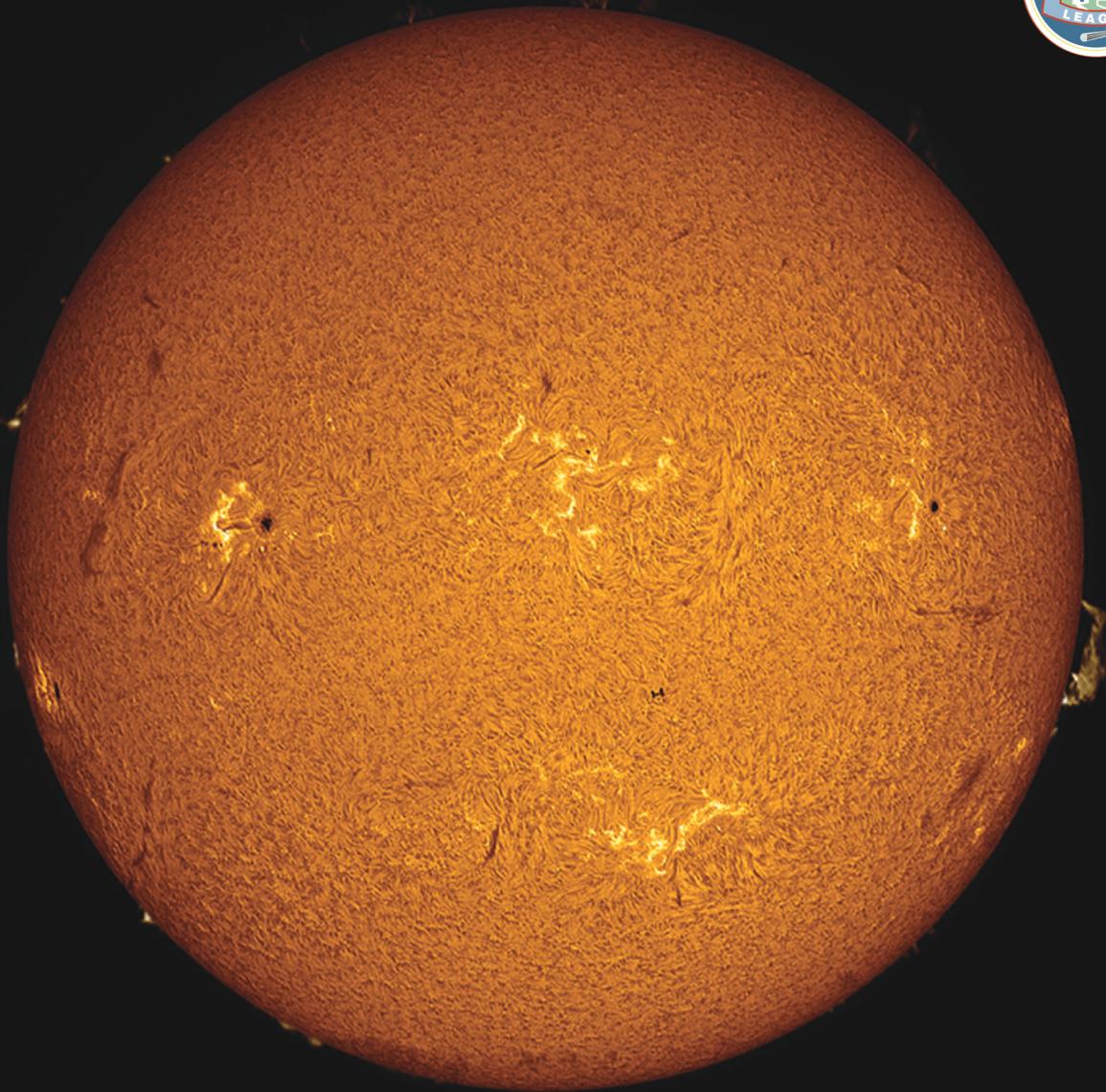


Reflector

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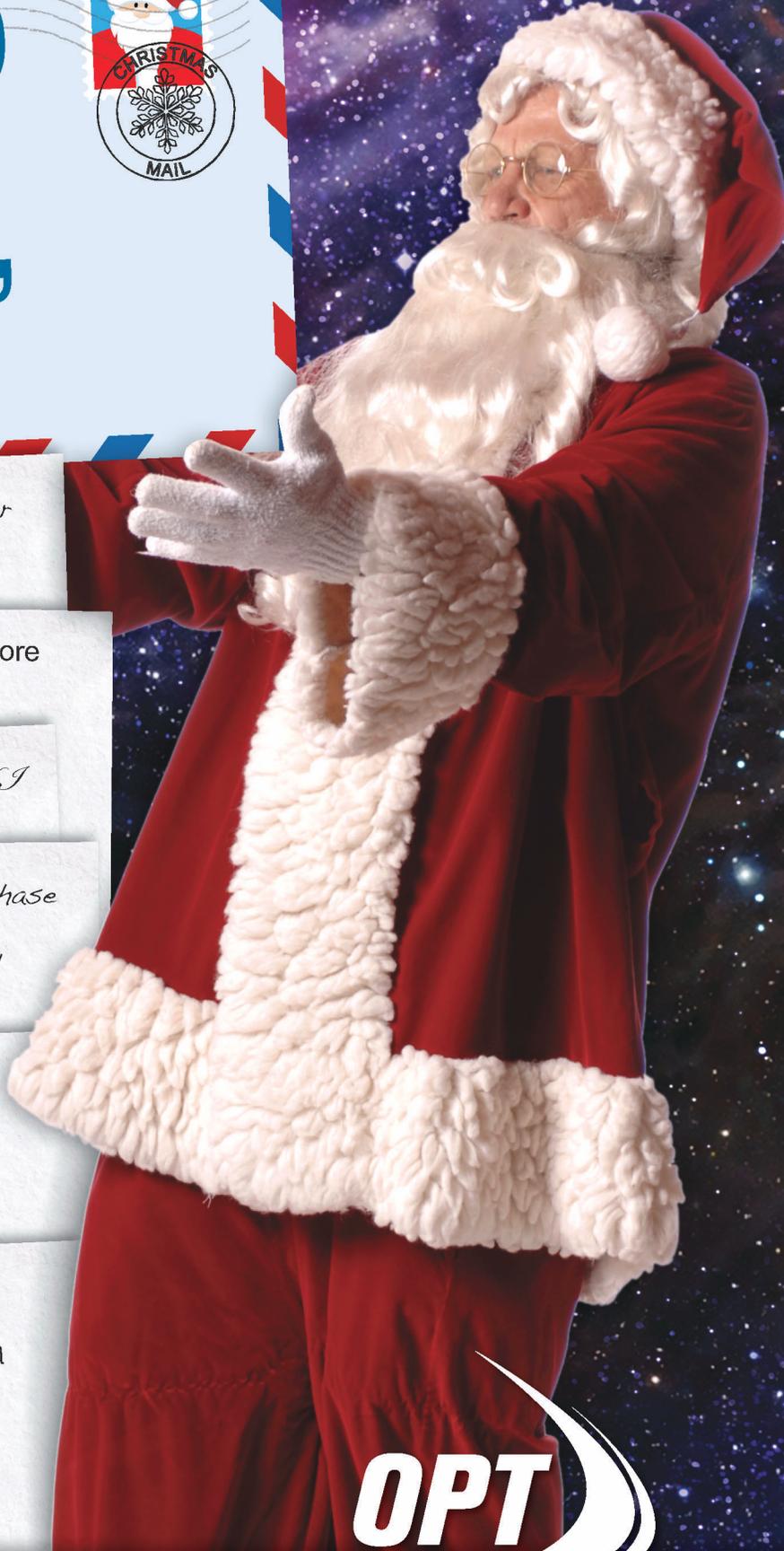
ALCon2012 Chicago—great time in the Windy City

Interview with Guy Ottewell

Deep Sky Objects—Ninth of a series

Mabel Sterns Newsletter Editor and Webmaster Awards

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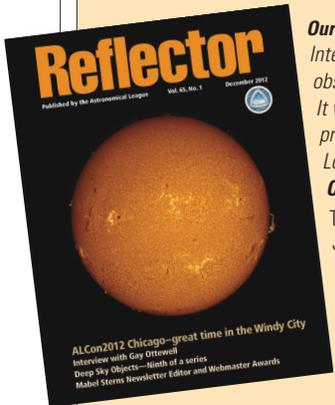
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Our cover: Our contributor **Brian Kimball** took this image of a transit of the International Space Station on October 21, 2012, at 15:34:02 from his backyard observatory in Longmont, Colorado. The transit took only two seconds to complete. It was taken with a Lunt LS-60THa solar scope and a DMK-41 video camera, and was processed with Avistack 2, Registax 5.1 and Photoshop CS2. Brian is a member of the Longmont Astronomical Society in Longmont, Colorado.

Can you spot the ISS in the photograph? Answer is below.

