth on this day in 1997. Another bright comet, Hyakutake, made its closest approach in March, 1996.

March 24. Mars is near the moon this morning. Jupiter will be about 20 degrees or two fists at arms length up and to the right of orange Mars.

March 25. On this day in 1655 Christian Huygens discovered Titan, the largest moon of Saturn and the second largest moon in our solar system. The only moon with an atmosphere, we landed a probe on it a few years ago and discovered amazing things like lakes of liquid ethane, a methane rain drizzle, ice volcanoes, and a surface temp of -259F.

March 26. New moon is at 12:06 pm.

March 29-30. The waxing crescent moon passes near the Pleiades star cluster in Taurus.

Moon Phases

Mar 4
First Quarter

Mar 10
Full

Mar 18
Last Quarter

Mar 26
New

Moon Data

Mar 7
Moon at perigee

Mar 10
Saturn 6° north
of Moon

Mar 17
Antares .02° south
of Moon

Mar 19
Moon at apogee

Mar 22
Jupiter 1.5° south
of Moon

Mar 23
Neptune 2° south
of Moon

Mar 24
Mars 4° south
of Moon

ASNNE**Business Meeting**

February 6, 2009

Present: Richard Beaulieu (secretary), David Bianchi, Joyce Brann, Wesley Brann (treasurer), Tim Brown, Ron Burk (president), Joan Chamberlain, Sara Dinyari.

Secretary's Report

Ron is working on a letter to go out to unpaid 08 members.

We have two new members in our club. They are Lisa Erickson-Harris and Joe Harris, of Kennebunk. The club now has 38 adult members.

Star Parties: The Boy Scouts will come to the observatory on February 25th. The club star party has been moved from February 20th to the 27th.

IYA 2009 Globe at night is March 16th to the 28th. The Club will be active in this magnitude measuring event.

Treasurer's Report

Our current bank balance is \$2883.

Our membership in the **International Dark Sky Association** has lapsed. The dues are \$100 a year. The members will check to see what the benefits of joining are and we will talk about it again next month.

Clear Sky Alert: ASNNE is now the sponsor of the Starfield Observatory Sky Clock. Tim and Ron will explore the possible ways in which the club members would receive alerts when the sky will be clear at night.

We have already spent \$300 on **snow plowing**. We will try to establish a schedule for mowing. Joyce said that the chief obstacle to having this work is that a lot of people don't know how to run the mower. Ron offered to have a class on this. The directors would like members to let them know if you are willing to mow.

The volunteer team that does the most mowing for the summer will get free memberships in the club.

Web Site

Jim hatch has made changes to the website. Ron noticed improved loading speed.

IYA2009

The International Year of Astronomy is this year. It marks the 400th anniversary of Galileo Galilei's first astronomical observations through a telescope. IYA2009 will be a global celebration of astronomy. Part of this is "100 Hours of Astronomy". There are no restrictions in this program, just do something to bring astronomy to the people in your area. Have fun and share your passion for this fascinating science and hobby.

Everyone is encouraged to register their events on the 100 hours of astronomy website: <http://www.100hoursofastronomy.org>. Those registered will receive updates and the Newsletter.

Old Business

Sara has paid for the course in grant writing. It is one day, on Friday the 27th.

Observatory

We voted to let Sara spend club money to replace signs for route 111, announcing the observatory.

Respectfully submitted,
Richard Beaulieu

**Principal
Meteor
Showers in
2009**

January 4
Quadrantids

April 22
Lyrids

May 6
Eta Aquarids

July 30
Delta Aquarids

August 12
Perseids

October 9
Draconid

October 21
Orionids

November 9
Taurids

November 18
Leonids

November 26
Andromedids

December 14
Geminids

December 22
Ursids

*Note: Dates are
for maximum*

Got any News? 
Skylights welcomes your Input.

Here are some suggestions:

*Book reviews -- Items for sale -- New equipment -- Ramblings --
Star parties -- Observing -- Photos.*

Club Items For Sale



Our club has merchandise for sale at:
www.cafepress.com/asnne

All money raised goes to our operating fund.

Any design can be put on any item.
Just let our Director, David Bianchi, know.

