STARRY MESSENGER

Newsletter of the Green Mountain Alliance of Amateur Astronomers
March 2005

Begirt with many a blazing star,
Stood the great giant Algebar,
Orion, the hunter of the beast!
His sword hung gleaming by his side,
And, on his arm, the lion's hide
Scattered across the midnight air
The golden radiance of its hair.

LONGFELLOW ("The Occultation of Orion")

INTERCLUB LINK

January 2005 marked the very first Starry Messenger Newsletter and from the comments received by the recipients, seemed to be a very worthwhile document for amateur astronomers in Vermont. I have decided to make the newsletter a bi-monthly document, at least for now. This will allow for me to gather the most important information for dissemination, much of which comes from its readers and associated astronomy clubs. Remember, future newsletter emails are intended to not only pull us together as a group, but also to importantly link all the Vermont astronomy clubs together. In this way, these clubs will be aware of the many astronomy-related activities within the state (and the universe!) that they might not know otherwise, to share resources, and to share in events (interclub meetings and outings).

At this time, Starry Messenger is being sent both as an email to select individuals, and available on the VAS (Vermont Astronomical Society) web site at http://www.uvm.edu/~gmaaa/. We have a third option of placing it somewhere on my own web site, www.WeGotNet.org, which is the largest web site for girls and women's basketball or linking from my site to the VAS site. I would like to have you contact me via email (rlewis@wegotnet.org) to express your particular desire. I only learned after I sent out the first newsletter in January that if I had saved it in a PDF format, it had a much better chance to come to your PC's fully intact just as I had set it up on my Mac. I believe I will make that first Starry Messenger available to everyone on the list, because it is both interesting and valuable.

Astro Quiz

If the speed of rotation at the Earth's surface is 1,000 miles per hour at the equator, what is it at the poles? (Answer below)

Astro Fact

Don't we all love to pull an astro fact out of our hats at Star Parties in order to amaze observers with other-worldly trivia? I think it makes observing on a cold evening just a little warmer, interesting and educational, besides just plain fun! And, shouldn't these be at least some of our major goals in showing the public the heavens? If you have an interesting astro fact that you would like to share in up-coming Starry Messenger newsletters, I would invite you to send them to me. Here's one for you to share:

Surf's Up

The surface of Mercury resembles that of the Moon so closely than even experts can be fooled by photos. But if Mercury were to replace our Moon in orbit around the Earth, there would be no mistaking the difference. It would be about 1.5 times as large in diameter and would shine with twice the light. The most dramatic change if we had Mercury orbiting Earth would be higher tides because of Mercury's greater mass – 4 times higher. Coastal areas of the world would be awash, and daring surfers would ride their boards where once there were freeways and traffic jams!

ASTRO NEWS:

Meteorite on Mars!

Opportunity, one of the twin rovers on Mars, has discovered the first meteorite on a planet other than Earth. Initial observations, taken from a distance with the rover's thermalemission spectrometer, indicated that the pitted, basketball-size body is a metal-rich meteorite. Driving close enough to use its X-ray and gamma-ray spectrometers, Opportunity confirmed the object's meteorite status and revealed that it's made mostly of iron and nickel, NASA announced on Jan. 21.

The metallic composition indicates that the rock came from an asteroid or planetary chunk large enough for its mixture of minerals to have separated into a dense, metallic core and a lighter, rocky mantle, notes rover researcher Steve Squyres of Cornell University.

Scientists have dubbed the meteorite Heat Shield Rock because it lies near debris from Opportunity's heat shield in Meridiani Planum, the cratered plain where the rover landed on Jan.

24, 2004. Metal-rich meteorites are relatively rare on Earth, and scientists have hypothesized that Mars is also bombarded by many more rocky meteorites than metallic ones, notes Squyres. Other clumps of material seen at the surface of Meridiani Planum may by rocky meteorites, he suggests.

