

Reflector

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September 2013



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Horkheimer Youth Service Awards • Leslie C. Peltier Award
Tinker, Scalar, Kibur, Sky

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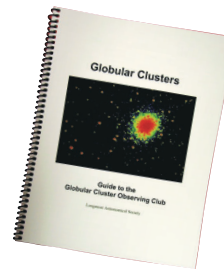
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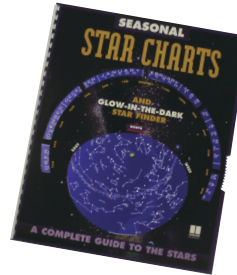
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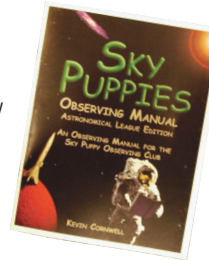
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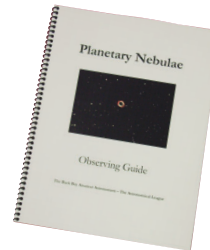
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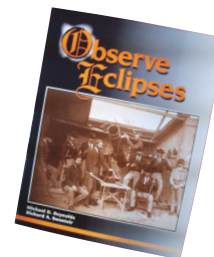
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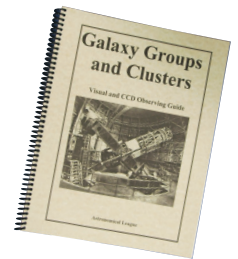
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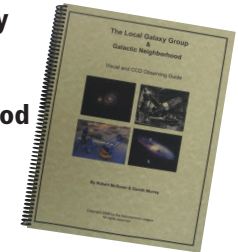
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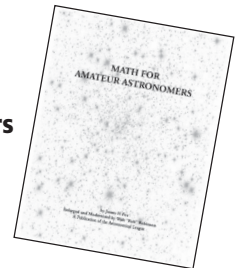
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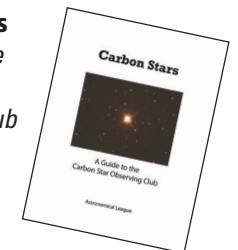
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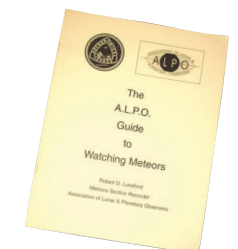
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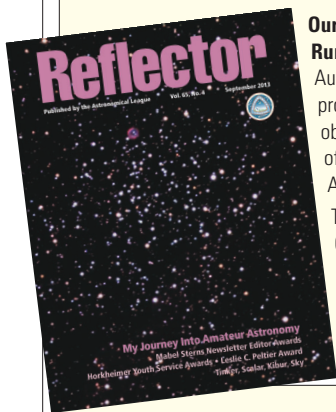


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Our cover: This image of M46 and planetary nebula NGC 2438 was taken with **Bob Runyan's** adapted LX200 cradle-mounted EON120 refractor/ST8i CCD camera. Autoguiding by his piggybacked ED80/Orion SSAG. Acquired with MaximDL/CCD and processed with MaximDL/CCD and Photoshop. Taken from Bob's AstroAsylum dome observatory located in his backyard in Shelton, Nebraska. Bob is a longtime member of the PVAO (Platte Valley Astronomical Observers; www.pvao.us) and the Astronomical League. His personal website is rcfotos.selfip.net/Runyan.

To our contributors: The copy and photo deadline for the December 2013 issue is October 15. Please send your stories and photos to our magazine editor, **Ron Kramer** (editor@astroleague.org), by then.

The Astronomical League invites your comments regarding the magazine. How can we improve it and make it a more valuable resource for you, our members? Please respond to the editor's email address above.

Reflector

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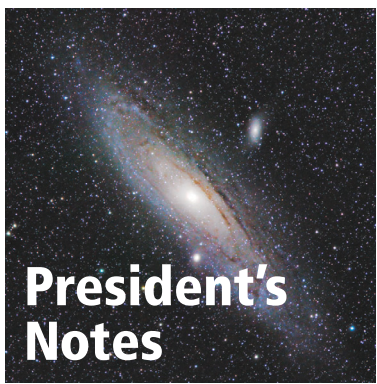
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Texas Star Party 2013

It was my pleasure to attend my first Texas Star Party in May. My traveling buddy for the trip was Tom Martinez, former *Reflector* editor, who made this return trip to TSP over twenty-five years after his first one.



President's Notes

Dave Clark, chairman of the Texas Star Party, was presented with the 2012 Astronomical League Award for his outstanding contributions to astronomy over many years.

It was a real honor to finally meet in person many of the people I have been in electronic communications with for many years, including Steve and Amelia Goldberg. In addition, I met and chatted with many people I had not met before. Thanks to Larry Mitchell for sharing so many views with me through his 36-inch telescope the first night.

It was great to see Anne Adkins, the League's publication chair, again. She is such a crucial part of the success of the League's observing manual program. She also is an integral part of the Texas Star Party operation and serves as secretary of the Southwest Region of the Astronomical League.

Another highlight of the trip was visiting McDonald Observatory. The observatory complex has been a leader in research and education for so many years, and it was great to see the instruments in person. Riding Prude Ranch's vintage school bus added to the charm of our trip

up the mountain.

I enjoyed attending the Southwest Region meeting of the Astronomical League. Last year's first-place winner of the League's Jack Horkheimer/Parker Service Award, Samantha Carter, attended the meeting.

Several foreign countries were represented and attendees traveled from all parts of the U.S.

Mid-States Regional Meeting of the Astronomical League


Just a few days after TSP ended, I traveled north to attend the Mid-States regional meeting. The Omaha Astronomical Society hosted this year's meeting in Mahoney State Park, west of Omaha. This natural setting gave an excellent touch to the overall convention experience. The

Continued on page 22

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A rapt audience at the MSRAL business meeting.



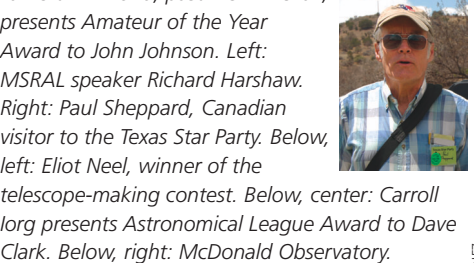
A star-b-que was held at the Strategic Air and Space Museum.



Far left: Bill Bond, past MSRAL chair, presents Amateur of the Year Award to John Johnson.



Left: MSRAL speaker Richard Harshaw.



Right: Paul Sheppard, Canadian visitor to the Texas Star Party.



Below, left: Eliot Neel, winner of the telescope-making contest.



Below, center: Carroll Iorg presents Astronomical League Award to Dave Clark.



Below, right: McDonald Observatory.

IDA Dark Sky Places Updated Guidelines

The International Dark Sky Places program is one of IDA's most successful and important efforts. The first International Dark Sky Place was Flagstaff, Arizona, which was designated an International Dark Sky Community in 2001. As of June 2013, there were four Dark Sky Communities, eleven Dark Sky Parks, and five Dark Sky Reserves. These locations include the southwest United States, New Zealand, Hungary, Scotland, and Namibia.

Several applications are currently in progress.

International Dark Sky Communities

www.darksky.org/component/content/article/36-night-sky-conservation/88-international-dark-sky-communities

According to the IDA website, an International Dark Sky Community is "a town, city, municipality, or other legally organized community that has shown exceptional dedication to the preservation of the night sky through the implementation and enforcement of quality lighting codes, dark sky education, and citizen support of dark skies."

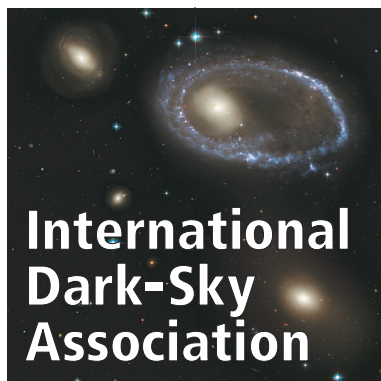
To qualify for such a designation, a community has to achieve and document a community-wide lighting code, promote responsible lighting, show dark sky stewardship, and be an outstanding example for surrounding communities to emulate. None of the Dark Sky Places awards are easy to achieve. There is an extensive application and review process, which is coordinated by Ameer Hennig (amee@darksky.org). All applications are reviewed independently by lighting experts separate from the IDA staff and board using the criteria available at www.darksky.org/index.php?option=com_content&view=article&id=142.

The most recent recipients of the International Dark Sky Community Awards were the Isle of Saark, Channel Islands, United Kingdom, and Homer Glenn, Illinois.

International Dark Sky Parks

www.darksky.org/index.php?option=com_content&view=article&id=86

According to the IDA website, an International Dark Sky Park is "a park or other public land possessing exceptional starry skies and natural nocturnal habitat where light pollution is mitigated and natural darkness is valuable as an important educational, cultural, scenic, and natural resource."



International Dark-Sky Association

The International Dark Sky Parks have exceptional night beauty, dark sky education, and a well-developed program to preserve the nighttime environment. The International Dark Sky Parks program has three tiers, Gold, Silver, and Bronze, with Gold representing the highest

award and the darkest skies, followed by the Silver and Bronze designations. The most recent Gold Tier Award for an International Dark Sky Park was given to Death Valley National Park earlier this year.

International Dark Sky Reserves

www.darksky.org/component/content/article/36-night-sky-conservation/87-international-dark-sky-reserves

The International Dark Sky Reserves are the epitome of IDA's mission.

According to the IDA website, an International Dark Sky Reserve is "a public or private land possessing an exceptional or distinguished quality of starry nights and nocturnal environment that is specifically protected for its scientific, natural, educational, cultural, heritage and/or public enjoyment mission of a large peripheral area. The International Dark Sky Reserve consists of a core area meeting the minimum criteria for sky quality and natural darkness, and a peripheral area that supports dark sky values in the core and receives benefits from them as well. The International Dark Sky Reserve is formed through a partnership of multiple land owners and/or administrators that have recognized the value of the starry night through regulation and/or formal agreement and/or long term planning."

Similar to the International Dark Sky Parks program, there are three tiers for International Dark Sky Reserves: Gold, Silver, and Bronze. Gold represents the highest award and has the darkest skies, followed by Silver and Bronze. Reserves are special places not only for their dark skies but also for their cultural heritage and their ongoing efforts to protect their dark skies and cultural values. The most recent International Dark Sky Reserves are NamibRand Nature Reserve in Namibia, which received a Gold Award in 2012, and Brecon Beacons National Park in Wales, United Kingdom, which received a Silver Award this year.

Take some time to peruse the IDA website

Continued on page 17

Reflector

QUARTERLY PUBLICATION OF THE
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Issued by the Astronomical League in March, June, September, and December, the *Reflector* is mailed directly to each individual member of its affiliate societies and to members-at-large as a benefit of League membership. Individual copies of the *Reflector* are available at \$2.00 each or as an \$8.00 per year subscription through the League national office. ISSN: 0034-2963.