To our contributors: The copy and photo deadline for the March 2013 issue is January 15. Please send your stories and photos to magazine Editor, (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 source for you, our members? Please respond at the email address above.
(Look towards the center at the five o'clock position.)

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The Astronomical League Magazine

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P15275

A03A1

ISS/AT Project Being Phased Out

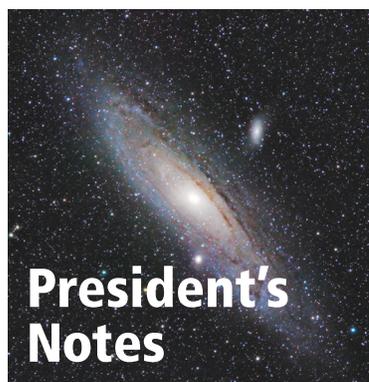
Several years ago, the League collaborated with NASA on a project to place an amateur telescope on the International Space Station. Redesign of the station due to budgetary changes removed the amateur telescope project from the station.

In recent years, the telescope was located in the southwestern part of the United States, and some remote telescope sessions were successfully conducted. The telescope is receiving limited usage, and the League Council and Executive Committee have now made the decision to phase out the project.

By the time you read this message, the phase-out should be complete. Plans are to bring the equipment back to the national office in Kansas City. Once an inventory has been completed, the equipment will be listed for sale. More information will follow.

President's travels this past quarter

It was great to see many old friends and make new ones at a monthly meeting of the St. Louis Astronomical Society (SLAC). I



President's Notes

gave an update of League activities and projects and also talked about meaningful amateur contributions to astronomy. Thanks to Vice President Bill Bierman, President Jim Small, and the entire group for their gracious hospitality. It was my honor to present local outreach

awards to several members. SLAC continues to be a strong organization, and the League appreciates its longtime support.

The Omaha Astronomical Society recently reached a significant milestone with the celebration of its 50th anniversary. I was honored to present an Astronomical League presidential citation certificate to society president Bill Bond recognizing this major achievement. Well over half of the club's members attended the commemoration.

Michael Bakich, senior editor of *Astronomy* magazine, gave a special presentation about the history of astronomy. George and JoDee Allen were presented with a lifetime society membership for their outstanding long-term commitment.

Guest speaker
Michael Bakich.



League President Carroll Iorg, right, presented a citation certificate to Bill Bond, President of the Omaha Astronomical Society.



Bill Bond, President of the Omaha Astronomical Society, left, presented a lifetime society membership to Joyce and George Allen.



Carroll Iorg, center, having breakfast with Bill Bierman, left, Vice President, St. Louis Astronomy Society and Jim Trull, board member of the St. Louis club.

Dr. Larry Lebofsky, senior research scientist (retired), Department of Planetary Sciences, Lunar & Planetary Laboratory, University of Arizona, was one of the speakers at October's Heart of America Star Party near Butler, Missouri. Other speakers included Michael Round, educator from the Center for autoSocratic Excellence; Dr. Gregory Rudnick, Assistant Professor, Astronomy & Physics, University of Kansas; and Chuck Ruehle, with the Telescopes to

Continued on page 6

TITLE PHOTOGRAPH COMPLIMENTS OF TOM S. MARTINEZ, ASKC

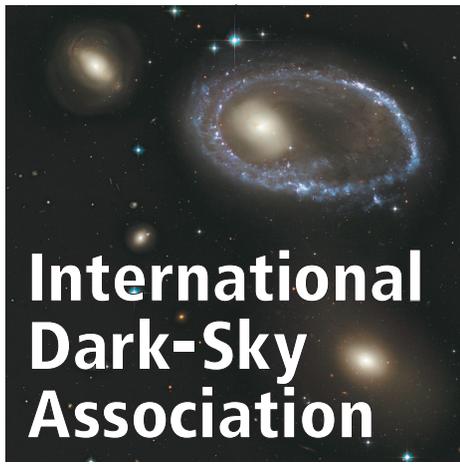
Michigan Dark Sky Coast Designation

In 2011 Emmet County Headlands Park in Michigan was recognized as an International Dark Sky Park. To supplement the protection for this park, the Michigan House and Senate both approved HB 5415, the "Dark Sky Coast" bill giving dark sky protection to

21,000 contiguous acres of state forest land in Emmet County's northwestern tip near the Headlands International Dark Sky Park. House Bill 5414 encompasses the state land around the Headlands and the county's Cecil Bay park while adding Wilderness State Park and other state forestland within Bliss, Cross Village and Wawatam townships. The bill was signed into law by Governor Rick Snyder in July 2012, making it official as Public Act 251.

This Act does not place specific requirements on land owners. It does require any lighting on the included public lands be directed downward so as not to interfere with the view of the night sky. The Act does not require any changing of lighting practices, but it encourages residents and visitors to protect the night sky as a significant resource of Emmet County. I am somewhat of a purist and would ideally like a more stringent act that mandates full cut-off shielding, specific lighting levels that cannot be exceeded, curfews for turning off lights, and designation of pristine areas where essentially no lighting would be allowed at night. Often such restrictions are not acceptable in the normal political process, and I feel it is always good to have legislation designating dark sky areas and emphasizing the night sky as an important part of the environment.

Emmett County lies along the eastern shore of Lake Michigan on the northwestern coast of the Lower Peninsula of Michigan. It is described as being located at the western portion of the tip-of-the-mitt of Michigan's Lower Peninsula. Petoskey is the county seat for Emmet County and is the next major city along the eastern coast of Lake Michigan north of Traverse City. Emmet County has a land area of 295,040 acres



International Dark-Sky Association

which includes 197,677 acres of forested land, 113,285 acres of crop and pasture land, 10,400 acres of inland lakes and streams, and 68 miles of Lake Michigan shoreline. It is a gorgeous part of the country, providing year round recreation. It is fitting that

the value of the nighttime sky has been recognized as an important part of the county's resources and heritage.

The Headlands Park is located in northwest Emmet County and is the sixth International Dark Sky Park in the United States and only the ninth in the world. For more information about the Headlands International Dark Sky Park see: www.emmetcounty.org/darkskypark. What is somewhat unique about Headlands is its

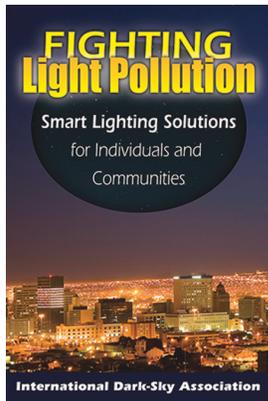
year-round Dark Sky Park event lineup.

Michigan has four distinct seasons, and the upper part of the Lower Peninsula and the Upper Peninsula of Michigan have winters that are not for the faint of heart. Nevertheless, the dark sky event lineup at Headlands Park even includes events in January and February. I now live in Tucson, Arizona, where I don't have to

do winters anymore, but I spent four years in Ann Arbor, MI, in my "youth" as part of my professional training. Ann Arbor is not far from Detroit and is in the southeastern part of Michigan but is as wonderful as the more northern parts of the state. In fact, the entire state of Michigan is a wonderful mix of forests, lakes, streams and farms.

When I was there in my youth, I enjoyed skiing and ice skating even though I always had a car that never started on cold winter mornings or would go up a hill when the streets were icy. Other than these inconveniences, I have very fond memories of my days in Michigan. I am thrilled that the Wolverine state has added the night sky to the list of environmental resources it wants to preserve and show off. Now, I hope this respect for the night sky can be extended beyond the wilderness and rural areas into its suburban and urban regions. That is not

Continued on next page



Reflector

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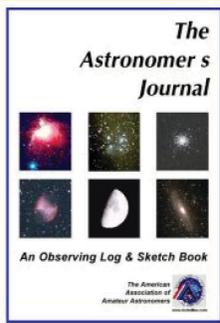
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rainsworth@grmuseum.org
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Carroll Iorg presented several members of the St. Louis Astronomy Society Outreach Awards.

President's Notes | Continued from page 4

Tanzania project. The Heart of America Star Party is sponsored by the Astronomical Society of Kansas City.

Early Feedback from Proposal for Electronic Reflector and International Memberships

We asked for feedback in the last issue of the *Reflector* regarding your thoughts on electronic distribution of the magazine. Initial feedback indicates the following:

- With the electronic climate our culture has evolved to, it is acceptable to provide the Reflector in electronic format.
- Possibly members should have the option of whether they want an electronic copy or the paper copy, indicated in the roster updates from the organization.
- The League proposal for having member societies manage their own rosters from the League Website should fit nicely with our new electronic initiatives.
- Expanding our society memberships to include foreign organizations is a positive idea.

Some items we have to consider in possibly moving to an electronic *Reflector* are, among others, any increased postage rates based on a smaller number of magazines being sent through the U.S. Postal Service, any higher printing rates based on a smaller amount of magazines being printed, and the mechanism of giving our membership password-protected access to this benefit of League membership.