Given the multitude of meteorites that scientists have already studied on Earth, meteorites on Mars are more interesting for what they might reveal about the Red Planet then about he rocks themselves. For example, determining the number of exposed meteorites at Meridiani Planum could indicate whether the flatland is gradually eroding or being built up by ongoing geophysical processes.
Science News, Feb. 19, 2005, Vol. 167

NATIONAL DARK SKY WEEK ACTIVITIES

The Club members of the Green Mountain Alliance of Amateur Astronomers (from this point forward, referred to as GMAAA, or "Grand Ma") would like all Vermont-based astronomy clubs to strongly consider having activities during National Dark-Sky Week. For those of you not familiar with NDSW, it is a single week out of the year, usually sometime in April, during which everyone in the United States is urged to help temporarily reduce light pollution by turning off any unnecessary lights so that we can step back for a moment and realize the wonder that our universe holds if everyone participates in getting us back to a state of less light infiltration nto our lives. It inspires all of us to use better lighting systems such that they emit less light into our nighttime skies. National Dark-Sky Week was founded not only to reduce light pollution, but to help connect with the night sky as a valuable resource. Mark the approximate week on your calendars or PDA's, and let's put our heads together to make some efforts that will mean a big difference to future generations. Perhaps we might think of having a synchronized series of Star Parties at each of our home locations. As time is drawing near, let's put our heads together on this one; talk to your club members at your next meeting about this, and let me know what they're thinking. This could be a positive activity to educate the public about light pollution, amateur astronomy, and a promotional tool for future club successes.

Mark Your Calendars!

(From the Hildene Astronomy Club)

HILDENE'S GUIDE TO THE GALAXY

Manchester, Vermont - To learn about how astronomers know what they know about the Cosmos,

and everything in it, Hildene and Burr & Burton Astronomy Clubs are co-sponsoring a lecture by Professor John Thorstensen, Chairman of the Dartmouth College Department of Physics and Astronomy. The informal talk, regarding the size and scale of what we see in the Universe, and the nature of the evidence that makes those results so compelling to scientists, will be delivered on Friday, March 11. The session will be at Burr & Burton's Smith Center in the Hunter Seminar Room in Manchester, and is open to the public at no charge. Doors open at 7:00 and the lecture will begin promptly at 7:15 PM. It will last approximately one hour, followed by a question and answer period. The BBA Astronomy Club will provide refreshments.

The lecture is a renewal of decades old collaboration between Hildene, the former summer residence of Robert Todd Lincoln, and Burr & Burton Academy. In 1926, Lincoln's widow donated Robert's 1909 6" Warner & Swasey refracting telescope, and the funds needed to build an observatory to house it, to what is now Burr & Burton Academy. After several decades of use at the private secondary school serving residents of Manchester and surrounding towns, the telescope was returned in the early 1990's to its original and now restored observatory at Hildene. With the help of the Hildene Astronomy Club, the telescope was refurbished in 2003 and today is available during viewing sessions organized by the club for members, community groups, educational organizations, and the general public. Immediately following the lecture, weather permitting, the public is invited to attend an informal observing session at the observatory at Hildene. Potential observing targets are Saturn and Jupiter, the Great Orion Nebula (M-42), and the "Beehive" cluster (M-44). Anyone planning on attending the star party is advised to dress warmly and to bring a small flashlight. Extra binoculars and telescopes are welcome but not required.

The observing session and lecture are another public outreach effort by the Hildene Astronomy Club since it was designated last year as a member of the NASA/Jet Propulsion Laboratory's "Night Sky Network." For further information regarding this or other Hildene Astronomy Club events, or to schedule an observing session for a community or educational group, contact the club by email at astro@hildene.org or by visiting the website at www.hildene.org/HAC.

Catherine Stewart Hammond
Hildene Astronomy Club
Steering Committee

Kudos to Tim Woos!

The GMAAA is pleased to announce its monthly "Star" award to Tim Woos of New Haven for his wonderful video cam photos, one of which was the Picture of the Day at Astronomy.com. Well done! In association with this sudden success, Tim has set up a web site in order to sell the digital video shot and others taken on the very night the Boston Red Sox won the World Series,

making these photos very special indeed! In true Sox-loving fashion, Tim must have had to "look away" from the game, in fear that they would find another way to lose, and instead turn his interest to an equally rare event!

You can find Tim's photos at: www.tinyurl.com/3njej which then leads you to http://www.gmavt.net/~wooscon/TimLunarEclipse.htm

---

VERMONT ASTRONOMICAL SOCIETY

Be sure to visit their web site at http://www.uvm.org/vas/
Next meeting: Monday, March 7, 7:30pm. Topic: 1) Balloons and Sensors or 2) Mirror Mirror, a book discussion by author Mark Pendergrast

The next meeting of the VAS is Monday, March 7th. The VAS is a group of amateur astronomers that has been serving northern Vermont for 40 years. Their membership ranges from beginning naked-eye stargazers to advanced amateurs with home observatories and elaborate equipment.