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Dear Editor,

The American Astronomical Society's Division for Planetary Sciences is arranging a Pro-Am Workshop on Thursday, October 10, 5–10 p.m. at the Sheraton Hotel, Denver, Colorado.

We are trying an experiment at our scientific meeting this fall: a workshop bringing together professional and amateur astronomers interested in Solar System objects. The idea is a workshop where professionals present opportunities for collaborating with NASA missions and amateurs show samples of their observations.

Examples include observing Pluto during the New Horizons flyby; observing Jupiter's



clouds while Juno flies over the poles; taking images of Comet ISON to find time-variability; measuring light-curves of asteroids; following up on NEOs; searching for Moon impacts, perhaps related to NASA's Lunar Atmosphere and Dust Environment Explorer (LADEE) robotic mission; and observing Mars during the Mars Atmosphere and Volatile Evolution (MAVEN) mission.

The workshop will be held the week of the American Astronomical Society's Division of Planetary Sciences annual meeting in Denver, Colorado. To attend the DPS meeting you need to register (www.aas.org/meetings/45th-meeting-division-planetary-sciences) but the evening workshop will be open to all.

Participants wishing to present (five minutes, five slides) should send title and description (less than 200 words) to frbagenal@gmail.com.

Fran Bagenal

*Professor of Astrophysical and Planetary Sciences, Laboratory for Atmospheric and Space Physics
UCB 600 University of Colorado
3665 Discovery Drive
Boulder, Colorado 80303*

Dear Editor,

In the June issue, several articles mention the waning interest in astronomy as a hobby for the youth of today. Much in those gloomy articles is correct, sometimes not going far



Reflector Mail

enough into the causes. The loss of new blood may be real but I see a lot of interest that isn't being met. The Sonoma County and New Hampshire programs are doing an amazing job meeting the need, but they're only scratching the surface.

A few years ago when the kids on my home

block were just about to start high school and playing basketball on one's driveway, I approached them and mentioned I was going to set up my telescope (an ancient 6-inch EdSci reflector) and asked if any of them would be interested in coming to my house. That night there were only a handful but over the next few months that number grew to 12–15 boys and girls.

These neighborhood kids have knocked on my door several times since then to ask if I'll bring out the telescope; it's always a treat to treat them. And these kids aren't top-of-their-class either, just regular kids who get a thrill from not just seeing and learning about the sky, but the personal attention as well. The questions they pose show a curiosity that the school system doesn't satisfy. Only a few have pursued anything science-related but at least I planted the seeds. So I hope there's hope.

Peter Birren

Dear Editor,

I'm Dr. William Warren—vice president, observing chairman, newsletter editor and co-founder of the Flint River Astronomy Club in Griffin, Georgia. FRAC has been an Astronomical League affiliate since our founding in 1996. I am also Master Observer #4, and ten or eleven years ago an article of mine, "How to Become a Master Observer," appeared in *Reflector*.

My present offering, "Why I Observe," is my response to a growing but less well-publicized problem than the "graying" of astronomy that you addressed so superbly in the last two *Reflectors*: reduced attendance at club observings. I've written a book on motivation and that, combined with my MO status, has made it rather easy over the years for me to inspire our members to go out and observe.

No more, however.

In recent years, our members have become increasingly resistant to efforts to persuade them to buy observing gear or use the equipment or telescopes they already have, come to our monthly observings, learn

how to observe, or participate in the League observing pin programs. And since we are fairly typical of League affiliates everywhere, the problems we face (e.g., graying, reduced attendance at observing sessions) are likely the same ones that other clubs are facing.

In my article, rather than telling readers why they should observe—which sounds rather preachy to me—I’ve taken the more personal approach of telling them what observing means to me. I leave it to you to decide how successful I’ve been.

Bill Warren

*Flint River Astronomy Club
1212 Everee Inn Road,
Griffin, GA 30224*

Dear Editor,

Regarding the article in the June 2013 issue about the “graying” of the hobby, I can shed some light. At age 72, I have been in the hobby since 1952 and I spent almost 27 years in the educational system.

John Goss uses the term “structured pursuits” in his article. What he’s mostly referring to is *sports*. While light pollution is a factor in not getting interested in astronomy, the biggest threats today are sports, video games, “social networking,” and a lack of government interest in space exploration for the last 20+ years.

At one time in Pennsylvania, there were more school planetariums than in any other state. Now most are closed. You are fighting a losing game if you put astronomy against sports.

I could give you plenty of examples where sports take precedence over the sciences. I once gave a talk on astronomy to my son’s eighth-grade science class and over half the kids had a telescope, with several having Celestron SCTs. Today I doubt if you would find more than one or two scope owners in the entire school.

There is another problem—peers. In my day, those of us who expressed an interest in astronomy were called names. “Book-worms.” “Brains.” “Lunatics.” Today if you’re interested in astronomy or sciences like physics you’re a “nerd” or a “geek.” Socially, astronomy is almost taboo. Suppose you were at a party and you were talking about black holes, supernovae, dark energy and a host of other astronomy topics. Soon you would be alone in the room, or perhaps someone there who didn’t know the difference between astrology and astronomy would ask you to cast their horoscope!

When you figure out how to get the teenage and early-twenties crowd inter-

ested in the sciences and lower their interest in sports you might get some to get an interest in astronomy too.

Sincerely, Rodger W. Gordon

Editor’s Note

I certainly understand the comments regarding youth and astronomy. The organization which I am presently involved in, the Astronomical Society of Las Cruces (New Mexico), is very active with youth groups, including schools, Scouts, etc. and interest is certainly growing in our area. It sounds like other groups, such as the Colorado Springs Astronomical Society, are also doing very well.

The articles in the March and June issues of *Reflector* represent a cross-section of opinions from across the United States. The same is being said of stamp, coin, and many other hobby groups—they are dying.

While I do not have a grim outlook on our hobby, there is no doubt that the multitude of distractions present today are far greater than when many of us were in our youth. The articles presented were more of a “wake-up call” in that the issues need to be acted upon before things get totally out of control. Many societies across our country (and the world) are having difficulties retaining members, especially the younger ones. There are several exceptions, and that is very encouraging. However, overall there has been a decline in membership and participation.

Some signs are very positive indeed. They tell me that there are groups which are growing, and thriving. When we hold star parties in the Las Cruces area, there can be many hundreds of people attending. Many have never looked through a telescope before and are amazed they can actually see the rings of Saturn, or craters on the Moon. Several of these people join our society and become active members. Others join, and

within a few months, lose interest. But we see the overall trend increasing (at least locally).

But, unfortunately, nationally there has been a decline. Whether this decline continues, or reverses its trend, remains to be seen. I believe there is hope.

There are many “astro-apps” available, and the numbers are growing. Many of these are written by people trying to improve the hobby. Some others are for commercial gain. Regardless, most of these apps enhance astronomy and are very useful.

New telescopes still sell, but far too many instruments wind up in closets or garages because people lose interest too quickly. We receive donations of several per year (from 3-inch Newtonians to 12-inch Dobsonians) from people who are no longer interested in them. These either wind up in our telescope loaner program or are sold to society members. While we certainly appreciate the donations, we would prefer people make better use of their investments.

Ron Kramer

Dear Editor,

In May, from my backyard garden I was able to use my 32-inch Intergalactic Harvester to pull in a “Green Bean” galaxy, as discussed in my article from the June 2013 *Reflector*. SDSS J150517.6+194444 was a 17.9-magnitude speck seen using a 5 mm Type 6 Nagler eyepiece at 650x. Its color eluded me, but since it glows with light from excited oxygen molecules, I plan to see if a narrowband OIII filter will enhance it, as happens with faint planetary nebulae.

Dave Tosteson

Corrections & Clarifications

In the June issue, David Tosteson’s name was incorrectly spelled (Toteson).

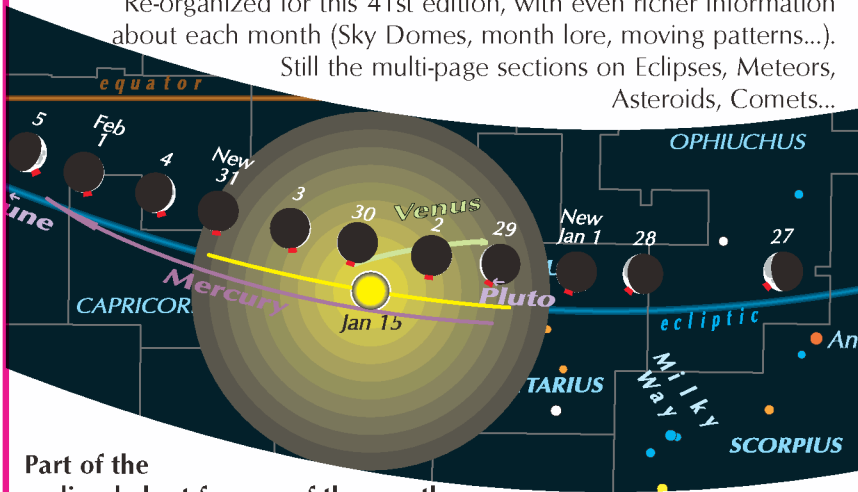
Also in the June issue, Page 10, the image of the Cocoon Nebula was inadvertently cropped. The article described objects which were not in the printed image, and it was described as being 40 x 30 arcminutes in size and the cropping reduced this size. The correct image is shown below.



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Astronomical League Searches for Young Astronomers

By David Eicher (written as a blog for *Astronomy* magazine; used with permission)

When I was at **NEAF** in New York last weekend, Astronomical League vice president **John Goss** asked me about young people in amateur astronomy. He showed me a copy of the March issue of *Reflector*, the League's quarterly publication, with the theme of "Youth and Astronomy." I hadn't seen the issue, having been on several recent trips, but was glad to read it carefully.

For some years, astronomy enthusiasts have noticed the regular meetings and star parties they've attended for years have been showing pretty much the same crowd, getting a little older and a little grayer every year. What's the deal with young people not getting into amateur astronomy in large numbers? Observing the Universe, seeing and appreciating Saturn, the Moon, galaxies, stars, and nebulae, and understanding your place in the cosmos all seem pretty cool. But fewer young people are getting into this hobby than in some previous eras. Why?

John described how the March *Reflector* took on that question. Its special section, "Where are the young in our astronomy clubs?" by League executive secretary Ron Whitehead, explored the issue with a variety of guest editorials.

Courtney Flonta, president of the Back Bay Amateur Astronomers in Hampton Roads, Virginia, contributed an essay on why we must bring more young people into amateur astronomy. Joshua Babin of the Houston Astronomical Society, himself just twenty-three, described some key reasons why astronomy interest has declined among young people. The League's webmaster, Vern Raben, suggested astronomy clubs must embrace technology to include young folks. Ted Forte of the Huachuca (Arizona) Astronomy Club discussed how people can grow into an astronomy interest slowly. And Craig Weatherwax of Oceanside Photo and Telescope (and a board member of the Astronomy Foundation) wrote about reversing the graying of astronomy.

