



OBSERVER



Vol. 2013, No. 2

Newsletter of the New Hampshire Astronomical Society

February 2013

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The new "Observer" is designed,
compiled, written and edited by
Tom Cocchiaro

Members Welcome New Meeting Format and Member-Centered Features



I find myself once again starting my message by expressing my sincere gratitude to such an incredible group of passionate and dedicated team upon hearing the news that NHAS won the *Astronomy*

magazine award for outreach with our LTP program. Well done again to EOC and especially to **Marc Stowbridge** and **Tom Cocchiaro** for producing the proposal.

I continue to manically pursue what I outlined in my vision for us this year. Tom and I are hard at work identifying potential web conferencing solutions. We ruled out one vendor due to pricing. I have reached out to another vendor and am evaluating that solution from both a technical and business perspective. After I complete the preliminaries, I want to expand the evaluation by having select members participate. Please let me know if you will be willing to assist. We also had the members only pages opened again as a way to collaborate. Membership feedback was that they preferred to make postings under their individual page. I am ecstatic regarding the participation of the new "Astronomer is In" and "Astronomy Shorts" section of our meetings. I am grateful to membership participation particularly in the Astronomy Shorts section. I am working hard at dropping the "business meeting" phrase in both written and verbal correspondence as suggested by several members.

As many of you know, we started experimenting with live streaming and recording of our meetings last month. Thank you to everyone who provided feedback regarding quality of audio. It's an iterative process so we hope to learn and improve each time. The

goal is to provide a forum for members who are unable to attend along with providing education. However, advances in technology come with a new responsibility so the officers discussed potential privacy concerns. I wanted to let everyone know that presentations delivered by both NHAS and guest speakers will only be done with approval of the speaker. This includes posting of the video on a public site such as YouTube.

Regarding guest speakers, we have two speakers lined up for our March and April meetings. Both are Ph.D candidates and will be presenting exciting topics related to their work. I will send out separate correspondence for each of these meetings. A third speaker slated for May needed to reschedule and I am currently targeting September for that session. I also have ideas for internal NHAS speakers and I will be communicating with those individuals for scheduling.

Aerospacefest is just around the corner on May 4. I have been in contact with MSDC regarding NHAS participation. We have an NHAS person tentatively identified to head up the planning activities. Expect a separate announcement soon on the details but for now, please mark your calendars and remember that any type of contribution is valuable.

Finally, I must apologize again for my mistake regarding the dates for the Messier Marathon. I want to thank **Larry** and **Linda Lopez** for augmenting their schedule to accommodate the new date. Hopefully, the skies will be clear but regardless, it will be a wonderful time for networking and socializing. Please visit the post in the forums for details. That reminds me, I need to get going on the beef jerky as the event is only one week away as I write this report.

Clear Skies,
Rich DeMidio
NHAS President



We are excited to welcome the New Hampshire Astronomical Society this year. They will guide you through a view of the First Night sky with their telescopes. The New Hampshire Astronomical Society is a wholly volunteer New Hampshire chartered non-profit educational organization dedicated to furthering public awareness of Astronomy. This is accomplished via public observing sessions, demonstrations, astronomical slide shows, discussions, and talks. NHAS provides these services on request and free of charge to any organization, including schools, libraries, clubs, etc. Join us in the Founder's Room at 6:00 for a showing of the night sky video: "Midnight Sky" and on the hill above the tubing run after dark to look through telescopes into the First Night sky.



First Night Monadnock (Dec. 31)

NHAS got front-page billing at the Monadnock Bible Conference Center's 2nd Annual New Year's Eve titled First Night Mondanock 2013. More than 300 guests attended the event. While it was not a stellar evening for stargazing, the organizers had us set up in a terrific location. We were able to get in some views of Jupiter and the Pleiades before it totally clouded up.

Representing the club were **Joe** and **Bonnie Derek**, **Art** and **Mary Gardiner** and former members **Mark** and **Nancy Warenda**. Joe brought his 12-1/2" reflector and his 20 x 80 binoculars on a trapezoid mount and Art brought his 4" apogee refractor. The evening was chilly but we had opportunity to get in some PR for the club.