The VAS was founded in 1964 by a small group of Chittenden County residents utilizing temporary observing sites and portable equipment. Today, the VAS is an organized and enthusiastic group of amateur astronomers dedicated to promoting amateur astronomy in Vermont, improving public awareness of astronomy, and serving as an educational resource for Vermonters of all ages. The VAS sponsors both club observing programs and public events.

Monthly meetings are held in the Waterman Building on the University of Vermont campus, 7:30 pm on the first Monday of each month. If the first Monday is a holiday, the meeting will occur on the following Monday, as it does this month.

For further information, contact Jack St. Louis, President, at (802) 658-0184, John.St.Louis@uvm.edu.

HILDENE ASTRONOMY CLUB

Be sure to visit their web site at http://www.hildene.org/hac/
Next meeting: Friday, March 11, 7:15pm. Topic: Public lecture at Burr & Burton Academy's Hunter Seminar Hall, followed by observation get-together (see above)

The Hildene Astronomy Club's mission is to preserve the 6" Warner & Swasey f/13.3 refractor owned by Robert Todd Lincoln, both mechanically and aesthetically, and includes the historical information, records, and documents pertaining to this historic instrument. Additionally, the club is

dedicated to promoting the public interest in astronomical observation, especially using Hildene's historic telescope, as well as other amateur instruments, and to stimulate knowledge and appreciation in and of the
astronomical sciences.

Public lectures and "star parties" are held several times throughout the year, and "member-only" observing events are held more frequently as demanded by the celestial fare du jour and the whims of the members, usually at the Observatory on the grounds of the historic Hildene estate in Manchester, to which the club has exclusive access. The club, which has
been designated by NASA as a member of the NASA/JPL "Night Sky Network" of amateur astronomy organizations, also conducts various educational events at the request of local community groups, educational institutions, scouting organizations, etc. The club is organized and operated under the auspices of the Friends of Hildene, Inc. a non-profit organization that owns and operates the historic Robert Todd Lincoln estate in Manchester.

The club currently does not hold regularly scheduled public meetings, but expects to begin offering regular monthly outreach meetings later in 2005. The club's business is conducted by private meetings of its appointed chairman and steering committee.

For further information, contact Doug Harrington, President, Hildene Astronomy Club, PO Box 377, Manchester, VT 05254-0377, (802) 362-1788, Longshadow@compuserve.com, or astro@hildene.org.

SPRINGFIELD TELESCOPE MAKERS

Be sure to visit their web site a www.stellafane.com
Next meeting: Meetings are closed to the public

The Springfield Telescope Makers is a private non-profit group of telescope makers and astronomy enthusiasts that has been involved in promoting amateur telescope making since its informal beginning in 1919, and its incorporation in 1926.

The STM's are best known for the annual telescope makers convention, known as Stellafane, held each summer on their property on Breezy Hill in Springfield, VT. This event draws between 1,500 and 3,500 amateur and professional astronomers and telescope makers from all over the world. The convention has been held annually since 1927, with only a few years missed during W.W.II.

They maintain two observatories, a clubhouse, and several other buildings. Their pink clubhouse (1924) and the Porter Turret Telescope (1930), and the original 3 acre plot of land comprise Stellafane, a National Historic Landmark. They also own approximately 80 acres of land about

1/4 mile to the east, nicknamed "Stellafane East", where the McGregor Observatory (1996) houses one of the largest Schupmann medial telescopes in the world.

Membership is by approval of the full members of the organization. To become an STM member, one must be nominated by an existing full member, and must have made an approved optical surface (usually a reflecting telescope mirror) by hand. Generally, people are nominated when a full member feels a prospective member will be a valued addition to the club. It is assumed that one will not only know how to make telescope optics, but will also have some facility in teaching these skills to others, a central part of our mission. Most current members were nominated by taking a sustained interest in the organization and by dedicating themselves to the service of the club in some way, in learning its considerable history and influence on the ATM movement, and in general, helping out with their convention preparations and ATM classes throughout the year. Once nominated and approved, a new member must serve as an associate member for at least one year, and may then be nominated for full membership (with voting rights). Unlike many other clubs, membership is only open to those who have made telescopes and who are approved by a vote of the full members, and there is an expectation of work or service to the club.