It makes for an interesting and thought-provoking package. If you're interested in the state of amateur astronomy, the trends of who is involved in it, and why it has changed, then I really think this issue is for you. I urge you to get a copy of the March *Reflector*. You can contact the Astronomical League at editor@astroleague.org.

Editor's Note: Additional articles related to youth and astronomy are in the June issue of the *Reflector*.

Astronomy magazine has been able to capture the interest of young people like Grant Regens, the magazine's **2013 Youth Essay Contest** winner, but the hobby of astronomy continues to age.

Make ALCon even better!

We are interested in hearing your thoughts about the Astronomical League's annual convention, ALCon. Please help make ALCon even better by completing the survey on the League's website, astroleague.org.

The new *Sky & Telescope* Topographic Moon Globe shows our home planet's constant companion in greater detail than ever before. This globe is color-coded to highlight the dramatic differences in lunar elevations — differences that are less obvious when seen in pictures. Deep impact basins show up clearly in blue, and the highest peaks and rugged terrain show up as white, red, and orange.

This new globe is based on data from NASA's Lunar Reconnaissance Orbiter. The globe incorporates 4½ billion measurements and shows details less than a mile across.

Sky & Telescope's Topographic Moon Globe, along with the *Sky & Telescope* Moon Globe, are the first entirely new lunar globes in more than 40 years.

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Call for League officer nominations

The two-year terms of the offices of the Astronomical League President and Vice President end on August 31, 2014. If you are interested in using your talents to serve in one of these important positions, we would like to hear from you. Please volunteer!

For specific information regarding the duties and responsibilities of these offices, please refer to the League's bylaws, which can be accessed on the League website at www.astroleague.org/all/bylaws/bylawsrs.html.

Candidates should send nominating committee chair Ann House, secretary@astroleague.org, statements explaining why they are interested and photos of themselves for publication in the *Reflector*. Please limit all statements to approximately 250 words. All nomination materials must be submitted by March 15, 2014.

The Sky This Week

To find out what's happening in the sky the coming week, take a look at "The Sky This Week" on Astroleague.org.

Produced by our own Vern Raben, this weekly five-minute program covers the Moon, visible planets, comets, and interesting stellar features.

Why not tune in this week?

The Astronomical League's 2014 Youth Awards: Prepare Now!

Wouldn't it be great to be young again and to be entering amateur astronomy! Now is the time to start considering the Astronomical League's youth awards for 2014: the National Young Astronomer Award (NYAA) and the three Jack Horkheimer Youth Service Awards.

If you know a young person who has been involved in an astronomy related research project—either of his or her own doing or through an educational institution—please consider nominating that person for the NYAA. He or she must be fourteen to nineteen years old.

If you know a League member, eighteen years old or younger, who has brought amateur astronomy to your club or to the public through outreach, presentations, writing, or observing, please consider nominating that person for one of the three Horkheimer Service Awards.

Now is the time for potential candidates to work on their projects and to participate in various astronomy events. The deadline for the National Young Astronomer Award is January 31, 2014, and the deadline for the Horkheimer Awards is March 31, 2014.

If you are a club officer, nominate them. **If you don't, no one else will!** Complete information about each award can be found at www.astroleague.org/all/awards/awards.html.



ASTRONOMY DAY
Oct. 12, 2013 & May 10, 2014

The latest tips and information, as well as the Astronomy Day handbook and entry form for the Astronomy Day Award, are available on the League's Astronomy Day website.

Here's your chance to spotlight amateur astronomy while showing off your club!

Displays	Discussions
• Club information	• Relative distances
• Astrophotos	• Moon landing hoax
• Light pollution	• Life elsewhere
• Tonight's sky	• Black Holes

Demonstrations	Telescope Views
• Telescope varieties	• Solar filtered
• Telescope basics	• Moon
• How to find objects	• Daytime Venus
	• Daytime Jupiter
	• Landmarks

For more information, contact:
Garry Beckstrom
Assistant Astronomy Day Coordinator
810-853-7827
garry@beckstromobservatory.com

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We invite you to join our global community of people like John, who are passionate about astronomy, discovery, and the outdoors. Send us your stories and share the cool places you use Celestron products. It could be a star party in your town, a favorite hiking trail, or your own backyard.

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MY JOURNEY INTO AMATEUR

By David V. Manning

Webster's Dictionary defines the word "outreach" as the "act of reaching out" and "the extent or limit of reach." Our Springfield Astronomical Society website starts with this statement. We are dedicated to the outreach of astronomy in the Ozarks, and we love to share our experiences with others. Wikipedia defines outreach as "an effort by individuals in an organization or group to connect its ideas or practices to other organizations, groups, specific audiences, or the public. Outreach often takes on an educational component."

As a teenager, I grew up in central New Mexico, where the clear night skies were completely free of light pollution. I can remember lying on the grass in our yard and looking up at the stars. I have always been fascinated by what I have seen, but I did not have a telescope or binoculars to observe with, so I put astronomy to the side. In 1998, I was

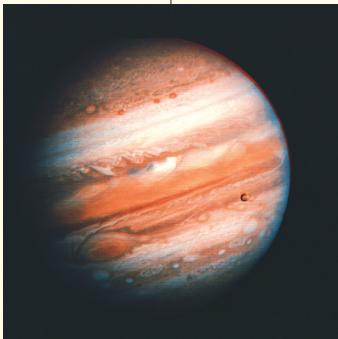
recognized for 25 years with the company that I worked for. I was given the opportunity to pick something that I would like to have, within a

certain dollar value assigned to my years of service. I chose a Meade 4500 4.5-inch equatorial reflecting telescope with a motor drive. I was aware of several individuals at work who had telescopes, but I was not aware of an existing astronomy club. After trying to "get my feet wet" with my new telescope without guidance, I lost interest.

I put the telescope back in the box and put it in the attic. Sometime in 2008, I decided to get the telescope down and set it back up. I had no books to refer to or friends to call and ask about how to properly use the telescope until about two and a half years ago.

We had a new family start attending our church and I got to know them. I found out that the husband and father was the president of the local astronomy club in Springfield, Missouri. I talked to him and he invited me to his home to observe through his 20-inch Obsession telescope. He loaned me his books and binoculars so that I could start learning about the stars, objects, and constellations. Through this hobby, a friendship developed and now we spend time together working at our club's monthly outreaches.

The moment that changed astronomy for me took place when I had the opportunity to observe the Universe through that 20-inch Obsession telescope. He showed me Saturn and M13, the great star cluster in Hercules. He then showed me M13 through his TeleVue Nagler 9 mm eyepiece. It was as though I was looking at a diamond. My only response was "wow!" This one moment changed how I viewed astronomy. I now use the Meade 4500 4.5-inch telescope with a Baader film



filter for solar observations and solar outreaches. My newer telescope is a Zhumell Z12 12-inch Dobsonian that I use for all of our club's nighttime outreaches. I now have an Astrozap glass filter for the 12-inch Dobsonian so it can also be used for solar outreaches. The telescope is not a portable telescope by any means, but it has been transported over 1,246 miles in the bed of my pickup to outreaches. During the last two and half years, I have taken the Dobsonian 12-inch and the 4.5-inch to 23 outreaches. In the course of the 23 outreaches since May 2010, 3,037 individuals have viewed the Sun, planets, and numerous objects in our Universe through my telescopes.

I am heavily involved in our astronomy club and have received my first Astronomical League observing pin—the Basic Outreach pin. I just completed work on the Stellar level of the

award. My second Observing Award was the Lunar Award. I am also working on the Lunar II, Messier, Binocular Messier, Double Star, Constellation Hunter: Northern Skies, and Sunspotters programs. The observation clubs help us become more familiar with the objects we share during outreaches.

Outreaches are our way of sharing our love of our hobby with the public. We should all keep this important factor in our outreaches in focus. Our ultimate goal, as individuals and as a group, is to always remember that at some point, we were in the position of the individuals who are observing through our telescopes at these outreaches. It should never be about the presenter, only about the seed that might be planted in the mind of a child or young adult to become an amateur astronomer, or to work in the field of astronomy as an educator, or

R A S T R O N O M Y

astronomer or other scientist.

Our local outreaches involve the Springfield Library Center, the Discovery Center, and several fourth- and fifth-grade science classes. We have also participated at John Thomas School of Discovery, Nixa, Missouri, during their open house fair for prospective students and parents. The focus of this school is on the sciences, math, and regular elementary classes. Other avenues have been the Springfield Lions Club at the Springfield Botanical Gardens and the Springfield-based

Wonders of Wildlife Museum activity, which takes place at the Roaring River State Park near Cassville, Missouri, and Ritter Springs Park near Springfield. Our club was involved in an outreach at the



kickoff of fundraising for the new Southwest Missouri Planetarium and Science Center in Branson, Missouri. Our furthest outreach to date was the 246-mile round-trip for a solar and evening outreach for 105 children, from toddlers to teenagers, at the Hammond Mills Camp near West Plains, Missouri. This week-long camp

is for under-privileged children. All these events are annual or occur multiple times during the year. The neatest outreach we did this year was the transit of Venus across the Sun. One of the local television stations covered the event and connected a satellite truck to one of the twelve telescopes present for a live feed of the event. The event was shown on the evening news.

As important as the outreaches are, local astronomy clubs can offer new friendships, education on how to use new equipment, and knowledge from other members who give lectures on their fields of interest such as astrophotography, the types of stars, or astronomy software. There might even be a member who can diagnose a problem with a piece of equipment, such as a finderscope, and fix it at the club meeting. Being able to borrow eyepieces and equipment to evaluate prior to purchasing is another benefit. To me, the biggest benefit is just being around others who share your interest.

My biggest joy now is to hear the word "wow!" from someone looking through my telescopes. I have gone full circle in my quest as an amateur astronomer. The next part of this journey is to continue with the outreaches and observing clubs, become involved in astrophotography, and again be able to share my hobby. Since I am retired, I am available for all daytime and nighttime outreaches when needed, even on short-notice events. Ultimately, it is my mission as an amateur astronomer to provide the opportunity to light the spark within. ☀



2013 Walter Scott Houston Award

By Maryann Arrien, Chair, Northeast Region of the Astronomical League

It is my great pleasure to announce that, by unanimous vote of the NERAL Executive Committee, the **Walter Scott Houston Award** of the Northeast Region of the Astronomical League (NERAL) was awarded to **Dr. Kristine Larsen** of New Britain, Connecticut, at this year's **Stellafane Convention** in Springfield, Vermont, on Saturday evening, August 10.