★ **Joe Derek**

Derry Public Library Talk (Feb. 6)

About 25 people were present at the astronomy Talk I gave Feb. 6 at the Derry Public Library. The library scheduled the talk to generate interest in their newly acquired library telescope, hoping it would be borrowed for the first time

that evening. **Ramaswamy** helped field several questions and interest in the telescope seemed quite high. As a result of the presentation, the library requested a Sky Watch for March.

Steve Rand

Hampton Academy (Feb. 7)

Clear skies greeted roughly a dozen students and several teachers from Hampton Academy for the Feb. 7 skywatch, but while it was mostly clear about 6:30 p.m., incoming clouds from the west became progressively worse as the evening progressed and forcing the team to pack it in around 8 p.m. Several members of the group did manage to get in good views through gaps and sucker holes of various objects at various times: Jupiter, M42, wide-angle view of all of Orion's sword, M35, M41, Perseus Double Cluster, M36.

Students appeared to be most impressed with Jupiter--especially seeing its four large Galilean moons. There were also a few quick looks at the setting crescent moon. Although views were a little milky due to thickening haze students lined up to get a look at craters set off in stark relief along the terminator.

Ted Blank, Tom Cocchiaro, Curt Rude and **Paul Winalski** were there from NHAS.

★ **Paul Winalski & Tom Cocchiaro**

North Hampton School (Feb. 13)

The event took place as scheduled. Skies started out pretty clear, with just some background haze, but the haze got progressively worse. **Ted Blank, Gardner Gerry** and I had scopes set up. **Gary Duranko** gave the indoor presentation. We had a large crowd--about 100 students, parents, and siblings, and there were long lines at the scopes. By the time everyone patiently waiting in line at Mr. T. had seen Jupiter, the sky was too cloudy to show much else, although I did get a 33X wide-angle view of most of the Pleiades to show as well, and a similar view of Orion's Sword, including the M42 nebula.

Ted and I also had the opportunity to help out one of the public who showed up with a short-tube 4" Newtonian reflector. In his own words, "I have the scope, tripod, and three eyepieces, but the scope has no instructions on how to use it". Ted was able to help him out regarding eyepieces and the finder. But the Moon was blurry, with a big fuzzy spot to the left--even with Ted's 11mm TeleVue eyepiece instead of the original 10mm eyepiece. There was no evident fogging on the primary or secondary, so Ted asked if anyone had a laser collimator. Well--I did, so I moseyed over to help out.

The mirror on this telescope wasn't center-spotted, but to my eyes the laser reflection from the secondary looked properly aligned. BUT--the reflection from the primary was WAY off--just grazing the edge of the secondary mirror. It took a lot of cranking on the adjustment screws--more than I was expecting, and I was a bit apprehensive at how much adjustment we were doing. But in the end we got the return laser beam going down the hole it originated from. And when we put the eyepiece back in place--razor-sharp view of the Moon, both with Ted's TeleVue, and with the scope's original 10mm eyepiece! The scope's owner was delighted. For me, this was the peak event of the evening.

★ **Paul Winalski**

Frost Free Library (Feb. 17)

We revisited the Frost Free Library and the hilltop site they have for observing Feb. 17. NHAS members present were **Pete Smith, Steve Rand, Pat Adams** and myself. **Kathleen Ash** from the Library brought the LTP scope along as well. I observed Jupiter, Luna, Mercury, M45, M42, M31 and NGC 457; and Pete and I both helped out Kathleen with the Library scope. About 15-20 members of the public were in attendance and were treated to the objects mentioned.

★ **Gardner Gerry**

“Out of this World”

NHAS Wins Astronomy Magazine’s Outreach Grant



Astronomy magazine recently announced the New Hampshire Astronomical Society (NHAS) as the winner of its 2012 Out-of-this-world Award for outstanding public programming. According

to Astronomy’s Senior Editor Michael Bakich, “The NHAS’ many accomplishments helped it stand out from the competition. But the most notable was its Library Telescope Program.”

For more than four years now, the NHAS has been sharing the wonders of the universe with the public through the placement of telescopes at libraries throughout New England. The goal is to help foster scientific literacy, stimulate an interest in astronomy, and provide people who have never looked through a telescope the chance to experience the excitement that comes from discovery.