Comet ISON May Provide Some Spectacular Views in November 2013

The East European and Russian discoverers of comet ISON, found in September, suggest that the comet could provide some outstanding views, possibly even daytime views in November 2013.

Comets are unpredictable, so this is not

at all a certainty, but societies should follow the developments of ISON closely over the next year and be ready to gear up for public and society events if these early predictions hold true. The extra media attention could be very good for our hobby.

ALCON 2013 in Atlanta July 24-27

Co-chairs John Goss and Ken Poshedly are planning a great ALCon 2013. The original scheduled dates of July 17-20 had to be changed. We hope to see a large number of guests attending. Bring your families and plan a few extra days to enjoy all the special attractions the Atlanta area has to offer. More specifics will be posted on the League Website soon. ✨

Great skies!

Carroll Iorg

IDA | Continued from page 5

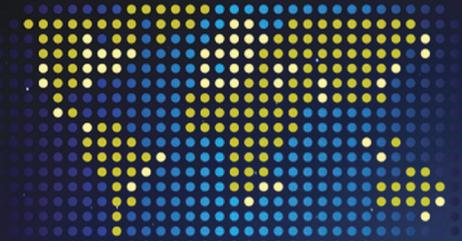
an easy task. However, I firmly believe that suburban and urban places can greatly improve the quality of their nighttime skies by simply turning off unnecessary lights, shielding fixtures and using the proper lighting levels for the task at hand. It is good we are finally recognizing a dark sky as a very important part of the wilderness experience, but let's extend this recognition to more urban areas as well.

I want to again emphasize IDA's Dark Sky Places Program, IDASPlaces, is one of IDA's most successful and most important efforts. Please check it out at <http://www.darksky.org/IDSPlaces>. ✨

TIM HUNTER

Co-Founder and Past President, IDA
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MABEL STERNS NEWSLETTER EDITOR AWARDS

Astronomical League's 2012 Mabel Sterns Newsletter Editor Awards

Mabel Sterns was the Astronomical League's first newsletter editor and this is the fifteenth 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 as they do their steady task 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-based calendars, to more subjective ones such as the appearances of its masthead and layout.

First Place: Bill Pellerin Houston Astronomical Society, *Guidestar*.

Bill's efforts result in a good blending of "white space" and member contributed material giving a very readable and uncluttered newsletter. A front page "highlights" block, table of contents, meeting and membership information, calendar of

events, and various observing articles all make for a great assembly. Gordon Houston, President of the HAS, tells, "Bill has been the editor of our monthly newsletter, *Guidestar*, for more than twenty years now. Throughout this time, he has managed to complete and publish—on time and without fail—our monthly newsletter, sometimes personally filling in content when volunteer contributors were hard to



recruit. Examples of his writing can be found in the *Observations of the Editor* column and the uncredited *Shallow Sky Object of the Month*." Congratulations to Bill Pellerin on winning first place in the 2012 Mabel Sterns Newsletter Editor competition!

Second Place: Jim Stanicek Tri-State Astronomers (MD), *The Observer*.

The Observer begins with its front page displaying a color coded table of contents then continues throughout with a crisp and clean look. TriState Astronomers Chairman Stephen Bertè enthusiastically explains, "He uses an artful combination



of recurring reports (e.g., monthly meeting minutes, twenty-five year archive articles, notes on the current month's night sky and his own Editor's Notes)

and unique informative articles that highlight club resources, activities and upcoming events. Jim's featured articles are what really set *The Observer* apart.

These include items such as articles on astronomical phenomena, astronomy equip-



graphics, and white space. The drop shadows along the photograph sides help keep the



ment and books, and technical notes that can include Do-It-Yourself projects and astronomy hacks that help club members better enjoy and progress in their hobby." All of this results in an overall nice feel for *The Observer*.

Third Place: Tom Faber Atlanta Astronomy Club, *The Focal Point*.

Tom Faber's *The Focal Point*

presents a lot of interesting photos and informative graphics to accompany its various articles. Its Table of Contents allows the reader to quickly find items of interest. Mark Banks, President of

the Atlanta Astronomy Club, says, "He has always delivered our newsletter on time; with lots of great articles, plenty of photos, charts, diagrams, and

drawings to aid in understanding the news items."

Fourth Place: Jamie Martin North Houston Astronomy Club, *Northstar*.

The masthead of *Northstar* really grabs you with its use of fonts,

graphics, and white space. The drop shadows along the photograph sides help keep the

reader's attention throughout the newsletter. North Houston Astronomy Club President Bruce Pollard comments that Jamie says, "First rule: Keep the reader's interest by using graphics, theme flow and presentation." By following her own rule, she creates a newsletter that doesn't disappoint the reader.

2013 Mabel Sterns Nominations

For complete information about the 2013 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, 2013. The nomination package should contain a letter from the club president or vice president telling 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-type 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:

1. The preferable method 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. The editor's photograph should be attached as a high resolution jpg. Please email entries to SternsNewsletter@astroleague.org.

2. If electronic submission is not possible, printed copies may be mailed through 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.

3. 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. ✨

WEBMASTER AWARD

2012 Astronomical League Webmaster Award

By Mike Rao,
Webmaster Award Chair

I am pleased to announce that the 2012 Webmaster Award winner is **Jeffery McLaughlin** from the **Houston Astronomical Society**.

The HAS club website, www.astronomyhouston.org, has been

completely "remodeled" under the expert eye of Jeffery. With input from the web design committee, Jeff took their vision and made it a reality. HAS president **Gordon Houston**

says, "Our membership has increased by over 110 members in the first half of this year alone, much more than in recent memory. The vast majority of new members reach us via our website".

Our judges were quite impressed with the professional look and feel of the site, with some commenting that it looked like a site developed for a Fortune 500 company and not an astronomy club. Under the hood of the website are some very powerful features, such as the site's ability to drive it to the top of most web search lists. Congratulations to Jeffery McLaughlin and to the Houston Astronomical Society!

Second Place goes to **Bernard Arghiere** from the **Astronomy Club of Asheville** (N.C.), www.astroasheville.org. Leslie Ann Keller, ACA's Programs Coordinator says, "Bernie has put so much time into it and continues to tweak it all the time". I encourage everyone to visit the site as an example of how to keep your website's content current

and fresh.

This year's third place winner is **Gary Woerner** from the Sangamon Astronomical Society, sas-sky.org. This site is very clean and easy to navigate. SAS Club president, Bruce Patterson says,

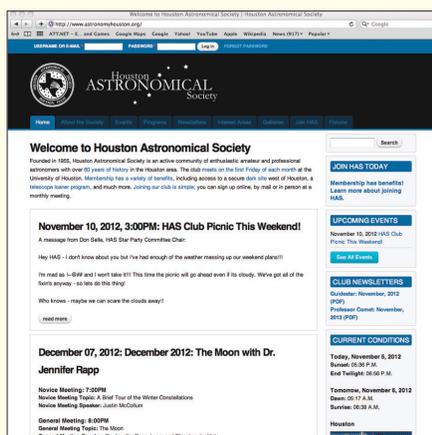
"Gary took on the task of completely designing the site under a completely different architecture and revamping the contents. There now are three of us that can add or change the content without having to be internet experts." Our judges noticed that there was no

stale content. Efficient and well done!

Are you a club president whose club has an outstanding website? Submit your club's webmaster for consideration of the 2013 Astronomical League's Webmaster Award. Please email Mike Rao, mrao@twcny.rr.com, by March 31, 2013. ✨



Jeffery McLaughlin, left, received his award from Houston Astronomical Society President, Gordon Houston.



Many amateurs astronomers have come to rely on Guy Ottewell's *Astronomical Calendar* to learn about coming celestial events and to clearly explain why the sky appears the way it does. They find it a joy to read and, consequently, have



bought each new edition for years. Guy has been generously offering a steep discount for the *Astronomical Calendar* to

League members for a number of years now. The 2013 edition will be its fortieth year of publication in many forms.

The person of Guy Ottewell is somewhat of an unknown to most amateur astronomers. He prefers keeping a low profile while creating his calendar. It is not his way to seek recognition. This interview sheds some light on Guy Ottewell and his plans for the *Astronomical Calendar*.

What got you started creating the *Astronomical Calendar*?

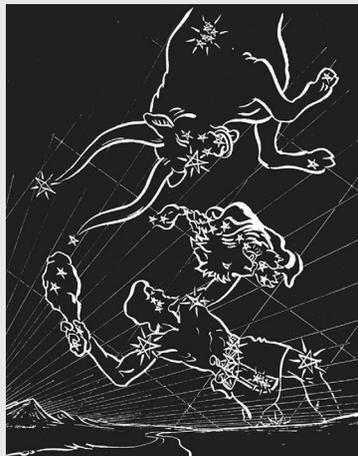
I became interested in the stars because of camping out under them while traveling in places like Morocco and Iran in the 1950s and 60s. It was in California in 1965 that I began learning about them from books.