SHOP CATEGORIES

Postage · Apparel · Housewares
Hats & Bags · Stickers, Buttons & Magnets

The International Year of Astronomy 2009

(Submitted by Ron Burk)

Projects that ASNNE is currently planning participation.

- Globe at night
- 100 hours of Astronomy
- Galileoscope

From 100 hours of Astronomy Information Pack

The International Year of Astronomy 2009 is supported by eleven cornerstone projects and seven special projects established by the IAU Executive Committee IYA2009 Working Group. These global programmes are based on specific themes that collectively represent the means to achieve the IYA2009's primary goals. The projects and the global participation they will generate are the key to the success of IYA2009.

IYA 2009 Cornerstone Projects

100 Hours of Astronomy	Dark Skies Awareness	Developing Astronomy Globally
The Galileoscope	Astro and World Heritage	
Cosmic Diary	Galileo Teacher Training Programme	
The Portal to the Universe	Universe Awareness	
She is an Astronomer	From Earth to the Universe	

IYA Special Projects

The World at Night
 400 Years of the Telescope
 Galilean Satellites
 Around the World...
 Exoplanet Hunters
 1919 Eclipse
 The Sky – Yours to Discover

GLOBE at Night 2009

16 - 28 March

From <http://www.globe.gov/GaN/>

Thanks to everyone who participated in the 2008 GLOBE at Night campaign during 25 February - 8 March! 2008 marks a monumental shift in human history when the number of people living in cities exceeded half the people on Earth. Because of the ambient light of urban landscapes, many city dwellers have never seen a sky full of stars. The 2008 campaign received measurements from 62 countries. Just over 4,800 of the measurements came from the United States, followed by 380 measurements from Hungary; and Romania, the Czech Republic, Costa Rica, and Spain each reporting over 100 observations. The final 2008 data sets are now available on the Map section.

Go to GLOBE at Night 2008 Results a Solid Step Toward IYA 2009 for more information about GLOBE at Night 2008 and the International Year of Astronomy (IYA) 2009.

Mark your Calendar for the 2009 GLOBE at Night campaign set for 16 - 28 March.

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Can You See the Stars?

Five Easy Star-Hunting Steps:

Find your latitude and longitude.

Find Orion by going outside an hour after sunset (about 7-10pm local time).

Match your nighttime sky to one of our magnitude charts.

Report your observation.

Compare your observation to thousands around the world.

100 Hours of Astronomy 2009

Date: 2-5 April 2009

www.100hoursofastronomy.org

An Event 400 Years in the Making

Date: 2-5 April 2009

Duration: 4 Days (96hrs)

From Project Information Pack

The 100 Hours of Astronomy Cornerstone Project (100HA) is an around-the-clock, worldwide event with 100 continuous hours of a wide range of activities and public outreach events including live webcasts, observing events, star parties and other specialised activities. One of the key goals of 100HA is to have as many people as possible look through a telescope as Galileo did for the first time 400 years ago. 100HA will take place from 2-5 April and will start officially at midnight the night of 2/3 April at the International Dateline (12.00UT).

100HA is a four-day event designed to bring astronomy to the public around the world. This doesn't mean any one group is expected to take part for the entire 100 hours. Whether it's a few hours on one day or a 100-hour marathon event, how groups choose to participate is up to them. Plans should fit the resources and enthusiasm that's available. All activities and events during 100HA will bring astronomy to a new audience.

100 Hours of Astronomy global events:

1. Select science centres will participate in a live webcast featuring discussions on current topics in astronomy on 2 April. Live observations will be made by visitors to select science centres using telescopes operated remotely over the Internet. Science centres worldwide will feature enhanced outreach programmes, many with the participation of amateur astronomy groups holding public observing sessions.
2. 24-hour Research Observatory Webcast: Astronomers at professional research observatories around the world will take viewers inside their telescope domes and control rooms during a live 24-hour webcast on 3 April.
3. 24-hour Global Star Party: For 24 hours on 4 April, telescopes (including solar telescopes) will be made available for public viewing by astronomy clubs and observing groups free of charge. The goal is to allow as many people as possible to have a chance to look through a telescope.