Since its modest beginnings, the Library Telescope Program has placed scopes at more than 60 libraries in New Hampshire. Included are instructions and accessories custom made to insure a successful night of observing, even for those who know absolutely nothing about astronomy.

Commenting on the award LTP Founder **Marc Stowbridge** said, “We are constantly amazed at how our Library Telescope Program has taken hold across the country and across the world, and at the generosity of

those in the astronomy community who have endorsed and supported the program — in particular **Craig Weatherwax** at **Oceanside Photo and Telescope**, the folks at **Orion Telescopes and Binoculars**, and the **Astronomy Foundation**. We are also thrilled that *Astronomy* magazine has chosen to recognize our efforts with its Out-of-this-World Award, and we promise to put it to good use in our quest to continually expand our outreach efforts. On behalf of everyone associated with the New Hampshire Astronomical Society, thank you for this prestigious honor and gift.”

“This was another great year of astronomy club submissions, and we had a hard time picking a winner,” says David J. Eicher, editor of *Astronomy* magazine. “So much wonderful outreach takes place all over the country and the world that it’s still hard to pick just one winner. Each of the entrants deserves congratulations for their fantastic efforts, and we thank them for doing so much to promote the hobby and science of astronomy.”

The \$2,500 grant will be used toward the LTP program and “digital” outreach activities.

[Click here to read the award writeup online](#)

Library Telescope Program Evolves to Meet Needs

In the coming months, the LTP program will focus on two primary goals—funding and support,

Funding

The club has made great strides in the last few years and the program is so well received that we receive regular requests for donated scopes. There are about 250 public libraries in NH so the potential for many more requests is likely. While some libraries can fund via their own channels, most cannot. I will be trying to find other grants and sources of funding that will help us fill these requests. To date we have 15 unfulfilled requests.

I would like to see progress made on a donate button on our web site. Perhaps even a fund request poster that could be distributed to libraries to encourage their patrons to support the LTP program.

Support

There is no question that the NH LTP program has outgrown the capacity of the club to always have a member involved with each library. Going forward, the club will make best effort to have a member be involved, but in many cases the libraries will need to be self-sufficient in caring for the scope.

We will be supporting the libraries in a variety of ways.

- **Member Support** - this is always the preferred method. Members like being “the one” that the libraries rely on and the libraries like having someone they know and recognize.

- **Zone support** - This idea was introduced last year and still needs to be more refined. The idea being that a library simply contacts the LTP chair with a request for help and then the LTP chair works with a group of members that have agreed to support a certain zone (region) of the state and dispatch a member to the library.
- **Video Support** - We are working on producing videos that will assist the libraries with the few repairs and adjustments needed on the LTP scopes. I think we could even extend this to an on-line support model whereby a member could assist a library from their home with webex type software if the library has a computer with a webcam attached.

The good news - about support is that there is very little need for it. Time has taught us that these scopes hold collimation very well and all other adjustments are very minor. In November, I introduced myself to all the libraries on file at that time and let them know that I was a resource for them if they needed any assistance with their scope. This was my first step in setting up the zone concept. Since that time I have not received a single request.

★ **Pete Smith, Library Telescope Program Chair**

February Business Meeting

The February business meeting at the McAuliffe Shepard Discovery Center drew a big crowd interested in finding out more about participating in the upcoming Messier Marathon set for March 9 at the home of **Larry** and **Linda Lopez**. Long-time member **Ed Ting** gave a 30-minute presentation highlighting a more intimate look at the social aspects of the event as well as an overview of objects and observation strategy.

Meeting discussion covered a number of topics including carpooling to the Northeast Astronomy Forum set for April 20-21, a possible observatory sited in the seacoast area of the state, speaker preference (guest speakers as opposed to member presentations), the choice of a survey tool to determine member needs and opinions, and the use of digital and social media to communicate with members and to create live broadcasts of society meetings and activities.

After some research it was decided that renting transportation to travel to NEAF was too expensive to be practical. Several members planning to attend volunteered to offer whatever space was available to those who'd like to share a ride. Those interested may coordinate through the chat list at nhas@nhastro.com to find rides.