Dr. Kris Larsen is maybe best known to most Stellafaners as the person who teaches the youth astronomy program at the **McGregor Observatory** during the Stellafane Conventions. I remember back in 1995 when Dr. Larsen first started these Saturday afternoon astronomy activities for kids with innovative crafts to teach children the constellations. Over the years she has expanded the program, and this year at Stellafane on Friday and Saturday she taught four different one-hour classes to children ages five to twelve on the Solar System, phases of the Moon, how telescopes work, and "phun with photons" illustrating diffraction and lighting effects. It is significant to me that her vision in 1995 was to bring more children into astronomy—and now almost twenty years have passed since she taught her first young students!

Dr. Larsen is also a highly prized astronomy professor at **Central Connecticut State University**, where she teaches cosmology, planetary and stellar astronomy, Earth science, astrophysics, and a course on contributions by women to stellar and galactic astronomy. She also runs observational programs including night sky workshops, planetarium events, and a "Partners in Science" series for middle school students. She is known for her creative methods of bringing movies, science fiction and fantasy, rock music, and popular culture into her educational efforts. Her books and scholarly writings also strive to bring science into the mainstream to inspire more girls and boys to be scientists in the future. Already she is creating a new history. Her many writing credits include the books *Cosmology 101* and *Stephen Hawking: A Biography*.

She has also been very active in the **AAVSO** for many years as a council member, curriculum adviser, solar observer, and frequent contributor of articles that are viewable on the AAVSO website. She recently joined the team as an assistant editor for the Astronomical League's *Reflector* magazine.

NERAL is very pleased to give this award to this esteemed astronomy educator who recognized early the need to bring more youth into amateur and professional astronomy.

Congratulations, Kris!

TINKER, SCALAR, KIBU

*What is old a'new, a part yet together, staid but moving?
Where do the smallest jots of the deepest field
Sow nearly how no metals meddle with mettle?
Who has found the bricolage of grand spirals
Hiding proximally in plain sight, and
Why have voided vassals succumbed so late to
gravitational mortar?*

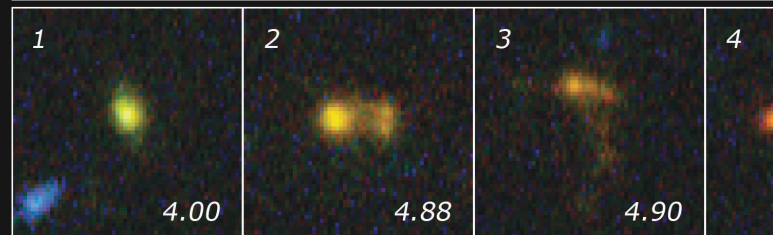
*Will their sacrifice signify nearby notice of an ancient,
distant concinnity,
Ordonnance from a long ago war
Whose cities formed far from this battlefield, or
The fortuity from which we were born,
A parturistic pastiche with remnants relegated to
expansive oblivion?*

By Dave Tosteson

Galaxy formation has intrigued astronomers for decades. Since these “island universes” were recognized for what they really were in the 1920s and their varied shapes, sizes, and types studied in ensuing years, curiosity has enshrouded their origins. In December 1995, the refurbished **Hubble Space Telescope (HST)** was employed in a novel manner. No previous instrument had been used to stare continuously for so long a period at one point in space. Committing 100 hours of discretionary time, director **Robert Williams’** venture could have produced little return. Instead, the **Hubble Deep Field** became the iconic image representing the best of science and technology, pushing the boundaries of knowledge to gain unexpected and unprecedented information. Hundreds of papers have been published on it and its sister projects, the **Hubble Deep Field South** in Tucana and **Hubble Ultra Deep Field** in Fornax.

That Hubble would spot new, fainter, and more distant galaxies was anticipated, but the results exceeded all expectations.

Three thousand galaxies to redshift 5.5 dotted the screen. Irregular, blue, and star-forming small galaxies filled the field, and Sam



Galaxy Building Blocks in the Hubble
Hubble Space Telescope • ACS

NASA, ESA, and N. Pirzkal (STScI/ESA)

Pascarella’s 1996 follow-up imaging labors in Hercules and the Hubble Ultra Deep Field in 2003 showed that in each region, the Universe

was teeming with small galaxies and galaxy fragments, likely the building blocks of the large spirals and ellipticals we see today.

R, SKY



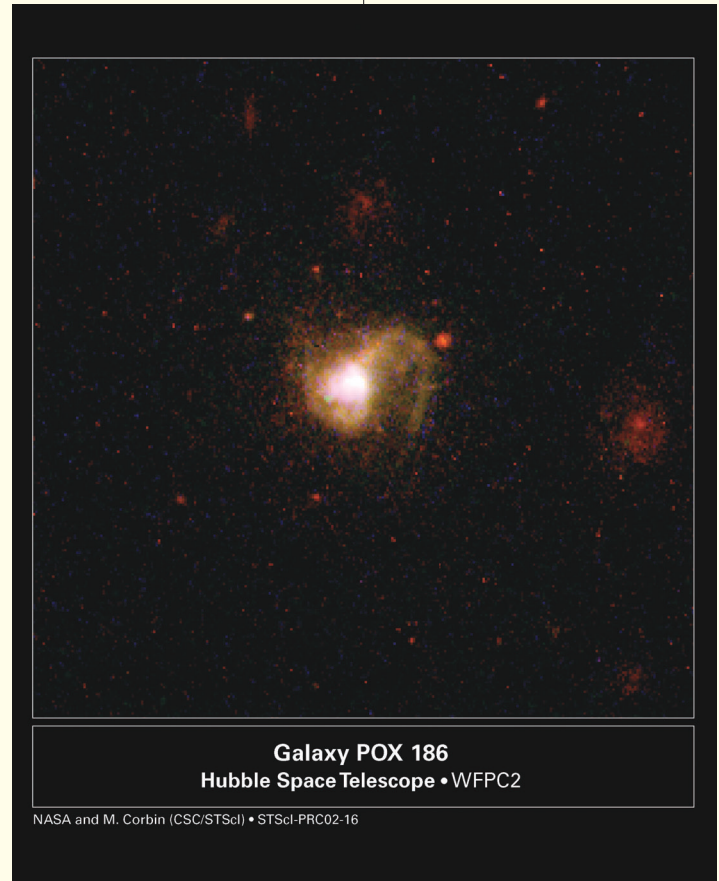
In 1981, Kunth and his colleagues rekindled Zwicky's studies of small, emission-line galaxies and came across an object near

Spica in Virgo. Called POX 186 (POX for the *prism objectif* method of study), this tiny object, only a few arcseconds across, was speculated to be a protogalaxy, as it appeared to be forming its first generation of stars. First designated a blue compact dwarf galaxy, it was considered a transition stage in dwarf evolution from gas-rich to gas-poor. Star formation rates of over 100 solar masses per year, strong supernova winds, and low galactic escape velocities would quickly deplete such a small (kiloparsec-wide) structure of gas. Other studies in the 1980s revealed metal lines signifying that POX 186 contained at least some older stars, throwing into question its status as a galaxy in the initial stages of formation.

The situation was clarified in 2002, when Michael Corbin and William Vacca imaged POX 186 with the HST. Finding it even smaller than previously thought, it was reclassified as the prototype of a new class of galaxies: an "ultracompact blue dwarf." Characterized by redshifts less than 0.01 and diameters less than a kiloparsec (6 arcseconds on the sky), these were extremely metal-poor structures with groups of young stars only several million years old, indicating some type of recent triggering mechanism. The first few were found in voids between galaxy groups and clusters, apparently quiescent for billions of years, historic guardians of forever. Their locations made sense, as quiet gravitational backwaters between actively

growing galactic groups and clusters. When the forces of Khan and Alexander marched through Khyber Pass, terrain dictated the growth of cities along

as two interacting pieces, it was found with stars both old and new. Those one to ten million years old were likely created in the gravitational event that recently



ancient and medieval Eurasian trade routes. Similarly influenced by landscape-changing forces, these young galaxies grew from gravitational alluvia flowing into voided interstices.

Corbin studied a second emission line galaxy, HS 0822+3542 in 2005. Only 41 million light-years away in southern Lynx, its 17th-magnitude glow showed as a dim speck with no internal structure in my 32-inch reflector using 361x from the 2009 Texas Star Party. Slightly out of round on the POSS plate, Hubble brought out its true shape and structure (Corbin et al., 2005, Figure 1, p. L90). Clearly shown in that image

brought the two pieces together. Data also identified stars up to ten billion years old from the segments' initial formation. The nearest large galaxy was outside the void, over 3 megaparsecs away, a situation analogous to having two quarter-mile-wide villages next to each other on Earth, with the only large city on the planet antipodal.

In 2006, Corbin published a group of nine ultracompact blue dwarf galaxies culled from the archive of SDSS data, and on January 10, 2012, the Space Telescope Science Institute extended the idea of galactic hierarchical cluster-

Continued on page 17

2013 MABEL STERNS NEWSLETTER EDITOR AWARDS

Mabel Sterns was the Astronomical League's first newsletter editor and this is the sixteenth year of granting the Newsletter Editor Award in her honor. The award recognizes one of the most important people in any club, a person who is a primary source of beneficial information to club members: the Newsletter Editor.

Most of the time, newsletter editors don't get much recognition while they do their steady tasks of keeping the membership informed about what goes on in their astronomy clubs. They publish newsletters despite often not having enough material to fill the edition, magically creating interesting articles at the last minute.

With this competitive award, the strengths and weaknesses of each newsletter must be weighed. Many different attributes might be considered—from specific forms of content such as membership information, meeting information, or astronomical calendars to more subjective ones such as the appearances of its masthead and layout.

First Place: Erika Rix, Austin Astronomical Society, *Sidereal Times*



Engaging the club membership is a goal essential to any successful newsletter. Erika Rix excelled in that task by including in the *Sidereal Times* pertinent information on club meetings, activities, and events along with a significant amount of member-contributed content. A description of the upcoming monthly club meeting—location, time, and featured topic—was clearly and

cleanly displayed on the front page.

AAS president Joyce Lynch was impressed with the results of Erika's efforts at offering more relevant news: "She greatly lengthened and improved it." The table of contents allowed easy navigation of the expanded format. The layout and design of *Sidereal Times* makes it a joy to read as it conveys the information that the member-

ship needs to know about amateur astronomy in the Austin area. It should go without saying, but the most important page of *Sidereal Times* was the section "Astronomical League News!"

Well done, Erika!

Second Place: David Olsen, Boise Astronomical Society, *Sky Watcher*

Beginning with both the table of contents and the club contact information being well placed on the front page, David Olsen's *Sky Watcher* lets the reader quickly know important information about the club and amateur activities. Members also easily learn about sky events in sections called "Calendar," "Solar System Highlights," "Idaho Skies," and an added feature spotlighting a specific constellation or area of the sky, called "Looking through the Eyepiece."