The Galileoscope: millions looking at the sky

<https://www.galileoscope.org/>

From IYA 2009 Website

<http://www.astronomy2009.org/globalprojects/cornerstones/galileoscope/>

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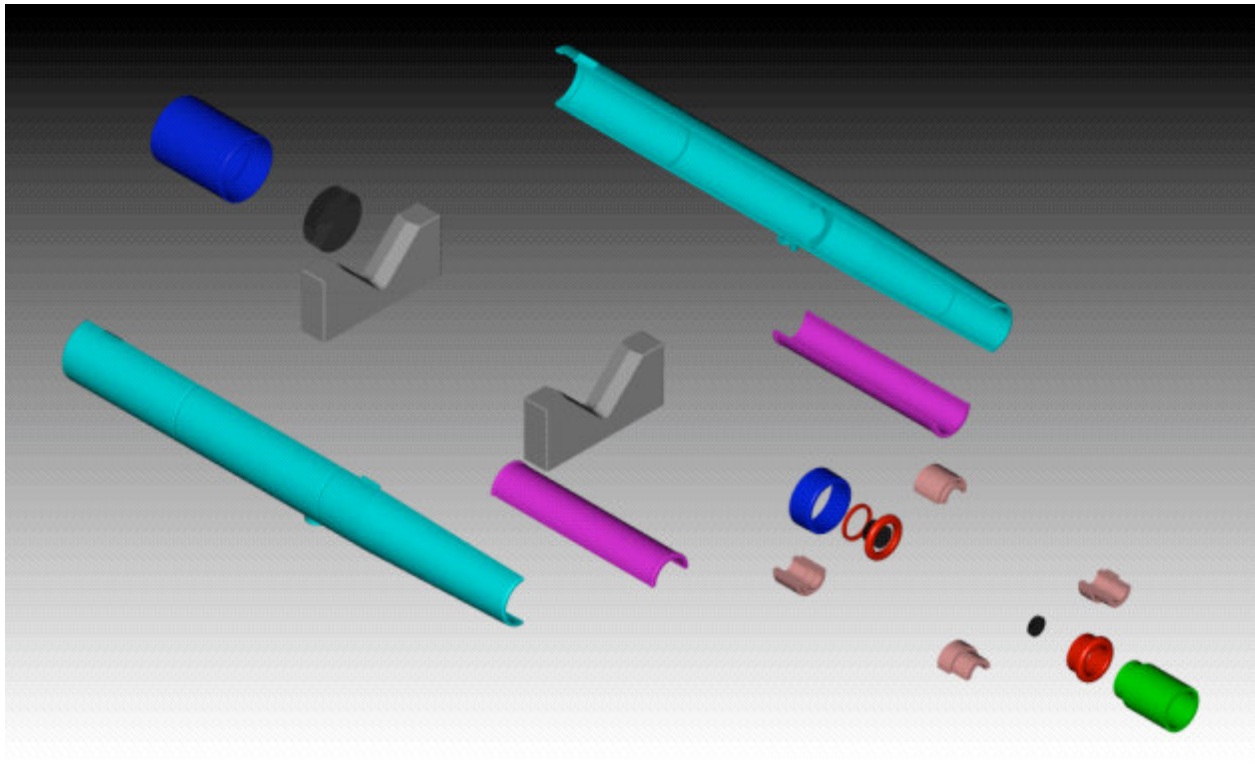
Who does not remember the first time they looked at the Moon through a telescope and were amazed by the details of the mountains and craters? The same is true for Jupiter's cloud belts and its Galilean moons, Saturn's rings and remote sparkling star clusters. Observing through a telescope for the first time is an experience that shapes our view of the sky and the Universe.

The IYA2009 programme wants to share this observational and personal experience with as many people as possible across the world. It is collaborating with the US IYA2009 National Node to develop a simple, accessible, easy-to-assemble and easy-to-use telescope that can be distributed by the millions. Ideally, every participant in an IYA2009 event should be able to take home one of these little telescopes, enabling them to observe with an instrument similar to Galileo's. Sharing this experience and making people think about the importance is one of the main goals of IYA2009: Promote widespread access to new knowledge and observing experiences. A do-it-yourself Galileoscope could be the key to pursuing an interest in astronomy beyond IYA2009, especially for people who cannot afford to buy a commercial telescope.