They meet once per month; the dates are fixed at the annual business meeting in November for the following year, and generally fall on the Saturday closest to the new moon each month, though there are some exceptions due to holidays, etc. These meetings are generally open to anyone interested in amateur telescope making, though only members may debate club business, and only full members may vote. The two closed meetings are the annual business meeting in November, and our annual long-range planning meeting, held each January. In addition to their monthly dark-sky meetings and work sessions,

Our meetings follow the following format: From April through November they hold a "work session", usually with multiple fronts, (and mostly outdoors) from 10 A.M to 4 or 5 P.M. They then take a rest and wash up for dinner, which is served at 6 P.M. Their monthly business meetings usually start at 7 P.M., and last until they adjourn, usually 8:30 or 9 P.M. In addition, they hold additional work sessions on full-moon weekends when weather allows. The best way for a hopeful prospect to be nominated for membership is to come to the work sessions and help out.

Interested parties should peruse their web site for additional details and meeting dates. They have an excellent and extensive ATM section for those interested in making their own telescope mirror.

For further information, contact Brad Vietje, President, bpvbooks@netzero.net. You can mail your inquiry to Stellafane/Springfield Telescope Makers, PO Box 50, Belmont, MA 02478.

VINS ASTRONOMY CLUB

(Club currently has no web site)
Next meeting: Tuesday, March 8, 7-9pm at the VINS North Branch Nature Center
Topic: Stargazing, general
if cloudy, slide show for beginners on what they can observe in the night sky

The VINS Astronomy Club is a new club for amateur astronomers started this past fall at the VINS North Branch Nature Center in Montpelier. The club meets monthly for stargazing, weather permitting, and over the next year, we plan to develop a guest speaker series. There is currently an annual fee per family ($50 for VINS members, $75 for nonmembers) to join the club or a per session fee of $5 for adults, $2 for children. VINS Astronomy Club members can attend as many sessions as they like, free of charge (beyond the annual fee). The club is very much in its infancy, with no president or other officers. Club meetings are currently run by a VINS staff person, but the hope is for the club to evolve and become self-sustaining, with VINS serving as a sponsoring organization.

For further information, contact Chip Darmstadt, Director, VINS North Branch Nature Center, 713 Elm Street, Montpelier, VT 05602, (802) 229-6206.

GREEN MOUNTAIN ALLIANCE OF AMATEUR ASTRONOMERS

(Club currently has no web site; publishes Starry Messenger newsletter)
Next meeting: Spring stargazing event at Mill River Union High School
Many others in planning stages, including:
Star Light, Star Bright, Star Night stargazing event at Hubbardton Battlefield, August
(http://www.historicvermont.org/events/Hubb04Stars.htm)

The Green Mountain Alliance of Amateur Astronomers is a club of astronomy enthusiasts that reside in central Vermont. The purpose of the club is 1) to promote and foster the continuance and growth of the science of amateur astronomy throughout their area of influence; 2) to provide an educational and recreational activity for club members; 3) to help develop a greater interest and understanding of astronomy; 4) to provide instruction to club members (e.g. proper use of a telescope) and; 5) to provide the opportunity to serve the community in other related activities (e.g., conservation (light pollution), public stargazing events).

For further information on the club, membership, or Starry Messenger on-line newsletter subscriptions, contact Ronald Lewis, Founder, 1211 Forest Dale Road, Brandon, VT 05733, (802) 247-5913.

Expected to be a major contributor to the long-term success of this club is the observatory at Castleton State College and its new Physics Department teacher, Catherine Garland. I would like

to introduce the readership to Ms. Garland in her own words:

“Hello! It is a pleasure to introduce myself to all of you in the Green Mountain Alliance of Amateur Astronomers. My name is Catherine Garland and I am the new physics professor at Castleton State College. I teach undergraduate courses in physics and astronomy and I am also interested in doing astronomy outreach work with local students and the general public. You can imagine, then, that one of my first priorities is to get the Castleton Observatory's Unitron telescope up and running! We are well on our way, thanks to Ron Lewis putting me in touch with an excellent telescope restorer. I know that Ron has already updated all of you on our progress. Another project I am working on is designing and installing some signs and information about the solar circle (or sun wheel) which is next to the Castleton Observatory. It marks the locations of the equinoxes and solstices and I foresee using it with Castleton students and the community as well. My overarching goal is to share astronomy resources and information among all of us in this area of Vermont so that we can learn from each other and bring the joy and excitement of astronomy to as many people as possible.