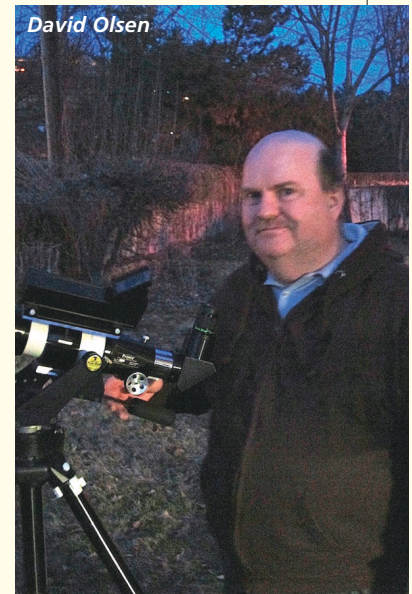
David's dedication to the newsletter was described by Boise Astronomical Society president Randy Holst: "He has worked diligently to produce an interesting, informative, and useful document for our membership. His talent and effort have enhanced communication and participation within our society." In other words, David succeeded doing what newsletter editors need to do.

The final page provided more details about the Boise Astronomical Society. Its concluding statement summed up the Society's philosophy: "Be safe, get out there, and explore your Universe!"

Third Place: Alan Knight, Southern Colorado Astronomical Society, *SCAS Times*

A colorfully designed and active layout are two charac-

teristics of the *SCAS Times*. Editor Alan Knight uses extensive graphics to capture the readers' interest and he conveys interesting news about amateur astronomy and



necessary information for the club. The newsletter contains meeting minutes, interesting astronomy facts, and a special section introducing new members—a sometimes overlooked opportunity to promote club camaraderie. A constellation column features stars and deep sky objects, while



other sections report recent outreach events and upcoming activities for the club.

2014 Mabel Sterns Nominations
For complete information about the 2014 Mabel Sterns Award program, please see www.astroleague.org/al/awards/sterns/sternss.html.

It is strongly recommended that the Astronomical League's logo be prominently displayed in the newsletter, preferably on the front page.

The deadline for submissions is March 31, 2014. The names of both the newsletter editor and the nominating club officer must appear on the general membership roster of the Astronomical League.

The nomination package should contain a letter from the club president or vice president explaining why their newsletter editor should be considered for the award, a recent issue of the newsletter, and a photo of the newsletter editor taken in an astronomical setting. Listing the club's website where electronic copies of past newsletters are posted would also be helpful. In addition, the postal address of the newsletter editor should be included.

The newsletter nomination materials may be submitted by any of these three methods: The preferable means is emailing the materials. The

supporting club letter and an issue of the newsletter should be attached in Adobe Acrobat PDF format, although Word format is acceptable for the club letter. The editor's photograph should be attached as a high-resolution JPG. Please email entries to SternsNewsletter@astroleague.org.

If electronic submission is not possible, paper copies may be mailed to the League's national office. Three copies of the letter of recommendation and of the newsletter are required. Only one copy of the photograph is needed.

If the newsletter is available on the club's website, then its web address can be given along with any password required to access it. The editor's photograph (JPG) and club letter (PDF) can be submitted in an email as instructed in method 1. ☀

2013 LESLIE C. PELTIER AWARD



The Astronomical League held its annual meeting, ALCon 2013, Summer Skies, Southern Hospitality, in Atlanta, Georgia, July 24–27, 2013.

The annual awards banquet was held the evening of July 27. This year's recipient of the Leslie C. Peltier Award is **John E. Bortle**.

Mr. Bortle's long and prolific observing career has encompassed a number of fields of study. An avid comet observer from the time his interest in these objects was initially stirred by the appearance of Comet Arend–Roland in 1957, he has accrued many thousands of observations of well over 300 individual comets from 1957 to the present. He authored *Sky & Telescope's* "Comet Digest" column that addressed current comet activity and history and ran monthly from 1977 to 1994. Since then, John has drawn upon his broad knowledge of observational astronomy in penning a number of additional articles for *Sky & Telescope* magazine addressing various comet-related and observing topics. In recognition of his work, the asteroid (4763) Bortle was named in his honor.

Concurrent with his decades-spanning interest in comets, John has exhibited an unflagging enthusiasm for observing variable stars in conjunction with the AAVSO. During his fifty-year associa-

tion with that organization he has amassed more than 205,000 estimates, mostly of cataclysmic-type variables. His nightly vigil under the stars, following their unpredictable fluctuations, continues whenever skies are clear above his W.R. Brooks Observatory. In the course of this variable star work, in 1970 he began and assumed editorship of the organization's *AAVSO Circular*, a monthly newsletter devoted to documenting the current activities of eruptive and other unusual variable stars. This publication circulated for thirty years, until John retired the newsletter in 2000.

John is also known as the creator of the Bortle dark-sky scale, first published in *Sky & Telescope* in 2001. Its descriptive nine-point rating scale is intended for use by serious observers to allow a more critical evaluation and description of sky quality at their observing locations. Today the scale enjoys wide use as a marked improvement over simply reporting limiting magnitudes. It is particularly favored by comet and deep-sky enthusiasts.

The members of the **Leslie C. Peltier Award Committee** are most pleased to present John with this well-deserved tribute to his immense contributions to astronomy. —*Roger Kolman*

Popular Astronomy Lectures Can Now Be Seen on YouTube

We are happy to announce that the **Silicon Valley Astronomy Lectures**, featuring noted scientists giving nontechnical, illustrated lectures on recent developments in astronomy, are now available on their own YouTube Channel, at www.youtube.com/SVAstronomyLectures/.

The talks include **Frank Drake** discussing his modern view of the **Drake Equation**, **Michael Brown** explaining how his discovery of **Eris** led to the demotion of **Pluto**, **Alex Filippenko** talking about the



latest ideas and observations of black holes, **Natalie Batalha** sharing the latest planet discoveries from the Kepler mission,

Anthony Aguirre discussing how it is possible to have multiple universes, and **Chris McKay** updating the Cassini discoveries about Saturn's moon **Titan**.

The lectures are taped at Foothill College near San Francisco and are co-sponsored by **NASA's Ames Research Center**, the **SETI Institute**, and the **Astronomical Society of the Pacific**.

Note that the top part of the channel—"recent uploads"—shows the lectures in the order they happened to be uploaded to YouTube. If you want to see them in chronological order, select "playlists," below.

Both new and older talks in the series will be added to the channel over time. Many noted astronomers have given talks in this series since its founding in 1999, and recent lectures are being recorded so that people around the world can "tune in."

Andrew Fraknoi, Chair, Astronomy Program

*Foothill College, 12345 El Monte Rd.
Los Altos Hills, CA 94022, USA*

2013

HORKHEIMER YOUTH SERVICE AWARDS

The Astronomical League is pleased to announce the winners of the 2013 Jack Horkheimer Youth Service Awards. This

marks the sixteenth year of the program, which is made possible by the generous sponsorship of the family of television's Stargazer, the late Jack Horkheimer. The winner of the

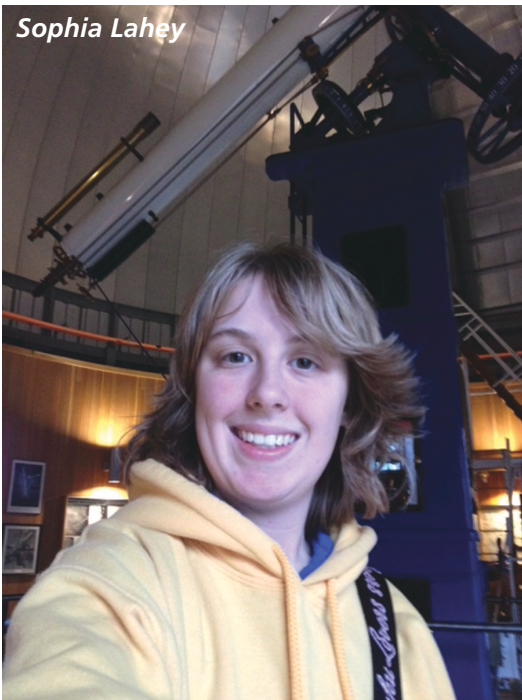
writes about the hobby she loves. Sophia is seventeen years old and has done all these things through her affiliations

The winner of the Horkheimer/Parker Award receives \$1000.

First Place, Horkheimer/Smith Award: Sophia Lahey, Sonoma County Astronomical Society

with the San Francisco Amateur Astronomers and the Sonoma County Astronomical Society. She is a senior at Sir Francis Drake High School in San Anselmo, California and lives in Fairfax.

Second Place, Horkheimer/Parker Award: Emma Marie Garrett, Temecula Valley Astronomers



Sophia Lahey

It is refreshing and encouraging to meet a young person who is active in more than one area of our hobby. Sophia Lahey is one such person.

She enjoys public outreach events given through the Chabot Space and Science Center, the Marin Science Seminar, and the Mount Tamalpais State Park astronomy program. She fights the scourge of light pollution by helping to initiate the process for lighting regulation in the Fairfax, California area. She explores the science side of astronomy by attending Astronomy Camp

Horkheimer/Smith Award receives an all-expenses-paid trip to ALCon, a commemorative plaque, and \$1000.

offered through the University of Arizona. She offers guidance on bringing youth into astronomy. She



Emma Marie Garrett

Emma Garrett is deeply involved in communicating the universe of astronomy to her club with her monthly newsletter column, "Teen's Eye on the Sky." Mark Baker, President of the Temecula Valley Astronomers comments, "She consistently serves to be an inspiration to her peers, and her infectious enthusiasm is a superb catalyst in getting adults and students, young and old, excited about the skies around us, day and night." Emma is active in outreach for both adults and youth, and is pursuing a responsible lighting ordinance. Last year, she was a ninth grader at Elsinore High School in Temecula, California. ☼

Staunton River Star Party - Fall 2013

October 1 – 6, 2013

Staunton River State Park
Scottsburg, VA (near South Boston)

For more information or to register
www.stauntonriver-starparty.org

Full party: \$60 Weekend: \$35

Sponsored by: CHAOS

Hubble/Continued from page 13

ing to a new level with the release of an image of five galaxies at redshift 6. At 13.1 billion light-years away, they appear ready to merge into something that could grow into a large cD galaxy, similar to M87 in Virgo. Just 698 million years after the Big Bang, this infrared coup may be only superseded by the upcoming James Webb Space Telescope.

Though the small galactic fragments visible to us as amateurs within these voids will likely merge, their ultimate fate is less certain. In the debate of accretion versus evolution, are they destined to remain as echoes of creation caught in voided limbo by cosmic expansion moving boundaries of accretion, or will disequilibrating gravity reknit Rubik relics toward a grander fete? ☼

Data:

POX 186: 13h 25m 50s, -11d 37m 36s; mag 17.6.

HS 0822+3542: 08h 25m 55.44s, +35d 32m 31.9s; mag 17.24.

References:

Corbin, Vacca, ApJ 581, 1039 (2002): POX 186.

Corbin, et al., ApJ 629, L89, August 20, 2005.