Three years later, when I worked for an Indian school in Arizona, the science teacher ordered a telescope and ordered me to learn to use it with the kids; also I investigated Navajo star-lore.

Near Greenville, South Carolina, I was working in a mill when Bill Brantley, professor of physics at Furman University, asked me to work in his office instead, and I used to show the stars to the students

GUY OTTEWELL DISCUSSES HIS CLASSIC PUBLICATION "ASTRONOMICAL CALENDAR"

Interview conducted by magazine staff



Orion Rising, the cover of the 1974 *Astronomical Calendar*

in his astronomy course, and supply him with information about what was hap-pening in the sky. My little card file of events gave me the idea of mocking up an "Astro-nomical

Calendar to 1974," nothing more than facing pages for each month, and he decided we'd make it into a department publication. Comet Kohoutek appeared just then and we gave

be associated, and that encouraged the Furman folk and they gave me a room in which to work on the next year's book. It became my publication, with an agreement between me and the university.

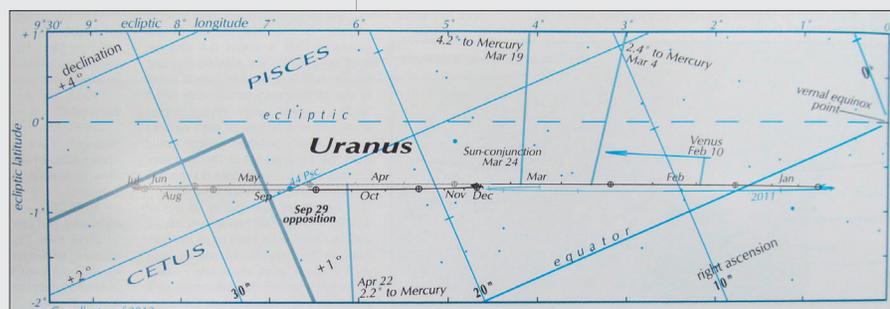
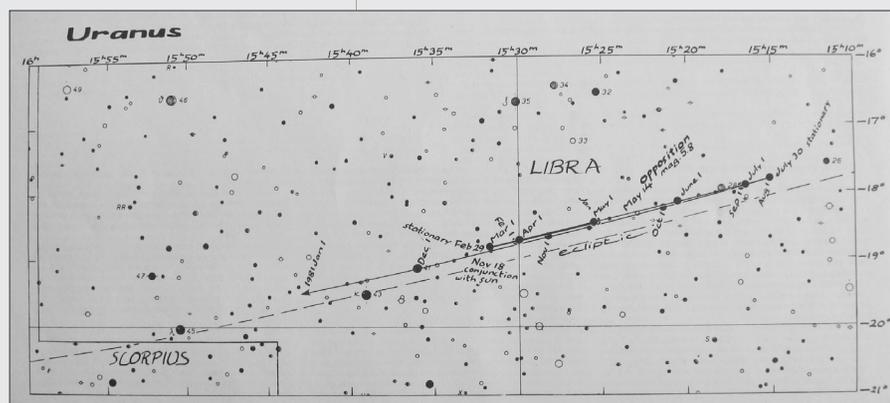
What changes in producing it have occurred since its inception?

At first it was typewritten and hand-drawn. Bill said: "Aren't you going to add some explanation?" The explanations I added grew year by year until I split most off to become *The Astronomical Companion*. I knew nothing of math - a student told me, over lunch, about sines and cosines. Students said "We have a computer downstairs, you know," and the programs they wrote for me were just to build my mailing list and to turn numbers copied from *The Astronomical Companion* into dots on a primitive plotter; I learned programming myself and have developed several thousand pages of it. I learned typography; I learned how to deal with printers and talk in their terminology. I had to learn business and advertising.

Fulfillment and accounting were done with programs I wrote. Programming used to be on punch cards fed into machines; drawing used to be with ellipse templates and French curves and all kinds of pens; preparation for printing used to be by pasting up on sheets, using light-table and Exacto knives and rubber cement and labels hand-written on typewriter correction tape.

a talk to a packed hall and sold a lot of copies (we called it "Comet Cashcheck"). The then editor of the *Reflector*, Charles Gale, and the Astronomical League president, Bob Fried, wanted the League to

I've had a long succession of computers and kinds of software; I "reverse-programmed" Adobe Illustrator so as to pour my calculations into it. The first year's book was letter-size; then I taped two pieces of paper together and it became 11 by 15



Left, top: Hand written names indicate the major events on the 1980 map of the path of Uranus. The seventh planet lurked in the constellation Libra. Bottom: Computer aided representation of the path of Uranus in the 2012 *Astronomical Calendar*, thirty-two years later. Note that in that time the planet moved only from Libra to Pisces.

inches; the pages gradually grew to 80 plus cover. The first few cover paintings were before I could do color printing. There were other sections in the book that came and went - on weather, on the scientific events of the past year; one time I even had ads, and a calendar of club events, and a whole-page ad of my own listing one hundred themes I expected to include in my short-lived magazine *In Defense of Variety*.

I spun off other publications and then non-astronomical ones, so that I had to change the name of the business from *Astronomical Calendar* to *Astronomical Workshop* to *Universal Workshop*. The townspeople thought I was a professor, even if a scruffy one, or said things like "You know about astrology, what's with this weather we're having?" or joked that I knew the stars because my head was up among them. My helpers at first were student friends, later I had a part-time employee. I was always late, so orders had mounted up by the time the truckload of printed books arrived and I raised a team to do the packing, and figured I lifted eighteen tons myself. The more I wonder how to answer this question, the more bewilderingly are the changes that I half-remember.

Furman and Greenville were good to me, but I was too fixed in this pleasant rural campus, hardly getting away except for eclipses in remote countries and some long cycle rides. After I moved to Lyme Regis in England in 2001, the fulfillment part of the business (not the printing and advertising) was taken off my hands by *Celestial Products* in Virginia, then by *Sky & Telescope*, and now by Ed Merritt of *Clear Skies Media* in Massachusetts.

How did your contributors come aboard?

I saw that they were people who knew more than I about

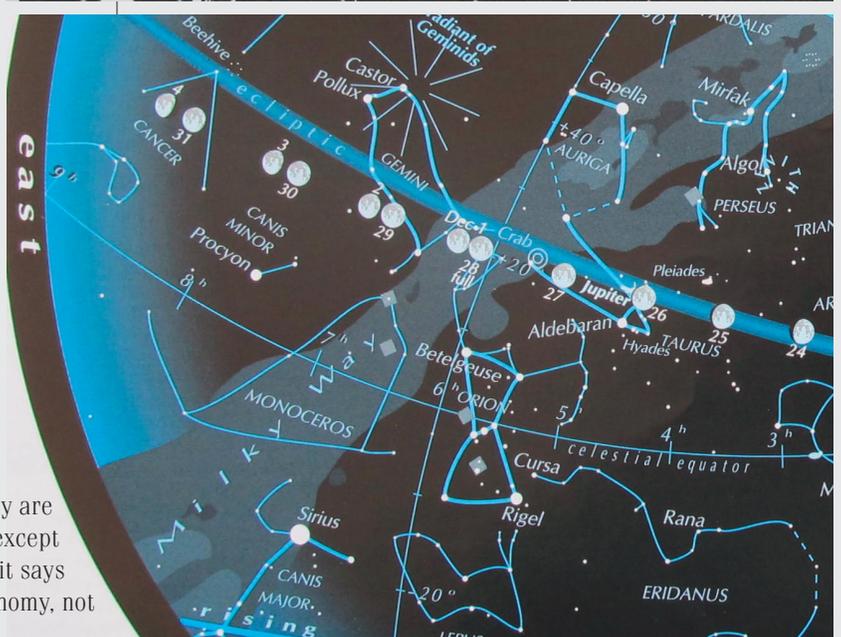
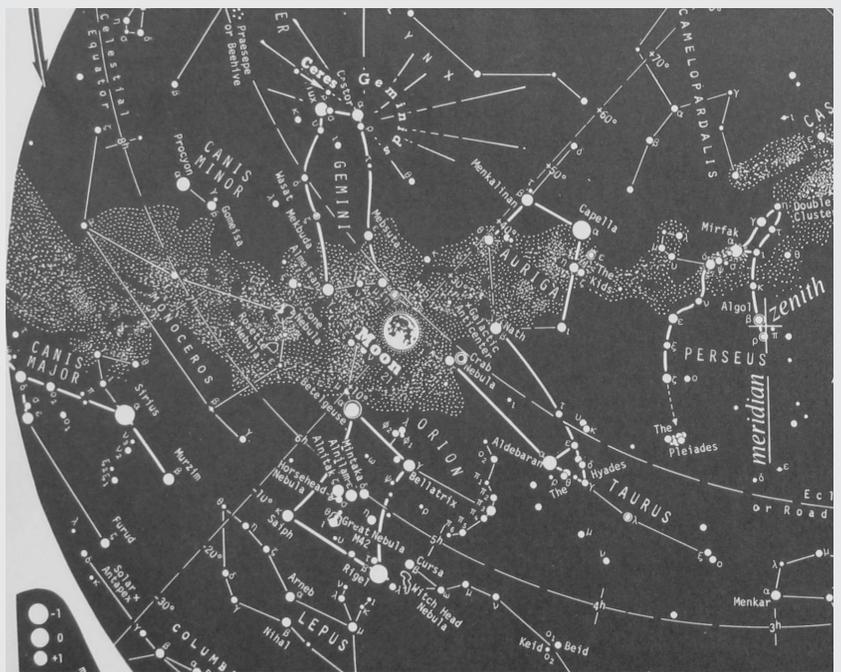
something and so I enlisted them. Some wrote to me and gently offered their help. Besides those who are contributing now - Fred Schaaf (*Observers' Highlights*, *Light Pollution*, *Deep-Sky Profiles*), Joe Rao (*Eclipses*), Richard Nugent (*Occultations*), Alastair McBeath (*Meteors*), Alan Hale (*Comets*), Clifford Cunningham (*Spaceflight*) - there have been in the past Geoffrey Falworth and later Jim Loudon on spaceflight, Joe Marcus on comets, Richard Keen on eclipses, George Lovi on the planets. There have been a couple of guest essayists: Benny Soldano (another Furman physicist) on the fine structure constant, and Brian Marsden (the hub of the astronomical world, in my estimation) on the discovery of Ceres. Why are none of these names (except Ceres) female? I think it says something about astronomy, not about me.