We aim to give 10 million people their first look through an astronomical telescope in 2009. This is achievable if, for example, 100 000 amateur observers each show the sky to 100 people. Millions of small telescopes are sold every year, but anecdotal evidence suggests that most are rarely used for astronomy. A worldwide Telescope Amnesty programme will invite people to bring their little-used telescopes to IYA2009 events, where astronomers will teach owners how to use them and offer advice on repairs, improvements and/or replacements, encouraging more people to stay involved in the hobby. We encourage the organisers of IYA2009 celebrations in all countries to promote similar activities, with a common goal of giving 10 million people worldwide their first look through an astronomical telescope.

How is the Galileoscope constructed?

The Galileoscope will require some assembly on the part of the end user. The assembly process has many opportunities for educational experiences and optics experiments. The tube of the telescope can be used as an optical bench to explore concepts such as image formation by lenses, the focal length of lenses, and the optical design of a refracting telescope.



Club Meeting & Star Party Dates

Date	Subject	Location
March 6	5:30-6:30 PM: Business Meeting 6:40-7:30PM: Social Hour and Joan's Beginner Astronomy Class (Topic TBD). 7:30-9:30PM: Club Meeting: *Bernie Reim's "What's Up." *Astro Shorts & Astro News. *NASA Night Sky Network Activity. *Dark Skies: Friendly Lighting Updates. *Open Discussion Topic: Pluto-to be or not to be... and... "You know you're astronomer when....." *Guest Speaker: TBD.	Masonic Hall West Kennebunk, Me.
March Date TBD.	Open Observing Session. The public is welcome to join club members and enjoy the night sky.	Starfield Observatory, West Kennebunk, Me.

Directions to ASNNE event locations

Directions to Masonic Hall

From I-95:

If coming southbound, take Exit 25 off of I-95. Come out to Rte. 35. Turn left at stop sign and turn right at next stop sign. Proceed straight ahead and you will see a variety store on the left and the Masonic Hall will be on the right.

If coming northbound, take Exit 25 off of I-95. Turn right at the stop sign and cross over I-95. Proceed straight for about 1/2 mile. There will be a variety store on the left and the Masonic Hall will be on the right.

Directions to Starfield Observatory

From North:

Get off turnpike at exit 32, (Biddeford) turn right on Rt 111. Go 5 miles and turn left on Rt 35. Go 2 miles on Rt 35 over Kennebunk River to very sharp 90 degree left turn. The entrance to the Starfield Observatory site is at the telephone pole at the beginning of the large field on the left. Look for the ASNNE sign on the pole.

From South:

Get off the turnpike at exit 25 in Kennebunk. After toll both turn right on Rt 35. Go up over the turnpike and immediately turn right on Rt 35. About 4 miles along you will crest a hill and see a large field on your right. Continue until you reach the end of the field. Turn right into the Starfield Observatory site at the last telephone pole along the field. Look for the ASNNE sign on the pole. If you come to a very sharp 90 degree right turn you have just passed the field.

To join **ASNNE**, please fill out the below membership form. *Checks should be made payable to: Astronomical Society of Northern New England (A.S.N.N.E).* For more details, please visit our website:
<http://www.asnne.org>



Astronomical Society of Northern New England
 P.O. Box 1338
 Kennebunk, ME 04043-1338

2009 Membership Registration Form

(Print, fill out and mail to address above)

Name(s for family): _____

Address: _____

City/State: _____ Zip code: _____

Telephone # _____

E-mail: _____

Membership (check one):

Individual \$35 _____ Family \$ 40 _____ Student under 21 years of age \$10 _____ Donation _____

Sky & Telescope (\$32.95) _____ Astronomy (\$34) _____

Total Enclosed _____

Tell us about yourself:

1. Experience level: Beginner _____ Some Experience _____ Advanced _____

2. Do you own any equipment? (Y/N) And if so, what types?

3. Do you have any special interests in Astronomy?

4. What do you hope to gain by joining ASNNE?

5. How could ASNNE best help you pursue your interest in Astronomy?

6. ASNNE's principal mission is public education. We hold many star parties for schools and the general public for which we need volunteers for a variety of tasks, from operating telescopes to registering guests to parking cars. Would you be interested in helping?

Yes _____ No _____

7. ASNNE maintains a members-only section of its web site for names, addresses and interests of members as a way for members to contact each other. Your information will not be used for any other purpose. Can we add your information to that portion of our web site?

Yes _____ No _____