A survey of members showed that most preferred an even split in regard to guest speakers with 50 percent of the schedule going to club members and 50 percent to outside speakers. Members also preferred *Survey Monkey* as the instrument of choice for future queries.

Society President **Rich DeMidio** and Vice President **Tom Cocchiaro** have been researching ways to broadcast meetings and other activities through web conferencing and other media. Cocchiaro had been considering Infinity conferencing services but determined it was too costly to be practical for the club. Instead, he created a channel on UStream as an experiment and actually live-streamed the main meeting and Ting's presentation which some members were able to capture on their iPhones and iPads. While this first effort, videoed and streamed direct through an iPhone 4S, was rough Cocchiaro expects future broadcasts to be more refined and will be using HD cameras and direct internet connections. Members unable to make the meetings may tune in to "Eye on Astronomy" through www.ustream.tv. DeMidio is checking out LotusLive through a 60-day trial account. The



NHAS Member Ed Ting talks about his favorite Messier Marathon guides during his presentation at the February business meeting. -- Tom Cocchiaro photo

service offers web, audio and video file sharing for web conferencing audiences up to 199 people.

Several society members offered some of their experiences through the new sharing segment of the meeting. **David "Rags" Gilmore** said his picked up a pair of new 15 x 70 astronomical binoculars and managed to tag 12 Messier objects in three minutes. **Larry Lopez** recommended a book on tape entitled *The 4-Percent Universe*. **Mike Townsend** commented on the health of member **Jim McCarthy** who has been sick for months with Lyme Disease. Townsend said he is home from rehab and doing way better than he was. **Pete Smith** shared that the LTP program has been an "oh wow" for those librarians he has had the chance to meet. And **Ted Blank** described an upcoming expedition by members of the International Occultation Timing Association (of which he is a member) to record on video the passage of an asteroid in front of a star. By recording the times of covering and uncovering of the star the diameter of the asteroid can be determined. In addition, if multiple observers record the event from different places in the asteroid's shadow, the actual shape of the asteroid can be determined by combining the measurements. Those interested in finding out more about Ting's Messier Marathon presentation may download the PowerPoint presentation in the forums by clicking [here](#).

For access to the meeting slides and a link to the UStream meeting video, click [here](#). (Forums are available to members only)

Treasurer's Report

STARTING BALANCE:	\$13,369.72
DEPOSITS:	
MEMBERSHIP	\$270.00
DONATIONS	20.00
BANK INTEREST	1.10
CALENDAR SALES	7.00
TOTAL:	\$298.10
ACCOUNTS PAID:	
RACKSPACE CLOUD	\$44.62
UNH PHYSICS DEPT. (NEFAF)	\$500.00
CYNRIC	176.55
TOTAL:	721.17
NET BALANCE:	\$12,946.55
PETTY CASH:	100.00
CASH BALANCE:	\$13,046.65
EOC SHARE:	\$5,833.13
CURRENT MEMBERS:	118

NEW MEMBERS:

KENNETH RIENDEAU
HILLSBORO, NH

AMY LOWE
WEARE, NH

RAHUL SIVAPRASAD
PORTSMOUTH, NH

DONATIONS:

KENNETH RIENDEAU..... \$20.00 GEN



New Member Profile
.....

I'm going to take your invitation for submissions as an opportunity to introduce myself as a new member of NHAS. Thanks to the generous sponsorship of **Pete Smith**, I've been reading your newsletters since December. Several of you know me as the guy from Maine that sponsored the Mt. Mégantic Observatory trip last July... hello April, Pete, Gerry, Rik and Laney. I already new Ed Ting from my work as an Electrical Engineer and of course Ted Blank is also a member of ASNNE of which I am a member, too. Nearly two hundred miles away and I already know seven of you. New England is indeed a small place!