For those of you who are curious about my background and what brought me to this area, I am originally from southeastern Ontario and was searching for a teaching focused position in a rural area close to my family. Castleton certainly fit the bill and I was overjoyed to start my position here last Fall, and hope to remain here for many years to come. I came here by a roundabout route--I completed a bachelor's degree in physics at Colby College in Waterville, Maine; a Master's in astronomy at the University of Florida in Gainesville, Florida; and a Doctorate in astronomy at the Institute for Astronomy on Oahu, Hawai`i. You can bet I am now ready for any sort of weather that Mother Nature has in store! I am involved in two kinds of research: I study effective teaching methods in physics and astronomy; and I study the gas and dust in galaxies, and how it affects their evolution.

I am looking forward to working and sharing with all of you. When we move a little further along with the telescope and begin planning public events I will make sure to let all of you know. If you have any questions, please feel free to contact me via e-mail at catherine.garland@castleton.edu.”

Catherine Garland
"There is no end to the adventures we can have if we seek them with our eyes wide open." (Nehru)

Astrophotos of the Month

NGC 1531/2: Interacting Galaxies
Credit & Copyright: T. Rector (U. Alaska Anchorage), Gemini Obs., AURA, NSF

Explanation: This dramatic image of an interacting pair of galaxies was made using 8-meter Gemini South telescope at Cerro Pachon, Chile. NGC 1531 is the background galaxy with a bright core just above center and NGC 1532 is the foreground spiral galaxy laced with dust lanes. The pair is about 55 million light-years away in the southern constellation Eridanus. These galaxies lie close enough together so that each feels the influence of the other's gravity. The gravitational tug-of-war has triggered star formation in the foreground spiral as evidenced by the young, bright blue star clusters along the upper edge of the front spiral arm. Though the spiral galaxy in this pair is viewed nearly edge-on, astronomers believe the system is similar to the face-on spiral and companion known as M51, the Whirlpool Galaxy.

Jupiter, obviously. Photographer unknown.

Unidentified galaxy. Photographer unknown.

Article by GMAAA Member LOUIS VARRICCHIO

Louis Varricchio was just selected as NASA's "solar system ambassador" to Vermont. He is available, gratis, to speak at public meetings, etc. and is currently putting together a talk on "NASA: The Moon, Mars and Beyond", which we hope to have him provide to our club in the near future. Louis writes a regular newspaper column, which some on you may have seen in papers in the Middlebury (Addison Eagle) and Rutland (Rutland Tribune) areas. With Louis' permission, here is an article by this NASA senior science writer :

Seeing Stars—
Warning! Planets under construction

NASA's Mars Exploration Rover (MER) mission operated by the Jet Propulsion Laboratory – with the wheeled Spirit and Opportunity robots – is focused on exploring the surface of Mars in two distinct locations. As you read these words, the twin rovers are providing on-going planetary researchers with a treasure trove of geological and climate data about the Red Planet.

The biggest surprise since the automated rovers began their work last year is that evidence abounds of a Mars that was once soaked by liquid water. The big question is: was it liquid water, in the form of lakes and seas, or was it liquid ground water percolating up from sub-surface rock layers?

Both Mars rovers employ a suite of sophisticated instruments mounted on the robot main body and an articulated arm. A trio of sensitive instruments top the list –
•••An alpha particle X-ray spectrometer measures X-ray radiation emitted by Mars samples. From this data researchers can identify the elemental chemical composition of Martian soils and rocks.
•••A Mossbauer spectrometer determines the composition and abundance of iron-bearing minerals that are difficult to detect. Identification of iron-bearing minerals have yielded information about early Martian environmental conditions, and last but not least,
•••A microscopic imager, a combination microscope and camera, provides extreme close-ups of rocks and soils examined by the first two instruments. The imager can spot tell-tale signs of life especially micro-fossils of the type found in the famous Mars meteorite ALH84001 in the 1990s.