Corbin, et al., ApJ 651, 861 (2), November 10, 2006: 9 UCBGs from HST and SDSS.

Hubble News Release, January 10, 2012, Galaxy Protocluster, BoRG Infrared Survey.

Kunth, et al., A&AS, 44, 229, 1981.

Pascarelle, et al., Nature, September 5, 1996.

Dave Tosteson

Chisago City, Minnesota
djtost1@gmail.com

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Star parties are for you!

If you've never been to a star party, check out the list on page 22 and pick one that is close to you. Before you go, here is a sampling of what you can do there:

- Visit vendor booths to see firsthand the equipment you want.
- Look for a new scope. See the full variety surrounding you.
- Discover something. Take in a talk given by those who enjoy the subject.
- Observe something new. You're surrounded by those who have been there already.
- Meet like-minded people with whom you can talk shop.
- Learn about other clubs and how they do things.

Are these reasons enough for you? Well, here's one more: Experience the great camaraderie you'll find among people who enjoy what the sky offers. Star parties are made for amateur astronomers. They are made for you.

IDA from page 5

at www.darksky.org. It is full of useful and interesting information. Be sure to examine in more detail the IDA Dark Sky Places to understand what they represent and to understand why IDA is so proud to give these prestigious places a Dark Sky Award. Maybe this will motivate you, your friends, and your colleagues to start the process for a Dark Sky Award in your own community.

TIM HUNTER

Co-Founder and Past President, IDA
3225 N. First Avenue
Tucson, Arizona 85719-2103
Phone: 520-293-3198; FAX: 520-293-3192
E-Mail: ida@darksky.org; darksky.org

New Member Societies

Amateur Astronomers Association of Pittsburgh

Mid-East Region, 24 members
P.O. Box 314
Glenshaw, PA 15116
www.3ap.org
President@3ap.org
Terry Trees, ALCor
374 Vernon St.
New Kensington, PA 15068-5864
TreesT@Comcast.net



Fox Valley Astronomical Society

North Central Region, 40 members
P. O. Box 38
Wasco, IL 60183
www.fvastro.org
Mark Christensen, ALCor
36W500 Wild Rose Rd.
St Charles, IL 60174
mjcw500@att.net



Murfreesboro Astronomy Club

Southeast Region, 5 members
attheyepiece@gmail.com
www.murfreesboroastronomyclub.com
John Kramer, ALCor
5013 Boyd Dr.
Murfreesboro, TN 37129
geminijk@gmail.com



New Hampshire Astronomical Society

Northeast Region, 19 members
P.O. Box 5823
Manchester, NH 03108-5823
president.2013@nhastro.org
www.nhastro.org
Ken Charles, ALCor
15 Boylston Ave.
Nashua, NH 03064
starnek2550@gmail.com



San Juan Stargazers

MARS Region, 10 members
sjstargazers@gmail.com
www.SanJuanStargazers.com
Rick Bellows, ALCor
419 E. Golf Place
Pagosa Springs, CO 81147
rick.bellows@hotmail.com



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Registration and further information available at www.OzSky.org

EMAIL: INFO@OZSKY.ORG

Reflector's recent focus on youth in astronomy has me pondering the trajectory of

PLANTING COSMIC SEEDS

Adequate amounts of both disposable income and spare time certainly helped.

my own interest in the hobby, considering how possible it really is for adults to get young people interested in anything, and wondering if the crisis of disinterest in science in general, and astronomy in particular, is real.

I've been a certified space and astronomy nut since I can remember, possibly since a neighbor gave me a look at Jupiter through his homemade telescope. I was eleven years old when Neil Armstrong set foot on the Moon. I kept a scrapbook of clippings about aerospace news, and occasionally put some of my own creations into the scrapbook, such as a sketch and explanation of a "Moon probe" made when I was eight. I built model rockets and subscribed to a popular series of science booklets, the "Science Service Science Program," many of which took on topics of space exploration.

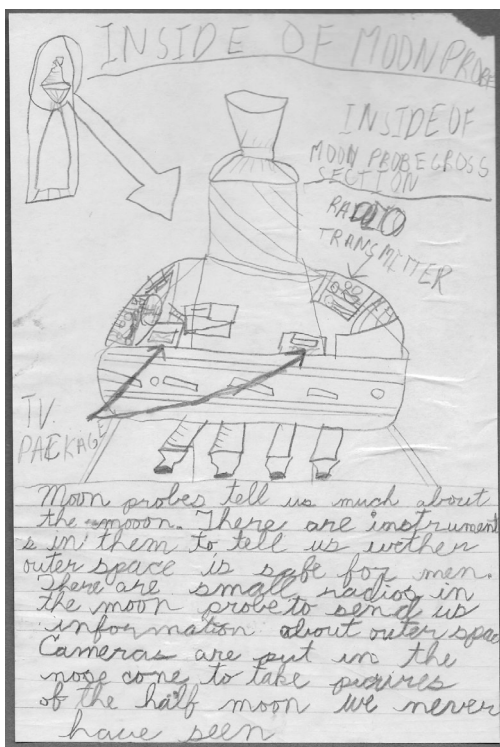
Despite this interest in the stars, I did not make much effort to look at the heavens outside of the occasional comet or lunar eclipse.

I can pinpoint the moment that my interest reached the tipping point, astronomy became a full-fledged hobby, and I turned into a space and astronomy writer. It was 2003, the year of the great apparition of Mars. I was working at the University of Puget Sound, which had developed a new multidisciplinary course about Mars, and I wrote an article about the course for *Arches*, the university magazine. After spending a few days hanging around the physics department with astronomy professor Bernie Bates I suddenly found myself enriching the coffers of Orion Telescopes and spending many a late night out in the cold with my new 8-inch Dobsonian and the raccoons that wander through our backyard.

Despite a lifelong interest in astronomy, it wasn't until I was forty-five that a great astronomical observing event combined with the opportunity to hang around with an interesting and engaging academic, and forged me into an active participant in the hobby.



By Greg Scheiderer



Greg Scheiderer made this sketch of a "Moon probe" for his "Airplanes and Outer Space" scrapbook when he was eight years old. He confesses that drawing has never been a strong suit, but the rocket nozzle on the drawing resembles those on NASA's Lunar Orbiters of the mid-'60s, which is probably what he was trying to depict. Despite his lifelong interest, Greg didn't become an active participant in amateur astronomy until he was in his forties.

So what can we do to get "the kids" interested in astronomy? I'm not certain that anything overt will work. Few tweens or teens want to be told what to do. Sometimes astronomy club meetings fall short of the "wow" factor. While I'm fascinated today when a University of Washington professor comes to our Seattle Astronomical Society meetings to share the latest computer models of galaxy formation, I imagine that twelve-year-old me might have been itching to go outside and look at Saturn. I expect that many young folks may well be out looking at the stars rather than going to meetings.

I think that the best thing that we can do to interest young people, or anyone, in astronomy is to simply show them something amazing. Give them a look through a telescope or binoculars, or point out a beautiful naked-eye object. Comet ISON may well provide a historic opportunity to do that this fall. You never know when you might be planting a seed. If the seed germinates, fertilize it with information and fun materials. The Astronomical League and the Astronomy Foundation have excellent resources, and the NASA Space Place is a great place to start for younger kids.

Pete Schultz, the neighbor who planted one of my astronomy seeds when he showed me Jupiter through his homemade telescope, passed away back in March. I don't know if he remembered giving me my first look through a telescope. But it's something I'll never forget, and I hope that he knows—on some sort of cosmic level—that his simple, generous gesture made a big difference to a little kid and is a major reason I'm an active participant in

astronomy almost half a century later.

Greg Scheiderer is a member of the Seattle Astronomical Society and writes about space and astronomy news from the Northwest on SeattleAstronomy.com. ☀

StarTalk Radio (www.startalkradio.net) is a podcast hosted by astrophysicist **Neil deGrasse Tyson**.

StarTalk also holds ticketed StarTalk Live events. The format of the show, both the studio and live versions, is simple: with a comic co-host, **Dr. Tyson** tackles all aspects of science in an enjoyable,

accessible format. Live shows wrap up with a question-and-

answer session with fans, and entire episodes of **Cosmic Queries** are devoted to answering questions from listeners. Topics range from asteroids to freaky weather, zombies to food—but what makes the show so popular is a formula that combines science with humor and entertainment.

Dr. Tyson's enthusiasm, ability to explain difficult concepts, and his pop-culture icon status, combined with StarTalk Radio's mix of

scientists, comedians, actors, and other pop-culture figures,

makes science accessible and entertaining to an audience of all ages, genders, and educational backgrounds. StarTalk guests have included **Bill Nye the Science Guy**; astronauts **Buzz Aldrin**, **Mike Massimino**, **John Glenn**, and **Shannon Walker** (direct from the **International Space Station**); *Star Trek* actors **Nichelle Nichols**, **Brent Spiner**, **LeVar Burton**, and **Wil Wheaton**; late-night

STARTALK RADIO

By *Stacey Severn*



Dr. Neil deGrasse Tyson, center, with Star Trek: The Next Generation actors Brent Spiner, left, and LeVar Burton, right.



Bill Nye, the Science Guy, left, with Dr. Tyson.



Dr. David Grinspoon, left, with Dr. Tyson.

comedy show hosts **Jon Stewart**, **Stephen Colbert**, **Bill Maher**, and **John Oliver**; actors **Alan Rickman** and **Morgan Freeman**; and

musicians **Questlove**, **Moby**, and **Jonathan Coulton**. We've had **Curiosity** rover mission specialists, epidemiologists, astronomers, biologists,

geologists, anthropologists, food scientists, climate scientists, astrophysicists, theoretical physicists, and even a particle physicist from **CERN**. Regular comic co-hosts include **Eugene Mirman**, **Chuck Nice**, and **Leighann Lord**. StarTalk makes science engaging and cool, and is often among the top science podcasts on iTunes.

StarTalk Radio targets a demographic hungry for **STEM** (science, technology, engineering, and mathematics) learning, and we'd like to share that audience with you. We are recruiting astronomy clubs and other scientific organizations to join our "Cosmic

Community." Our goal is to build an online community of academic and scientific organizations, programming groups, schools, and astronomy clubs, to promote STEM education. Membership is free, and lets your group promote your outreach activities to our audience, with your own page on our website and links to your site. Your group can submit questions to Dr. Tyson and can include the StarTalk player on your website.

If you'd like to partner with StarTalk Radio, please contact our social media coordinator, **Stacey Severn**, at stacey@startalkradio.net. Stacey is an amateur astronomer and member of the **Boothe Memorial Astronomical Society** in Stratford, Connecticut, a charter member of StarTalk's **Cosmic Community**. ☀



Froggy's Photos

Elliott Severn

Stacey Severn

Editor's Note: Congratulations to all these outstanding astronomical observers! All awards, except the Herschel 400, require current Astronomical League membership for eligibility. If you have questions about an award, please contact the corresponding Observing Program chair. Their contact information can be found on the Observing Program website at www.astroleague.org/observing. If further assistance is required please contact either of the national Observing Program coordinators.