How did the art on the cover start?

I just drew Orion rising for the first one (it was black-on-white, and I had the printer "reverse" it), then found I had to keep making cover pictures. It's been a troublesome task because imaginary pictures are not my forte; what I want to draw is realities that I see before my eyes. I have usually valued the cover-picture stories more; I like it when there are several themes that compound with each other.

What is the future of the *Astronomical Calendar*?

Every year I say "This has to be the last": the labor is almost



Top: A portion of the December 1980 sky map. Bottom: The same portion in a sky map published in December 2012 with a contemporary look.

unbearable, too little time is left for my many other projects and for normal life, and I have a degenerative disease in my eyes. I imagined the *Astronomical Calendar* being taken over by others as must have happened with some still-running publications; but it is too individual. After finding that several such plans would not work, I have one that has rejuvenated my interest.

Astronomical Calendar 2014 will return to the letter-size format of the very first. This will bring flexibility. Instead of the many supplementary sections,

almost everything about each month - the eclipses, meteor showers, groupings of bodies - will be within that month, like clusters, taking a flexible number of these smaller pages. The book will be handier and will pull together in one place what the observer wants to know about the sky tonight. I'm already starting to work on it.

Guy Ottewell and his wife, Tilly, currently reside in Lyme Regis which lies at the west end of the coast in the county of Dorset in England. He has a daughter in Virginia and a son in North Carolina. ✨

ALCon2012

Celebrate Starlight

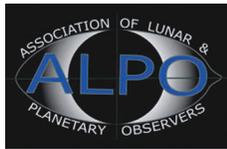
Organized amateur astronomy has been part of the United States for 150 years beginning with the founding of the Chicago Astronomical Society in 1862.



Recognizing this achievement, the 2012 Astronomical League convention was held July 4 through July 7 at the beautiful Marriott Lincolnshire Resort, just west of Chicago.

Partnering with this event were the annual meetings of the Association of Lunar and Planetary Observers and of the Mid West Astro-Imaging Conference.

The Chicago Astronomical Society hosted a big event and they had the support of and help from numerous sponsors and organizations: The Astronomical League, The Adler



Planetarium, The Field Museum, Fermilab, Yerkes Observatory, the International Dark Sky Association, the Illinois Coalition for Responsible Outdoor Lighting, Astronomers Without Borders, the North Central Region of the Astronomical League, the Association of Lunar and Planetary Observers, the Mid West Astro Imaging Conference and One Star at a Time.



The four-day affair attracted amateurs from well over seventy clubs, societies, and organizations. They came from points all across the US such as California, Washington, Florida, and New England and from as far away as Greece and Malaysia.

ALCon 2012 featured forty speakers, three afternoons and evenings of trips, an afternoon devoted to the issue of light pollution and concluded with the annual gala awards banquet.

The Day Trips

Chicago's two world-class

science institutions, the Adler Planetarium and The Field Museum, opened their doors for attendees to tour their facilities and to listen to talks on the asteroid belt and meteorites, and then attend a special planetarium show using sounds to depict the night sky experience. The day ended with a fireworks display on the grounds of the Marriott Lincolnshire Resort — after all, it was the Fourth of July.

The next day saw people board the buses for a look at the high-energy particle physics

compound at Fermilab, just in time to hear the exciting announcement of the discovery of the Higgs Boson at CERN. Fermilab is not only home to advanced physics research but to bison. Yes, bison roam the acreage, giving a nice mix of technological and natural wonders!

While at Fermilab, folks could attend the play, "Creations Birthday," by playwright, Cornell physicist, and ALCon speaker Hasan Padamsee. They saw an enactment of how Hubble's discoveries meshed with Einstein's theories — very suitable for a venue like Fermilab.

The hot summer day concluded on Lake Michigan on tall ships giving fantastic views of Chicago's beautiful (but light polluted) lake front.

Friday's excursion began with a trip to Yerkes Observatory, just across the Wisconsin state line. The storied building and telescope were toured and participants learned about an unusual observing program for the seeing impaired. The evening ended at Ravinia, Chicago's outdoor music spot, for a Star-B-Q on the lawn.

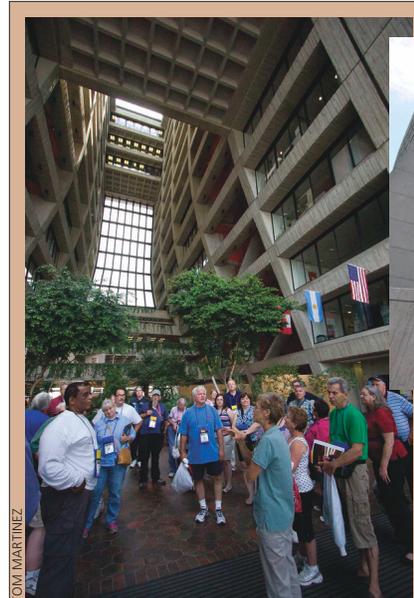
Mid West Astro Imaging Conference

Astro-imagers joined ALCon and met in the afternoon. They were involved with talks about image capturing, image processing and image presentation.

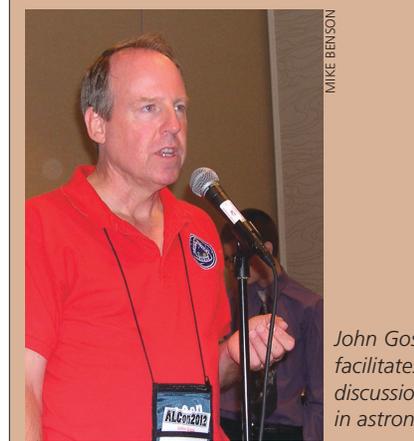
The ALCon Talks

Since there were so many presentations to be given, talks were generally limited to a length of thirty minutes. This made for a fast paced event! Some, but not all, areas of interest included:

- ☎ Reaching international amateurs through programs by "Astronomers Without Borders," and "Telescopes to Tanzania"
- ☎ Technical innovation of bouncing digital picture signals off the moon
- ☎ Amateur astronomy retrospective and heritage preservation



TOM MARTINEZ



MIKE BENSON

John Goss facilitates a discussion in astronom...



JACK GROSS

Some attendees learned how to present astronomy to the seeing impaired..

Chicago skyline viewed from the Tall Ship W...



JACK GROSS



MARK KUBA

Fermilab tour and exterior of the lab.



JACK GROSS

Historic Yerkes building



CLAIRE GADBOIS

Adler Planetarium



Astronomical League President Carroll Iorg opens ALCon 2012.



CLAIRE GADBOIS

"Sidewalk Astronomers" program is described by Peggy Walker.



CLAIRE GADBOIS

ALCon co-Chair Audrey Fischer welcomes everyone.



LINDA PRINCE

Fireworks above telescopes on the Marriott Lincolnshire Resort Parking lot.

on youth ny.



ROBERT TOGNI

Wayne Morris, astronomer at Yerkes, shows original EE Barnard sketches from the archives.



CLAIRE GADBOIS

World famous Yerkes 40-inch refracting telescope located in Williams Bay, Wisconsin.



ROBERT TOGNI

Ravinia was a great venue for the annual Star-B-Q

onomy ndy.

The Astronomy Magazine Blue Band playing at the Awards Banquet.