I got a late start in Astronomy and have been attending meetings and lectures and star parties only since after the Mars opposition of 2003. I'd always had a casual interest in astronomy since I was a kid; but, the topic was so vast that I didn't know where to start. Despite my strong interest in the sciences in school, locally I had no qualified teachers or mentors to guide me in even the basics of astronomy. When a satellite designer came here to set up an astronomy shop in 2003, I started to attend his presentations and I was hooked. It was later that year when I discovered that there were several astro organizations in the state of Maine. I joined Bangor's Penobscot Valley Star Gazers first and then Downeast Amateur Astronomers in the Calais/Pembroke area. Since I was often in Augusta and Camden, I added the Central Maine Astronomical Society to my memberships the next year. During the last couple of years I have been officially recognized as the State of Maine club liaison by each organization and added the Astronomical Society of Northern New England, Portland's Southern Maine Astronomers and Skowhegan's Celestial Observing Guild to

my list of memberships. Most recently, Elissa Chesler an acquaintance from the Jackson Laboratory and I have started up the Acadia Astronomical Society that meets monthly at a local library. Last year I drove 9,800 miles attending club meetings, star parties and other astronomy events including NEAF in Suffern, NY; the Hayden Planetarium at the Boston Museum of Science; NEFAF in Durham, NH; the McAuliffe-Shepard Center in Concord, NH; and of course the Quebec trip to Mt. Mégantic Astrolab and Observatory.

I live on Mt. Desert Island, home of Acadia National Park and Bar Harbor. We have dark skies and tourists here and have hosted the Acadia Night Sky Festival in the fall for the last four years. Last year's Cadillac Mountain Star Party was attended by 700 people and an eclectic group of amateur astronomers from various area clubs manned 22 telescope and binocular stations. It's an exciting time to be involved in Astronomy!

I work as a Professional Engineer for my engineering firm and a small amount of my work involves the design of Dark Sky Friendly lighting installations. I belong to the the International Dark Sky Association and the Illuminating Engineering Society. Through both my astronomy and engineering background, I work to help promote light pollution mitigation. Currently I am a visual observer using a 12" LX90-ACF, an Orion AstroView 120ST and a Coronado Solar Max II 90mm DS. One of the highlights

of last summer for me was a transit of Venus public event, also on Cadillac Mountain.

I look forward to learning more about the New Hampshire Astronomical Society and hope to get to one or more of your events this coming year. For the moment, I will continue to participate vicariously through the *NHAS Observer*.

★ **Dwight Lanpher**

Rey Center Thank You
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The Margret and H.A. Rey Center would like to send out a huge THANKS to the following NHAS volunteers: **Matt Amar, Rich Schueller, Ted Blank, Gardner, Gerry, Ken Charles, Stu May, David "Rags" Gilmore, John Bishop, Don Byrne, and Al Navarro**. Because of these volunteers we reached over 160 people during our 2012 Dark Sky Stargazing program. This is a monthly stargazing program held at the H.A. Rey Observatory at the Curious George Cottage in Waterville Valley, NH. The Reys (authors of Curious George books) chose Waterville Valley as their summer home because they loved the dark night sky. NHAS volunteers set-up their telescopes and share their knowledge of the cosmos. So join us this year to marvel at the night sky just as the Reys did. Our next program is March 9th. Check the NHAS calendar or visit our website at www.thereycenter.org for the complete schedule.

★ **Leigh Ann Reynolds**
The Rey Center



For several years now NHAS volunteers have traveled to Waterville Valley to host evening skywatches at the Curious George Cottage. The character was created by H.A. Rey a summer resident of Waterville Valley. In astronomy circles Rey is well known for a popular book on constellations called "The Stars: A New Way to See Them."--Courtesy Photo

Local Astronomy Clubs

New Hampshire Astronomical Society

Monthly skywatches around the state including Saturday skywatches in downtown Portsmouth on the Saturday closest to the Quarter Moon
www.nhastro.com

Amateur Telescope Makers of Boston

www.atmob.org

Astronomy Society of Northern New England (Kennebunk, Maine)

www.asnne.org

McAuliffe-Shepard Discovery Center

(Concord, NH)
 Observatory and First Friday Observing
www.starhop.com

North Shore Astronomy Club

(Groveland, Mass.)
www.nsaac.org

Magazines

Astronomy

www.astronomy.com

Astronomy Technology Today

www.astronomytechanologytoday.com

Sky at Night

www.skyatnightmagazine.com

Sky and Telescope

www.skyandtelescope.com

Computer Software

Cartes Du Ciel (aka Skychart) (Free)

www.ap-i.net/skychart/

Celestia

www.shatters.net/celestia/

Computer Aided Astronomy (Free)