In addition to drilling tools, the robots ability to navigate the rocky terrain permit Earthbound geologist to experience Mars' rocky reality virtually.

At a NASA news briefing in early February, MER chief Steve Squyres said "Water once flowed through these rocks. It changed their texture and their chemistry, and it left behind the clues that we've been able to read. It's a nice conclusion, and we feel pretty confident about it.

"The really cool thing here," he continued, "is that a groundwater environment like this would have been suitable for some simple forms of microbial life. That doesn't mean life was there, of course. But we flew this mission because we wanted to find out if Mars ever had habitable environments. And the answer, we now believe, is that it did."

The evidence that liquid water flowed freely at or near the planet's surface is supported by a mineral called jarosite, an iron sulfate hydrate. There's a lot of jarosite on Mars, at least at the Spirit landing site, and jarosite is a mineral that needs water to form.

A large amount of sulfur has also been found in some rocks. There's so much sulfur, according to Squyres, that scientists think there has to be a lot of sulfate salt in the rocks, which is hard to account for unless water as involved.

“I had a reporter ask me if this finding meant mission accomplished,” Squyres said. “My answer was, effectively, yet and no. On the one hand, we set out to learn something about Mars, and we’ve done it. If both rovers died tomorrow, heaven forbid, I think this mission now would always be thought of as a success.”

Article by GMAAA Member ERROL POMERANCE

Errol Pomerance has been a promoter of "everything astronomy" in central Vermont for many years. He has been a former astronomy professor at Castleton State College, owns a portable planetarium that he takes to schools state-wide, and he also writes a weekly newspaper column on astronomy for the Rutland Herald (Wednesday's Discovery section) and the Manchester Journal (Fridays). With his permission, here is his most current article:

Just Passing By

THE SKY TONIGHT (MARCH 4 TO MARCH 10)

Follow the arc (the handle of the Big Dipper) to Arcturus. For years we've heard that little device to find our way to one of the brightest stars in the nighttime sky. Rising above Arcturus (to the north) is the kite-shaped constellation of Bootes. At different ages, the meaning of this constellation has changed. Over thousands of years, not only have the central thoughts of people changed, but the axis of the earth itself has moved.

3000 B.C. Civilization is mostly agricultural. The North Pole, around which the sky turns, is much closer to Bootes. The Big Dipper is a plow cutting through the nighttime sky, pushed by Bootes, the Plowman of the sky. The nighttime sky reflected the daytime work of the people.

6000 B.C. The pole is close to the head of Bootes. Arcturus itself has moved closer to this head. The heavens now turn around Bootes and its brightest star, Arcturus. Bootes is now the Titan Atlas, supporting the world on his shoulders.

Modern astronomers know that Arcturus is passing through our Milky Way galaxy at almost a right angle. It will be a faint star in half a million years -- a moment in the life of a star -- and invisible after that. Not for a hundred million years will it return, tied to our galaxy by the invisible threads of gravity.

When stars die in our galaxy, they enrich the interstellar medium with the heavy elements -- carbon, oxygen, iron -- that we need to live. These metals are mixed in the gas clouds out of

which new stars are formed. Arcturus has had no part in this process. Unlike our sun, it contains no heavy elements. Arcturus could not even have planets, much less life. Arcturus is just visiting.

Keep looking up!

Astro Web Site of the Month

Here's a web site worth checking out this month, hidden away in the universe of web sites like a lonely comet. This site includes an astrophoto of the day that will usually make your heart skip a beat, much in the same fashion as did Tim Woos' photo of a flock of geese with a full moon in the background did last month! If you have found an interesting web site that you would like our membership to know about, send the URL to me and I will make sure it appears in future issues of Starry Messenger.

NESSIE
New England Space Science Initiative in Education

Email: nessie@mos.org

Web site: http://www.mos.orf/nessie/

New England Space Science Initiative in Education or "NESSIE" is a NASA initiative dedicated to fostering collaborations among space scientists and educators throughout the 6-state New England region.

NESSIE's role as a regional clearinghouse for space science research and education is enabled through this website and through a variety of targeted workshops and programs involving space scientists, K-16 educators, informal educators at science centers and planetaria, community leaders, and media professionals.