JACK GROSS

- ☞ Extra-solar planets
- ☞ Telescope workshops
- ☞ Sketching at the eyepiece
- ☞ Very deep sky visual observing
- ☞ Discussing the decline of young people entering the hobby
- ☞ Presenting steps to increase club membership and relevance

ALPO presentations

It is always a great addition having ALPO papers presented at ALCon. This year a dozen talks were given with topics ranging from apparitions of Mercury to brightness measurements of Uranus and Neptune, and from observational studies of the rocky planets to the gas giants.

Celebrate Starlight

Since Celebrate Starlight was the general theme, Saturday afternoon featured talks and discussions concerning some of the many aspects of light pollution: its affect on the human body and behavior, its impact on nature, and its affect on astronomy.

Awards Banquet

It is customary for ALCon to end with an awards banquet, and this year was no exception. What was different was that folks were treated to live music presented by the Astronomy Magazine Blues Band composed of people from Astronomy Magazine including its editor David Eicher (on drums!).

Peltier Award — Presented by Roger Kolman to Mike Simonsen in recognition of his over 80,000 variable star observations

Astronomy Day Award — Presented by Carroll Iorg to Charlie Klingel and Tom Auchter of the Northwest Suburban Astronomers

Special Astronomical League Award — Presented by Carroll Iorg to Roger Kolman for all of Roger's service to the astronomical community

Mabel Sterns Newsletter Editor Award — Presented by Carroll Iorg to Bill Pellerin of the Houston Astronomical Society

Horkheimer/Smith Award — Presented by John Goss to Benjamin Palmer for all his work with promoting astronomy to the public. We wish to thank the Horkheimer family for sponsoring this program

National Young Astronomer Award — Presented by John Goss to Justin Tieman for his projects "Space Rocks," and "Alien Worlds." We wish to thank Explore Scientific for generously sponsoring this award

Special Award — Presented by Carroll Iorg to Joanne Hailey, outgoing League Treasurer, for her many years of service to the League

NCRAL Award — Presented by Gerry Kocken to Gene DuPree of the Northern Cross Science Foundation for exceptional individual effort and meritorious service to amateur astronomy

ALPO Peggy Haas Service Award — Presented by Ken Poshedly to Richard Schmude for his work in the organization

ALPO Walter Haas Award — Presented by Ken Poshedly to Daniel Troiani for his detailed studies of planetary features

The keynote presentation was a director's screening of "Saving Hubble." Director David Gaynes provided intriguing insight to the making of this documentary about the most famous telescope ever built and its near demise by NASA budget cutters.

The League wishes to thank the Chicago Astronomical Society for their effort — especially CAS members Bruce Blair, James Cuca, and Robert and Claire Gadbois for their hard work at ALCon and Audrey Fischer, ALCon co-Chair, for her many hours spent organizing the event. The League also wishes to thank Peter Birren for designing great promotional ads, Rich Wagner for creating the superb ALCon website, and Chris Brownwell for his audio/visual technical expertise and assistance. ✨



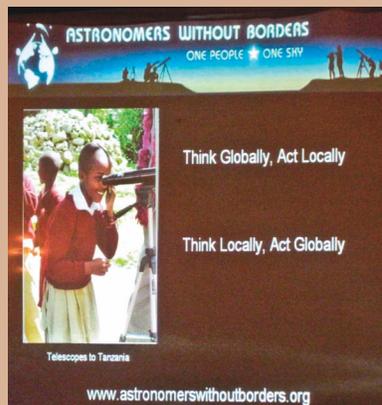
TOM MARTINEZ



TOM MARTINEZ

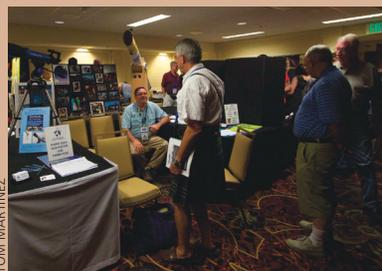


TOM MARTINEZ

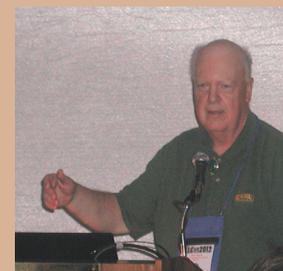


ROBERT TOGNI

Clockwise from top: Astronomical League booth; Astronomy Magazine's Senior Editor Michael Bakich; Don Joyce, President of the Chicago Astronomical Society, making introductions; Star Party at the Marriott Lincolnshire Resort; Vendor area; Presentation by Astronomers-Without-Borders demonstrated that U.S. amateurs can help amateurs in other countries; Crowd filled the Great Lakes Ballroom at the Marriott.



TOM MARTINEZ



BOB GADBOIS



TOM MARTINEZ

Following the Winter Milky

south from the constellation Auriga takes you through Gemini, Orion, Monoceros, Canis Minor, Canis Major and Puppis. All of these constellations are well known to mid-northern latitude stargazers, with the exception of perhaps Puppis. Our general lack of familiarity with Puppis is due to its southerly declination, the fact that the entire constellation does not rise above the horizon and it not containing bright stars like nearby Orion and Canis Major.

Puppis was part of the ancient constellation Argo Navis (the ship Argo). In 1763, the French astronomer Nicolas Louis de Lacaille divided Argo Navis into four parts, the stern of the ship becoming the constellation Puppis. Located along the

galactic equator, Puppis is filled with myriad open star cluster waiting to be explored. The constellation lies on the east and south sides of Canis Major.

Two of the best star clusters in Puppis that rise high enough above the horizon to be seen in all their splendor from most of the northern hemisphere are M46 and M47. Of the two, M47 is the easiest to locate, is a naked eye object in dark skies and is simple find in binoculars. To find it, pan 12.5 degrees east of Sirius (Alpha Canis Majoris) along a line passing through the star Muliphein (Gamma Canis Majoris).

M47 is a bright star cluster containing approximately 50 stars scattered over an area the size of the Moon. The brightest members are around 6th magnitude, with the entire cluster shining around 5th magnitude. The cluster contains mostly type A and B stars, which are hot stars that are typically blue to blue-white in color. Many of these stars are binary and multi-star systems, some of which can be resolved in 8-inch telescopes. There are also two orange-red K type stars in the

DEEP SKY OBJECTS NINTH OF A SERIES TWO GREAT STAR CLUSTERS IN PUPPIS

By Dr. James Dire, Kauai Educational Association for Science & Astronomy



The author took this image of M46 with an SBIG ST-2000XCM CCD camera with a 20-inch f/8 Ritchey-Chrétien Cassegrain telescope.

cluster around 8th magnitude. M47 lies 1600 light years away and has a diameter of 15 light years. The stars are estimated to be 60 million years old, much younger than our sun!

One of my favorite star clusters to view is M46, which lies 1.5 degrees east of M47. In fact, both clusters are visible in the same field of view in binoculars and most finderscopes. While M46 is not as bright as M47, it is richly packed with around 150 stars of magnitude 10-13. The entire cluster may contain 500 stars! The brightest star in the cluster just exceeds 9th magnitude and the cluster's integrated visual magnitude is 6.1.

A fascinating feature of M46 is the presence of a small planetary nebula, NGC 2438, located on the north side of the cluster 7 arc minutes from the center. The nebula is 1.2 arc minutes in diameter and shines at magnitude 11.5. Averted vision may be needed to see it in an 8-inch telescope depending on sky conditions. The nebula will appear colorless to the eye even though it has blue and red colors on CCD images. The

star that formed the planetary nebula is magnitude 17.7. If you think you can see it, you probably are just seeing one of several brighter stars that are either foreground objects along the line of sight, or background stars shining through the nebula. High magnification images of NGC 2438 show at least 6 stars brighter than the central star within the apparent boundary of the planetary nebula.

At 5400 light years away, M46 is three times farther away than M47. The cluster is thought to be 300 million years old. The planetary nebula NGC 2438 lies only 2900 light years away, so it is not actually in M46, but a foreground object. The nebula and its central star are

receding from Earth in the direction of M46, approaching the cluster at a speed of 35.6 kilometer per second. At that speed the planetary nebula's central star will take 21 million years to reach the vicinity of M46. The cluster will still be there, but the planetary nebula will have long faded away.

Charles Messier recorded both M46 and M47 in the year 1771, a few days after he published his first catalog containing M1-M45. He incorrectly recorded the coordinates of M47 and nothing exists at the wrong coordinates. But subsequent astronomers figured out his mistake and found the real M47. Messier's primitive optics were not fully capable of resolving the dimmer M46 and he incorrectly thought the cluster might contain some nebulosity. NGC 2438 was discovered by William Herschel in 1827. In 1984, it was discovered that Messier was not the first astronomer to see M47. The Italian astronomer Giovanni Batista Hodierna recorded observing the cluster 117 years before Charles Messier. ✨



John Bunyan of Grants Pass Astronomers in Oregon and Marni Berendsen of the Astronomical Society of the Pacific demonstrate how telescopes work.