www.astrosurf.com/c2a/english/

Earth Sky Tonight

www.earthsky.org/tonight

Google Sky (free, online use only)

www.google.com/sky

SkyMap Online

www.skymaponline.net

Starry Night

(many versions novice to expert)
www.starrynight.com

Stellarium (free)

www.stellarium.org/

WinStars (free)

www.winstars.net/english/index.html

Online Live Observatories

SLOOH

www.slooh.com/about.php

AstronomyLive

www.astronomylive.com

Worldwide Telescope

www.worldwidetelescope.org/Home.aspx

Astronomy Gear

AstroMart

(used astronomy equipment and advice)
www.astromart.com

Celestron

www.celestron.com

Explore Scientific

www.explorerscientific.com

Lunt Solar Systems

www.luntsolarsystems.com

Meade

www.meade.com

Oceanside Photo & Telescope

www.optcorp.com

Orion Telescopes

www.telescope.com

Televue

www.televue.com

Vixen Optical

www.vixen.com

William Optics

www.williamoptics.com

Other Web Sites

Cloudy Nights (Telescope, binocular and equipment reviews, astronomy forums)
www.cloudynights.com

Heavens Above (spot satellites and the International Space Station)
www.heavens-above.com

NASA (everything NASA)
www.nasa.gov

SpaceWeather (Solar activity, asteroid passes, sky activity reports)
www.spaceweather.com

Citizen Research Opportunities

Galaxy Zoo

www.galaxyzoo.org

Citizen Sky

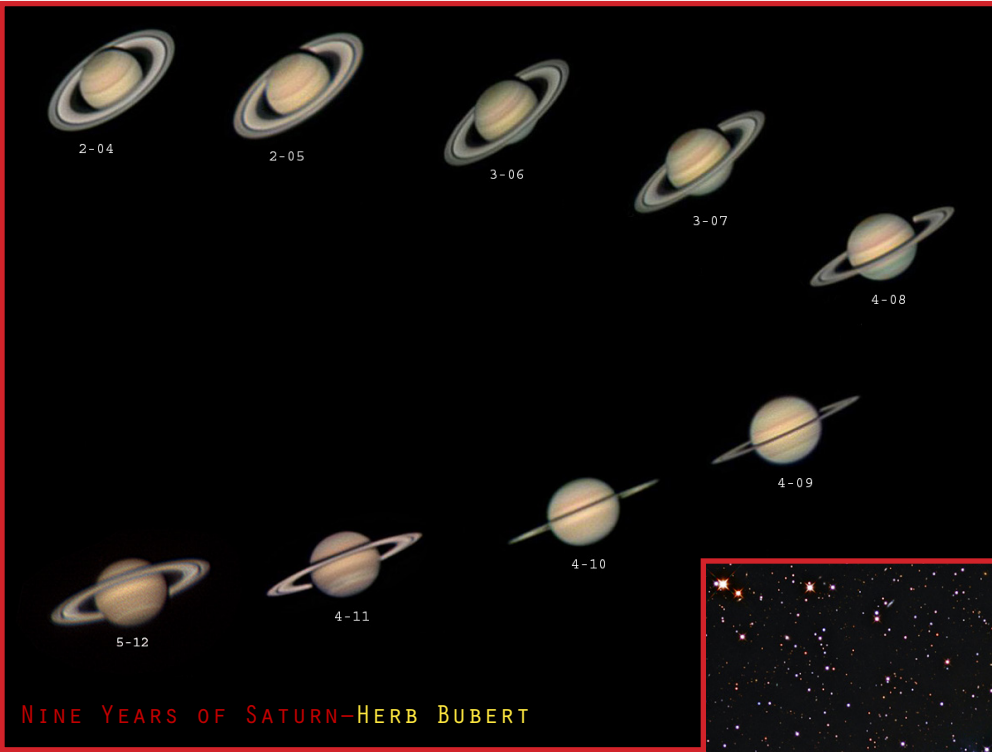
www.citizensky.org

SetiQuest (Join the quest for ET)
www.setiquest.org

SetiLive (Listen in on real signals live)
www.setilive.org

Seti@home (lend your computer downtime to track ET)
www.setiathome.berkeley.edu/sah_about.php