I took the liberty recently to provide them with updated information as concerns the largest 4 astronomy clubs in Vermont, a listing that they provide free; Club representatives should review that information to insure accuracy.

Astro Alert!

Celestial Neighbors

I am still looking for feedback from all of you on this state-wide solar-system project. With all the additional potential sites that are lining up behind the project, I may be taking the Boys & Girls Clubs out of the mix. I will be talking with representatives from the Montshire Museum in Norwich and the Fairbanks Museum and Planetarium in St. Johnsbury this week. I have been suggested a couple of sites to determine the min/max distances of the planets from the Sun, which will prove to the invaluable to site the models. More on this important project in the near future.

The exact call for help in the last Starry Messenger was as follows:
I have been contemplating organizing this project with one or two members of each of the existing astronomy clubs in Vermont. As this notice is being forwarded to each club's president, I will leave it up to them to offer their club contact who might best be interested in assisting with the Celestial Neighbors project.

Astro Funnies!

As we amateur astronomers can all use a good laugh when dealing with freezing cold metal parts, unanswerable questions put to us by kids, and too many facts to recall at an instant's notice, here's a few laughs to keep our hobby light-hearted. Enjoy!

How many astronomers does it take to . . .

Q: How many astronomers does it take to change a light bulb?

1) Ten! One to change the bulb, and nine to argue how their own bulb gives better colour.
2) None! Astronomers aren't afraid of the dark.
3) See the FAQs.
"What sort of light bulb should I buy?"
"Should I start with a candle?"
"Where should I buy my light bulb?"
"Where NOT to buy a light bulb."
"What type of light bulb to avoid?"
"What will I be able to see with my bulb?"
"How do I deal with telescope-pollution?"
"Can I buy a bulb for a friend?"
"Can I use my bulb in the daytime?"

Trick Question

Q: What is an astronomical unit?
A: One helluva big apartment.

Classroom Mania

A true incident that occurred in my class.
We were celebrating Galileo's birthday. The previous Friday I had given an hour long lecture on computing angular distances using star charts of the Mercator style. After the class sang Happy Birthday in Italian, I asked the following: "All right, who here can tell me the distance from Betelgeuse to Procyon using your standard chart?" A hand shot up immediately and my chest swelled with pride. They had gotten it, I thought. "About an inch and a half," came the response.

In Closing . . .

I feel truly blessed to be among so many friends here in Vermont that share a love of Astronomy. My own interest goes back to being a kid of perhaps 8-10 years old at a local festivity called the "Walnut Festival" located in Walnut Creek, California (the San Francisco Bay Area). Among the carnival rides, balloon-breaking games, and chameleons that I used to buy every year that died within a week of my (in)attendance to their nutritional needs, was a fellow who brought his telescope. He had with him an 3-legged easel that described a few facts about the Moon and Saturn, and for just 25 cents, he promised to have you on a world not our own. Well, I plunked down my hard-earned quarter, looked through his telescope, and my world has never been the same since. When I became a young adult, I promised to myself that one of the things I wanted to do from my short list of important accomplishments in my life was to turn the tables and share this "first time" experience with other kids, and even adults, who had no idea how unbelievable it can be to view our neighboring heavenly bodies. And that's why, no matter how powerful your telescope is, you need to brush off the dust, learn how to use it, and get it out there under the planets and stars, and show that kid walking by with nothing to do that there is a "mind-altering" event going on right at that moment through your tiny eyepiece. Be sure to include some information about what you're looking at that forces the amazement and further questioning, the same feeling, in fact, that we all experienced in our early start to this amazing hobby.

Answer to the Astro Quiz: If the speed of rotation at the Earth's surface is 1,000 miles per hour at the equator, what is it at the poles? Answer: Zero miles per hour.

Keep looking up, dust off that old pair of binoculars or telescope from the attic, buy an interesting

book on the nighttime skies from your local bookstore, and enjoy the beauty under our sky's dome!

If you liked The Starry Messenger, or have suggestions to improve it, drop me a line. Articles always welcomed!

Ron Lewis
Green Mountain Alliance of Amateur Astronomers
1211 Forest Dale Road
Brandon, VT 05733
247-5913
rlewis@WeGotNet.org