Analemma Award

No. 4, John McCammon, Member-at-Large; No. 5, Aaron Clevenson, North Houston Astronomy Club

Asterism Award

No. 3, Rob Ratkowski, Haleakala Amateur Astronomers; No. 4, Al Lamperti, Delaware Valley Amateur Astronomers; No. 5, Denise Terpstra, Member-at-Large

Binocular Double Star Award

No. 53, Robert L. Togni, Central Arkansas Astronomical Society; No. 54, Larry Farrington, Etna Astros

Binocular Messier Award

No. 984, Marcos Wolff, Member-at-Large; No. 985, Al Hamrick, Raleigh Astronomy Club; No. 986, Tristan Schwartz, Colorado Springs Astronomical Society; No. 987, Carol Ogden, Island County Astronomical Society; No. 988, Gary M. Leavitt, Magic Valley Astronomical Society; No. 989, Joe Michail, Member-at-Large; No. 990, Edward Fraini, Houston Astronomical Society

Caldwell Award

Silver: No. 198, Will Young, Astronomical Society of South East Texas; Gold: No. 24, Dave Tosteson, Minnesota Astronomical Society

Carbon Star Award

No. 28, Barbara Biever, RBM Astronomical Society; No. 29, Ken Kopoczynski, Tallahassee Astronomical Society; No. 30, Jnani Cevvel, Member-at-Large; No. 31, Yanshe Liu, TAC-AL; No. 32, Kevin Johnston, Minnesota Astronomical Society; No. 33, Jim Kaminski, Member-at-Large; No. 34, Mark Johnson, Austin Astronomical Society; No. 35, Bill Kowalczyk, Houston Astronomical Society; No. 36, Joseph R. Goss, East Valley Astronomy Club; No. 37, Ronald A. King, Northern Virginia Astronomy Club; No. 38, Chris Lamer, Kansas Astronomical Observers; No. 39, Ted Forte, Huachuca Astronomy Club; No. 40, Dave Tosteson, Minnesota Astronomical Society; No. 41, John Robinson, TAC-AL; No. 42, Vincent S. Foster, Member-at-Large

Comet Award

No. 62, Richard Ditteon, Silver, Indiana Astronomical Society; No. 63, Richard Owens, Silver, Astronomical Society of Kansas City; No. 64, Pete K. Samsury, Silver, Member-at-Large; No. 65, Jeff G. Hoffmeister, Silver, Olympic Astronomical Society

Constellation Hunter:

Southern Skies Award

No. 126, Jerry Persall, Member-at-Large; No. 127, Joseph Michail, Member-at-Large; No. 128, Grant Martin, Astronomical Society of Eastern Missouri; No. 129, Bob Scott, Island County Astronomical Society; No. 130, Eric Johnson, Member-at-Large; No. 131, Jonathan Poppele, Minnesota Astronomical Society; No. 132, Art Russell, Northeast Florida Astronomical Society



Observing Awards

Constellation Hunter:

Northern Skies Award

No. 4, Vincent S. Foster, Member-at-Large

Dark Nebulae Award

No. 17, Vincent S. Foster, Member-at-Large

Flat Galaxy Award

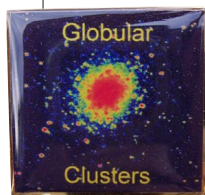
No. 18, Glen W. Sanner, Honorary, Huachuca Astronomy Club; No. 19, Vincent S. Foster, Honorary, Member-at-Large; No. 20, Anthony J. Kroes, Honorary, Neville Public Museum Astronomical Society

Galaxy Groups and Clusters Award

No. 30-DA, William A. Skelley, Tallahassee Astronomical Society; No. 31-DA, Vincent S. Foster, Member-at-Large

Galileo Observing Award

No. 27, Scott Kranz, Astronomical Society of Kansas City; No. 28, Vincent S. Foster, Member-at-Large



Globular Cluster Award

No. 230, Bill Smith, Member-at-Large; No. 231, JoAnne Trees, Amateur Astronomers Association of Pittsburgh; No. 232, Terry Trees, Amateur Astronomers Association of Pittsburgh; No. 233, Douglas L.

Smith, Tucson Amateur Astronomy Association; No. 234, Gilbert Raineault, Member-at-Large; No. 235, Carl Stanley, Boise Astronomical Society; No. 236, Cook Feldman, St. Louis Astronomical Society

Herschel 400 Award

No. 487, Gene Schaffer, Rose City Astronomers; No. 488, Lloyd Watkins, Cumberland Astronomical Society; No. 489, Nick Anderson, Back Bay Amateur Astronomers

Local Galaxy Group and Galactic Neighborhood Award

No. 25-DA, David Rudeen, Etna Astros; No. 26-M, Douglas Weise, High Desert Astronomy Club

Lunar Award

No. 820, Janet Pullen, Island County Astronomical Society; No. 821, Jeromy Naethe, St. Louis Astronomical Society; No. 822, Stephen L. Snider, Albuquerque Astronomical Society; No. 823, Robert Hoover, Huachuca Astronomy Club; No. 824, Thomas P. Mazingo, Barnard Astronomical Society; No. 825, Richard Schoenberger, Astronomical Society of Kansas City; No. 826, John H. McCammon, Member-at-Large; No. 827, Kevin Johnson, Minnesota Astronomical Society; No. 828, James Pedersen, Longmont Astronomical Society; No. 829, Carol Stewart, Southwest Florida Astronomical Society

Lunar II Award

No. 50, Cindy Krach, Haleakala Amateur Astronomers; No. 51, Dean Johnson, Rochester Astronomy Club; No. 52, Douglas L. Smith, Tucson Amateur Astronomy Association

Messier Award

No. 2581, Mike Fowler, Honorary, Atlanta Astronomy Club; No. 2613, Rusty Hill, Honorary, North Houston Astronomy Club; No. 2615, Ryan Behrends, Honorary, Hill Country Astronomers; No. 2630, Clyde Henderson, Honorary, Tallahassee Astronomical Society; No. 2631, Karlis Lubkans, Honorary, Member-at-Large; No. 2632, Carol Ogden, Honorary, Island County Astronomical Society; No. 2633, Louie Robida, Honorary, Rose City Astronomers; No. 2634, Glen W. Sanner, Honorary, Huachuca Astronomy Club; No. 2635, Louis Dorland, Regular, Omaha Astronomical Society; No. 2636, Sara Basiaga, Honorary, Omaha Astronomical Society; No. 2637, Brian Basiaga, Honorary, Omaha Astronomical Society; No. 2638, Ronald A. King, Regular, Northern Virginia Astronomy Club

Meteor Award

No. 134, Michael D. Stewart, 30 hours, Astronomical Society of Kansas City

Outreach Award

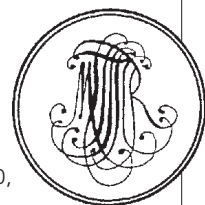
No. 142-S, Dan Gava, Stellar, North Houston Astronomy Club; No. 163-M, Grace Wyatt, Master, Harford County Astronomical Society; No. 212-S, Jim Barbasso, Stellar, North Houston Astronomy Club; No. 233-M, Betty Bentley, Master, Flint River Astronomy Club; No. 314-M, Paul Grueter, Master, South Shore Astronomical Society; No. 341-M, Dave Tomlin, Master, North Houston Astronomy Club; No. 342-M, Master, Dave Clark, North Houston Astronomy Club; No. 343-S, Eric Kuo, Stellar, North Houston Astronomy Club; No. 345-S, Julie Barbasso, Stellar, North Houston Astronomy Club; No. 349-S, Bruce Pollard, Stellar, North Houston Astronomy Club; No. 422-M, Steve Boerner, Master, Astronomical Society of Eastern Missouri; No. 474-S, Eddie Agha, Stellar, Astronomical Society of Eastern Missouri; No. 494-O, JoAnne Trees, Outreach, Oil Region Astronomical Society; No. 495-O, Terry N. Trees, Outreach, Oil Region Astronomical Society; No. 496-M, Jay Drew, Outreach, Stellar, and Master, Springfield Telescope Makers; No. 497-O, John W. Johnson, Outreach, Omaha Astronomical Society; No. 498-O, Steve Layman, Outreach, Charlottesville Astronomical Society; No. 499-O, Michael F. Rein, Outreach, Charlottesville Astronomical Society; No. 500-S, Rob Ratkowski, Outreach and Stellar, Haleakala Amateur Astronomers; No. 501-O, Elisabeth Flippo, Outreach, Springfield Astronomical Society; No. 502-O, David Schmidt, Outreach, North Houston Astronomy Club; No. 503-O, Loyd Overcash, Outreach, North Houston Astronomy Club; No. 504-O, Michael Kramer, Outreach, North Houston Astronomy Club; No. 505-O, Rusty Hill, Outreach, North Houston Astronomy Club; No. 506-O, Thomas Fox, Outreach, North Houston Astronomy Club; No. 507-S, Todd Sullivan, Outreach and Stellar, North Houston Astronomy Club; No. 508-M, Stephen A. McGaughey, Outreach, Stellar, and Master, Haleakala Amateur Astronomers; No. 509-O, Cynthia Armstrong, Outreach, Flint River Astronomy Club; No. 510-O, Greg Bishop, Outreach, Northern Virginia Astronomy Club; No. 511-S, Stephen P. Boeker, Outreach and Stellar, Baton Rouge Astronomical Society

Planetary Nebula Award
No. 26, Gene Schaffer, Basic, Rose City Astronomers

Planetary Transit Special Award:

Venus 2012

Note: No additional submissions are being accepted for this special award.



TITLE PHOTOGRAPH: M64, THE BLACK EYE GALAXY, NASA AND THE HUBBLE HERITAGE TEAM (AURA/STSCI)

Astronomical Society of Kansas City: Carol Kennedy, Charles Kennedy, Gary Martin, Denise Moser, Joseph Wright, Rita Wright; Haleakala Amateur Astronomers: Stephen McGaughey; Minnesota Astronomical Society: Jonathan Poppele

Solar System Award

No. 75, Grant Martin, Astronomical Society of Eastern Missouri; No. 76, Bob Jardine, TAC-AL

Southern Binocular Award

No. 80, Dave Tosteson, Minnesota Astronomical Society

Southern Sky Award

No. 39, Dave Tosteson, Minnesota Astronomical Society

Sunspotter Award

No. 149, Jody Raney, Shreveport-Bossier Astronomical Society; No. 150, Bill Sanders, Central Arkansas Astronomical Society; No. 151, Vincent S. Foster, Member-at-Large; No. 152, Elaine B. Osborne, Echo Ridge Astronomical Society

Universe
Sampler Award

Universe Sampler Award

No. 111, Nancy Rauschenberg, Telescope, Minnesota Astronomical Society

Telescope, Minnesota Astronomical Society

Urban Observing Award

No. 144, Pat Al-Greene, Omaha Astronomical Society; No. 145, Jake Hairrell, Minnesota Astronomical Society; No. 146, Chris Lamer, Kansas Astronomical Observers; No. 147, James Sanders, Smoky Mountain Astronomical Society; No. 148, Jonathan Poppele, Minnesota Astronomical Society; No. 149, Lloyd Watkins, Cumberland Astronomical Society; No. 150, Derek Kuhl, Brazos Valley Astronomy Club



30th Anniversary

Special Guest speaker - David J. Eicher, Editor, Astronomy Magazine
Great Okie-Tex Give Away - Thursday & Saturday
Swap Meet - Tuesday & Saturday
Cosmic Cafe open nightly
Pre-registration Gift
SPEAKERS - FOOD - AMAZING NIGHT SKY
COME JOIN THE FUN!