Mobile Astronomy Apps	
iPhone/iPad	SolarWalk
3D Sun	Star Chart
APOD Viewer	Star Gazer
Distant Suns	Star Search
Exoplanet	StarMap
FlyBy	StarWalk
FourthDay	Voyager
Galaxy Collider	
GoSkyWatch	Android
Mars Globe	Astronomy Picture of the Day
MessierList	Google Sky Map
Moon Globe	Mobile Observatory
MoonPhase	Moon Phase Pro
MyCSC	NASA App
NASA News	Planet's Position
Perpetuum	Space Junk Pro
Planetarium	Star Chart
Pocket Universe	Sundroid Pro Sunrise
SkyMap	Sunset
SkyMap Pro	Vortex Planetarium
SkySafari	



NINE YEARS OF SATURN—HERB BUBERT



STELLAFANE MILKY WAY—JASON PAUL



NGC 925—BOB GILLETTE



IPHONE PEROGEE MOON—TOM COCCHIARO



CALIFORNIA NEBULA—GARDINER GERRY



HORSEHEAD NEBULA—RICH SCHUELLER



ORION'S SWORD—JOHN BUONOMO

Wed Mar 13, 2013 - 6:45pm - 8:30pm, **Derry Public Library Skywatch**, Derry Public Library, Derry NH

Thu Mar 14, 2013 - 6:30pm - 8:30pm, **Educational Outreach Committee**, Manchester City Library, Manchester, NH

Fri Mar 15, 2013 - 7pm - 9pm, **Planetary Imaging Workshop**, Salem High School, Salem NH

Mon Mar 18, 2013 - 7pm - 9pm, **East Kingston Public Library Skywatch**, 47 Maplevale Road, East Kingston NH

Thu Mar 21, 2013 - 8pm - 9:30pm, **Skywatch for Bedford High School**, Benedictine Park, Wallace Road, Bedford NH

Fri Mar 22, 2013 - 7:30pm - 10pm, **NHAS Business Meeting**, St. Anselm College, Manchester NH

Sat Mar 23, 2013 - 6pm - 10pm, **Sidewalk Astronomy Skywatch**, Market Square, Portsmouth NH

Mon Mar 25, 2013 - 7pm - 9pm, **Skywatch for Sanborn Regional Middle School**, 31 A West Main Street Newton, NH

Tue Apr 2, 2013 - 8pm - 9pm, **Londonderry Middle School Skywatch**, Londonderry Middle School, 313 Mammoth Rd., Londonderry NH

Thu Apr 4, 2013 - 7:30pm - 10pm, **Daniel Webster College Skywatch**, Daniel Webster College, Nashua NH

Fri Apr 5, 2013 - 7pm - 11pm, **Skywatch for McAuliffe-Shepard Discovery Center**, McAuliffe-Shepard Discovery Center, Concord NH

Mon Apr 8, 2013 - 7:00pm – 9:00pm, **East Kingston Public Library Skywatch (backup date)** - 47 Maplevale Road, East Kingston NH

Tue Apr 9, 2013 - 7:30pm - 10:00pm, **Daniel Webster College Skywatch (backup date)** - Daniel Webster College, Nashua NH

Thu Apr 11, 2013 - 6:30pm – 8:30pm, **Educational Outreach Committee** - Manchester City Library, Manchester, NH

Thu Apr 11, 2013 - 8:00pm – 11:00pm, **Bridgewater-Hebron Village School Skywatch**, School House Rd, Bridgewater, NH



How to Join NHAS

Write to us:

NH Astronomical Society
P.O. Box 5823
Manchester, NH 03108-5823

Send E-mail to:

info@nhastro.com

Fill out the online contact form:

[Click here](#)

www.nhastro.com

This Month's Contributors:

Rich DeMidio, Pete Smith, Joe Derek, Ted Blank, Tom Cocchiario, Paul Winalski, Gardner Gerry, Herb Bubert, Jason Paul, Rich Schueller, Ed Ting, Bob Gillette, John Buonomo, Leigh Ann Reynolds and Dwight Lanpher.

DEADLINE for February Issue:

Feb. 28, 2013

Email articles or photos to:

vp.2013@nhastro.com