Missed the NSN Workshop at ALCon 2012?

Don't stay in the dark about the free NSN benefits for your club.

"Workshop participants left with a much better appreciation of how NSN can help their clubs solve common club problems." — John Bunyan
Is your club having trouble...

- Getting new members and volunteers?
- Doing publicity for your events?
- Keeping your club calendar up-to-date?

You're not alone. Find out how the Night Sky Network services address these and other common club issues! Go to nightskynetwork.org/about.cfm



Does your passion for grammar rival your love for astronomy?

The Astronomical League is seeking an **Assistant Editor** for its premier publication, the *Reflector*. The *Reflector* is the voice of the Astronomical League and reaches its 15,000 members quarterly. This full-color, glossy magazine, averaging over 100 pages annually, features articles by amateur astronomers, contains important League news, runs advertisements, and displays many incredible astro-images. All of this cannot happen without a dedicated team of volunteers, with the **Assistant Editor** being one of them.

Is proofing your passion? Would you like a chance at seeing all the great stories going into the *Reflector* before anyone else? Would you like to be an important part of the dedicated volunteer staff that publishes the *Reflector*?

If you are interested in bringing amateur astronomy to the members of the Astronomical League, please send an email describing your interest to either Astronomical League President **Carroll Iorg**, president@astroleague.org or Astronomical League Vice President **John Goss**, vicepresident@astroleague.org.

March Reflector explores "The Dearth of the Young"

Young people are not entering our hobby in the numbers that they once were. The March *Reflector* will examine why and steps to bring the young into amateur astronomy.

Special Award Presented by NERAL

It is my great pleasure to announce that, by unanimous vote of the NERAL Executive Committee, the Special Service Award of the North East Region of the Astronomical League (NERAL) was awarded to Bob Carruthers of Bethany, Connecticut at this year's Stellafane Convention in Springfield, Vermont on Saturday evening, August 18, 2012.

Bob Carruthers is maybe best known to Stellafaners for his use of recycled materials in his amateur telescope making. He has used bowling balls, iron frying pans, rubber bladders,

stainless steel joint compound of other material-innovative telescopes. The Mixing Bowl particularly use-capped observatory telescope could



mixing bowls, cans and a host of other materials in his telescope designs. The Mixing Bowl telescope was particularly useful for handicapped observers, in that the telescope could be rotated and

moderate wheelchair height, as well as for children too young to climb ladders. Some of Bob's designs, such as the bowling ball / frypan mount and diving board focuser (a.k.a. the 'long arm focuser') were highlighted in *Sky and Telescope Magazine's* 10 best ideas in telescope making.

What many do not know about Bob is the many free telescope making courses that he has taught all over Connecticut, where he has passed on his zeal for ATM and Sidewalk Astronomy. Bob is a past Vice President and the current Secretary of the Astronomical Society of New Haven, a long time member of the Astronomical League.

We are very pleased to give this award to this astronomy educator and grassroots ATM innovator who is selfless in the sharing of his knowledge.

Congratulations, Bob!

Maryann Arrien,

Chair, the North East Region of the Astronomical League

www.neral.org

AL Member Discount on New Large-Format Wall Calendar

Astronomical League members (clubs and individuals) are eligible to purchase the new large-format Year In Space Wall Calendar at discounts ranging from 24% to 41%, with free U.S. Shipping. The calendar retails for \$16.95, but AL members and clubs can purchase a single copy for \$12.95; two or more copies to the same address are \$11.95 each; 10 or more are \$10.95 each; 36 or more are \$9.95 each. The calendar is 16" wide and 22" tall, and features over 100 images, daily Moon phases, night sky events, space history, and much more. It's published in cooperation with The Planetary Society. See more at www.YearInSpace.com/wall-calendar

Discounts for Astronomical League Members

An Amazing New Space Calendar



\$12.95 or less
FREE U.S. Shipping!

A Year-Long Journey Through the Universe

The new large-format *Year In Space Wall Calendar* combines a stunning visual design with fascinating facts to create a guided tour of a different exciting space topic each month. Published in cooperation with The Planetary Society, *The Year In Space* will take you on an amazing year-long journey through the universe.

Features

- Large 16" x 22" when open
- 12 monthly in-depth topics
- Monthly planet viewing guide
- Over 100 space images
- Space history dates & trivia
- Daily Moon phase graphics
- Over 100 night sky events
- Biographies of key people
- Room for notes & appts
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- Money-Back Guarantee



Discount Pricing for AL Members

Use the "Club" discount and pay less than the \$16.95 suggested retail price:

- 1 copy costs just **\$12.95** (save \$4)
 - 2-9 copies* @ **\$11.95** (save \$5 each)
 - 10-35 copies* @ **\$10.95** (save \$6 each)
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New member clubs

The Astronomical League welcomes these clubs to our membership.

Central Florida

Astronomical Society, Inc.

Southeast Region, 91 members
P.O. Box 620907; Oviedo, FL 32762-0907
president@cfas.org; www.cfas.org
Gordon Cain, Alcor
320 Lakeview St - Apt #108
Orlando, FL 32804-6831
407-409-8466
skyguy@gordoncain.com



Kern Astronomical Society

Western Region, 49 members
Bakersfield, CA
www.kernastro.org
Rod Guice, Alcor
921 Jasmine Park No. 2
Bakersfield, CA 93312
720-217-5701
rod_guice@oxy.com



Kopernik Astronomical Society

Northeast Region, 13 members
Kopernik Observatory
698 Underwood Road; Vestal, NY 13850
www.kopernikastro.org; www.kopernik.org
George Normandin, Alcor
1789 Airport Road; Binghamton, NY 13901
607-797-8170
gnormandin@stny.rr.com



The Astronomical League's Youth Awards 2013— 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 2012: the National Young Astronomer Award (NYAA) and the four 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 between 14 and 19 years of age.

If you know a League member, 18 years 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 four Horkheimer Service Awards. One of these awards is more specialized than the others— the Horkheimer/O'Meara Journalism Award. It requires a person who is 8 to 14 years of age to compose a 300 to 500 word essay on any science related topic.

Since the deadlines for the National Young Astronomer Award is January 31, 2013 and for the Horkheimer Awards is March 31, 2013, except for the Journalism Award which is April 10, 2013, now is the time for potential candidates to work on their projects and to participate in various astronomy events.

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

Rancho Bernardo/Murrieta Astronomical Society

Western Region, 6 members
San Diego, CA
Barbara Biever, Alcor
12528 Palero Rd
San Diego, CA 92128

(858) 674-7307
wraithfulbuddha@yahoo.com

Call for League officer nominations

The two term limit, each comprising two years, of the office of National Secretary ends on August 31, 2013. If you are interested in using your talents to serve in this important position, we would like to hear from you. Please volunteer!

For specific information regarding the duties and responsibilities of this office, please refer to the League's bylaws, which can be accessed on the League website at astroleague.org.

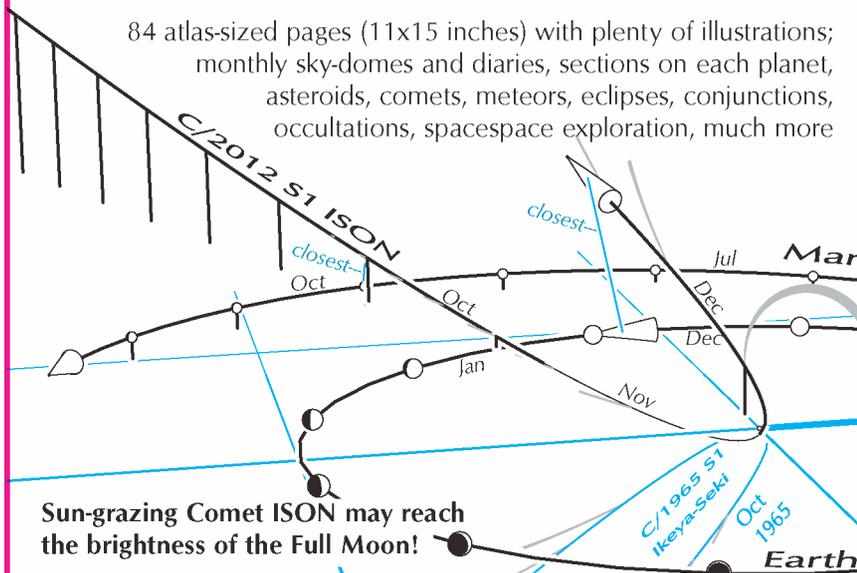
Candidates should send Nominating Committee Chair John Goss, vicepresident@astroleague.org, background statements explaining why they are interested and a photo of themselves for publication in the *Reflector*. Please limit all statements to approximately 250 words. All nomination materials must be submitted by March 15, 2013.