Okie-Tex Star Party

Sep 28 - Oct 6, 2013
Kenton, OK
www.Okie-Tex.com

Okie-Tex Star Party
September 30, 2008
Howard Edin

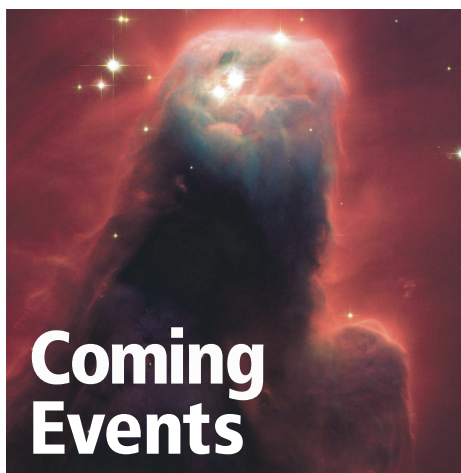
Comet ISON is coming our way!

Will it be the comet of the century, barely one to remember, or somewhere in between? To commemorate its passage through our region of the solar system, the **Astronomical League** offers a downloadable certificate for those who witness this mysterious, perhaps grand object as it sweeps across our morning skies this fall. More details will appear on the League website as ISON approaches.

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Compiled by John Wagoner
To have your star party or event listed, please send the details, including dates, sponsors and website, to astrowagon@verizon.net.

- September 4-7**
Northern Nights Star Fest
 Minnesota Astronomical Society
 Palisade, MN
www.mnastro.org/NNSF
- September 4-8**
Brothers Star Party
 Brothers, OR; www.mbsp.org
- September 4-8**
Central Nevada Star Party
 Tonopah Astronomical Society
 Tonopah, NV
www.tas.astronomynv.org
- September 5-8**
Great Lakes Star Gaze
 Gladwin, MI
www.greatlakesstargaze.com
- September 6-8**
Black Forest Star Party
 Cherry Springs State Park, PA
www.bfsp.org
- September 6-8**
Idaho Star Party
 Bruneau State Park, ID
www.isp.boiseastro.org
- September 6-8**
Jersey Starquest
 Hope, NJ
www.princetonastronomy.org/sqmainpage.html
- September 6-10**
Almost Heaven Star Party
 Spruce Knob, WV; www.ahsp.org
- September 13-14**
Craters of the Moon Star Party
 Craters of the Moon National Monument, ID
www.ifaastro.org
- September 26-30**
Acadia Night Sky Festival
 Bar Harbor, ME
www.acadianightskyfestival.org
- September 27-28**
Astronomy at the Beach
 Kensington Metropark, MI
www.glaac.org/kensington-astronomy-at-the-beach
- September 28-October 6**
Okie-Tex Star Party
 Oklahoma City Astronomy Club
 Kenton, OK; www.okie-tex.com
- September 28-October 6**
Twin Lakes Star Party
 Pennyrile Forest State Park, KY
www.wkaa.net

- September 29-October 6**
Peach State Star Gaze
 Deerlick Astronomy Village, GA
www.atlantaastronomy.org/PSSG
- October 1-6**
Staunton River Star Party
 Scottsburg, VA; www.stauntonriver-starparty.org
- October 2-5**
Enchanted Skies Star Party
 Socorro, NM; www.enchantedskies.org
- October 3-6**
Illinois Dark Skies Star Party
 Jim Edgar Panther Creek State Fish and Wildlife Area, IL; www.sas-sky.org
- October 3-6**
Prairie Skies Star Party
 Bourbonnais, IL; www.prairieskies.org
- October 3-7**
Hidden Hollow Star Party
 Mansfield, OH
www.wro.org/hiddenhollowinfo.html
- October 5**
Virginia Association of Astronomical Societies
 C.M. Crockett Park, Warrenton, VA
 Northern Virginia Astronomy Club
www.novac.com/wp/outreach/stargaze
- October 11-13**
Bays Mountain StarFest
 Bays Mountain Astronomy Club
 Kingsport, TN
www.baysmountain.com/astronomy/astronomy-club
- October 28-November 3**
CSPG Fall Star Party
 Chiefland, FL
www.chieflandstarpartygroup.com/fall.html

President's Notes / *from page 4*
 convention staff did a great job of organizing the convention, with many interesting and varied talks. It was great to see 2012 National Young Astronomer Award first-place winner Justin Tieman and his dad Brian at the event. Brian gave one of the convention's excellent presentations.

This conference was unique in that this is the only "star-b-que" I'm familiar with that was held in an aircraft hangar. The Strategic Air and Space Museum made for an incredible backdrop for the special Friday night event.

John Johnson, longtime society member and officer of the OAS, was recognized with the region's Amateur of the Year award.

Great skies! *Carroll Jorg*

- October 28-November 3**
Eldorado Star Party
 X-Bar Ranch, Eldorado, TX
www.texasstarparty.org/eldorado.html
- October 30-November 3**
Deep South Regional Star Gaze
 Norwood, LA; www.stargazing.net/dsrsg
- October 31-November 3**
Nightfall
 Borrego Springs, CA
www.nightfallstarparty.com
- November 1-3**
Tennessee Fall Star Gaze
 Pikeville, TN
www.cumberlandastronomicalsociety.org
- November 2-3**
New Mexico Statewide Star Party
 Sevilleta National Wildlife Refuge, NM
www.nmstarparty2013.net
nmstarparty2013@gmail.com
- March 29-April 5, 2014**
The OzSky Star Safari (aka The Deepest South Texas Star Safari)
 Coonabarabran, NSW, Australia
www.OzSky.org
 Attendance is extremely limited—that is why this is listed so far in advance.

Reminder of Annual Dues

A reminder to all League societies; 2013-2014 Society membership dues were due July 1. If your society hasn't already paid its annual dues, please do so promptly and help us to keep things running smoothly. If you need help on the process, contact the National Office at leagueoffice@astroleague.org or 816-333-7759.

The League greatly appreciates all of its members and we thank you for your continuing support!

ALCon 2014
July 9 — 13, 2014
hosted by the
San Antonio
Astronomical Association
 and the
Astronomical League

Astronomical League Membership-at-Large Program

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- Optional subscriptions at discounted rates to the following publications:
Astronomy Magazine \$34.00; 2 years \$60 • *Sky & Telescope Magazine* \$32.95
RASC Observers Handbook \$26.00 • *StarDate* \$19.50
 (Foreign rates are higher; see website)
- Free Astronomical League Observing guide with membership.

To join the Astronomical League as a Member-at-Large, send a check for \$30.00, \$45.00 foreign, made payable to the Astronomical League, to:
 Astronomical League National Office, 9201 Ward Parkway, #100, Kansas City, MO 64114
 Phone: 816-333-7759; Email: leagueoffice@astroleague.org
Or join online at: WWW.ASTROLEAGUE.ORG

The Astronomical League helps members explore the wonders of our universe—maximize your membership!



Observing Programs. Just about everyone has heard of the nearly 40 AL Observing Programs. These are a group of **nationally recognized** observing lists and activities. Some are suitable for novices, some are for intermediates, while others are strictly for advanced amateurs. These clubs provide a low-stress way to view the many wonders of the night sky.

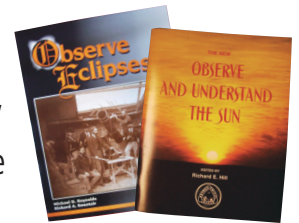


League Awards. The Astronomical League wants to recognize those dedicated individuals who make astronomy happen. Every year, the League gives awards in several different areas: the Mabel Sterns Newsletter Award, the Webmaster Award, the National Young Astronomer Award, the Jack Horkheimer Young Person's Service Award, and others. People really appreciate the recognition!



Reflector Magazine. Every member receives this full-color quarterly magazine that's published for League members by League members. Members are encouraged to submit articles and images for our national readership of over 16,000 amateur astronomers. The magazine also puts members in touch with dozens of star parties located all over the country and features columns from other professional groups.

League Store. We have a great League Sales Office, run by a dedicated and talented staff. Our astronomical handbooks are low cost and very popular—another of the many benefits of League membership. League Sales is vastly expanding its inventory, has gone to a color catalog, and now has an online, credit card capability.



Outreach Downloads from the Astronomical League. Outreach is all about connecting with the public. The Astronomical League has developed a series of downloadable outreach materials that do just that. They help answer questions commonly posed by the public and help spark curiosity about our fascinating hobby. Outreach Downloads can be printed at a local print shop at a rate of about \$0.75 per square foot for black and white copies. Download them at www.astroleague.org.

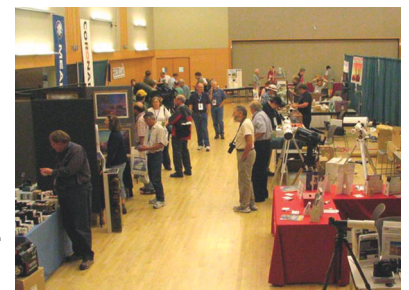
Book Service. Searching for that special astronomical title in print? Separate from League Sales, the League provides a 10% discount on astronomy books with no shipping charge.

National Convention of the Astronomical League. At our national and regional meetings, members rub shoulders with, among others, research astronomers, astronauts, authors, magazine editors, university professors, equipment manufacturers, as well as officers of the League. This is your chance to talk shop with those in the know.



National Voice. The League gives amateur astronomy a national voice on important issues, such as local, regional, and national levels to fight light pollution and advance astronomical research.

www.astroleague.org



Jan Keiski, Rose City Astronomers

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The Astronomical League invites its members to submit astrophotography for publishing in the *Reflector*. When sending photos, please include a brief explanation telling us when and where the photo was taken, your club affiliation, what equipment was used, and any computer processing that was involved.

Brian Kimball took this image of the sun on July 9, 2013, from his backyard observatory in Longmont, Colorado. The full disk image is from a Lunt LS100THa telescope with a DMK 41 video camera. The close-up image of AR11785, AR11787, and AR11789 was taken with the same setup but with a Televue 2.5x Barlow lens. Brian is a member of the Longmont Astronomical Society in Longmont, Colorado.