Special offer for Astronomical League Members and Clubs:

Guy Ottewell's

ASTRONOMICAL CALENDAR 2013

84 atlas-sized pages (11x15 inches) with plenty of illustrations; monthly sky-domes and diaries, sections on each planet, asteroids, comets, meteors, eclipses, conjunctions, occultations, space exploration, much more



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many League activities.
Let's support them!**

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



Observe Clubs. Just about everyone has heard of the nearly 30 AL Observe Clubs. 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.

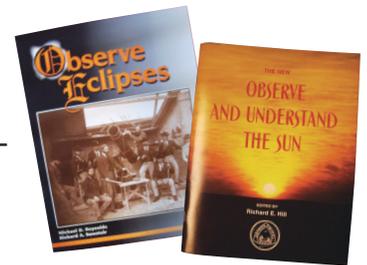


League Awards. The Astronomical League wants to recognize those dedicated individuals who make astronomy happen. Every year, the League gives awards in several different areas: the Mabel Sterns Newsletter Award, the Webmaster Award, the National Young Astronomer Award, the Jack Horkheimer Young Person's 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 on-line, credit card capability.



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

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 ask the corresponding Observing Club Chair. Their contact information can be found under the Observing Club site at www.astroleague.org/observing. If further assistance is required, please contact either of the two National Observing Program Coordinators.

Arp Peculiar Galaxies Award

No. 25C, Kate Kay, Member-at-Large; No. 71V, Vincent S. Foster, Member-at-Large; No. 72V, Steve Jaworivsky, Howard Astronomical League of Central Maryland; No. 26C, Richard Ditteon, Indiana Astronomical Society; No. 27C, Dan Crowson, Astronomical Society of Eastern Missouri

Asteroid Award

No. 40, David R Brandt, Regular, Minnesota Astronomical Society

Binocular Double Star Award

No. 39, Zachary Lammi, Steele County Astronomical Society; No. 40, Lowell Martin, Fort Worth Astro-nomical Society; No. 41, John C. Raymond, Richmond Astronomical Society; No. 42, Gilbert Raineault, Member-at-Large; No. 43, John Robinson, The Astronomy Connection; No. 44, Diane Ketchum, Middle Georgia Astronomical Society

Binocular Deep Sky Award

No. 331, Steve Boerner, Astronomical Society of Eastern Missouri; No. 332, Marilyn R. Sameh, Wabash Valley Astronomical Society, Inc.; No. 333, John Sayers, Member-at-Large; No. 334, Kevin Johnson, Minnesota Astronomical Society

Binocular Messier Award

No. 951, David Osenga, Twin City Amateur Astronomers; No. 952, Ben Toman, Baton Rouge Astronomical Society; No. 953, Forrest Smith, Baton Rouge Astronomical Society; No. 954, Dean W. Chandler, Central Texas Astronomical Society; No. 955, Brad Payne, Northern Virginia Astronomy Club; No. 956, John Kutney, The Astronomy Connection; No. 957, Rene Scadone Gedaly, Houston Astronomical Society; No. 958, Terry Clinkingbeard, Astronomical Society of Eastern Missouri; No. 959, Mike Cook, Kalamazoo Astronomical Society; No. 960, Michael Stephens, Member-at-Large; No. 961, Eddie Agha, Astronomical Society of Eastern Missouri; No. 962, Joseph Richardson, Denver Astronomical Society

Carbon Star Observing Award

No. 23, Robert Togni, Central Arkansas Astronomical Society; No. 24, John Kutney, Astronomical Society of Las Cruces; No. 25, Stephen D. Peacock, Member-at-Large; No. 26, Mark A. Croom, Member-at-Large; No. 27, Rob Ratkowski, Haleakala Amateur Astronomers

Constellation Hunter -

Northern Skies Observing Award

No. 125, Rod Poynter, San Antonio League of Sidewalk Astronomers

Comet Award

No. 60, Al Lamperti, Silver, Delaware Valley Amateur Astronomers

Dark Nebulae Award

No. 15, Mel Bartels, Eugene Astronomical Society; No. 16, David P. Rudeen, The Etna Astros Astronomy Club

Double Star Observer Award

No. 468, Mark Bagdy, Estes Valley Astronomical Society; No. 469, Glen Winn, Texas Astronomical Society of Dallas; No. 470, John Robinson, The Astronomy Connection; No. 471, Ann Bruun, Astronomy Club of Tulsa; No. 472, Gregory M.



Brown, Member-at-Large; No. 473, Bob Hoover, Huachuca Astronomy Club; No. 474, Barbara Biever, Member-at-Large; No. 475, Lee Green, Twin City Amateur Astronomers, Inc.; No. 476, Bill Steen, Astronomy Club of Tulsa; No. 477, Michael Overacker, Star City Astronomy Network; No. 478, Grant Martin, Astronomical Society of Eastern Missouri; No. 479, John Fry, Olympic Astronomical Society; No. 480, Chris Lamer, Kansas Astronomical Observers; No. 481, Joe Goss, East Valley Astronomy Club; No. 482, Grace Aikman, Member-at-Large; No. 483, Gil Raineault, Member-at-Large; No. 484, Philip Hall, Member-at-Large; No. 485, John H. McCammon, Member-at-Large; No. 486, William Clarke, Tucson Amateur Astronomy Association; No. 487, Rob Ratkowski, Haleakala Amateur Astronomers; No. 488, William T. Conner, Indiana Astronomical Society; No. 489, Dennis B. Troup, Northern Virginia Astronomy Club; No. 490, Bob Scott, Island County Astronomical Society; No. 491, Thomas Rocco Pennino, Astronomical Society of Long Island and Amateur Observers' Society of New York; No. 492, Paul E. Stegmann, Member-at-Large

Galileo Observing Award

No. 24, Brad Payne, Northern Virginia Astronomy Club; No. 25, Denise Terpstra, Member-at-Large; No. 26, Robet Ketcham, Member-at-Large

Globular Cluster Award

No. 214, Richard Owens, Astronomical Society of Kansas City; No. 215, Robert L. Togni, Central Arkansas Astronomical Society; No. 216, Keith F. Rawlings, Astronomical Society of Kansas City; No. 217, Joe Castor, Kansas Astronomical Observers; No. 218, Darrick Gray, Astronomical Society of Kansas City; No. 219, Melinda Hopper, Member-at-Large; No. 220, Wanda Porter, Astronomical Society of Kansas City; No. 221, Bruce Bowman, Indiana Astronomical Society; No. 222, Melissa Adams, Member-at-Large; No. 223, Mark Simonson, Everett Astronomical Society

Herschel 400 Award

No. 480, Becky Ramotowski, Albuquerque Astronomical Society (correction); No. 482, Gregory M. Brown, Member-at-Large; No. 483, Michael Stephens, Royal Astronomical Society of Canada

Lunar Observing Award

No. 779, Jon Wheeler, Member-at-Large; No. 780, Eric D. Johnson, Member-at-Large; No. 781, Darrick Gray, Astronomical Society of Kansas City; No. 782, Keith F. Rawlings, No. 782, Astronomical Society of Kansas City; No. 783, Jack Fitzmier, Atlanta Astronomy Club; No. 784, Wayne Donohoo, Evansville Astronomical Society; No. 785, Amir M. Abdullah, Alachua Astronomy Club, Inc.; No. 786, Howard L. Cohan, Alachua Astronomy Club, Inc.; No. 787, Lisa Eager, Alachua Astronomy Club, Inc.; No.

788, Marlene Grabbe, Alachua Astronomy Club, Inc.; No. 789, Hal A. Grabbe, Alachua Astronomy Club, Inc.; No. 790, Bob Lightner, Alachua Astronomy Club, Inc.; No. 791, Don Loftus, Alachua Astronomy Club, Inc.; No. 792, Paula McLain, Alachua Astronomy Club, Inc.; No. 793, Clint McLain, Alachua Astronomy Club, Inc.; No. 794, Sarah Tuttle, Member-at-Large; No. 795, Joe Michail, Member-at-Large

Master Observer Award

No. 112, David P. Rudeen, The Etna Astros; No. 113, Salvador Aguirre, Member-at-Large; No. 114, E. Joseph Brauer, Member-at-Large; No. 115, Ed Valla, Tallahassee Astronomical Society; No. 116, Bryan R. Tobias, San Antonio League of Sidewalk Astronomers; No. 117, Eugene Smith, Member-at-Large; No. 118, Robert M. Bird, Northeast Florida Astronomical Society; No. 119, Art Zorka, Atlanta Astronomy Club; No. 120, Glenn Frank, Denver Astronomical Society; No. 121, Jack Estes, Austin Astronomical Society; No. 122, Rick Allnutt, Miami Valley Astronomical Society; No. 123, John Barra, Peoria Astronomical Society; No. 124, Howard W. Minor, Astronomical Society of South East Texas; No. 125, John Schaefer, Boise Astronomical Society; No. 126, Rob Raatkowski, Haleakala Amateur Astronomers; No. 127, Anthony Recasino, Member-at-Large; No. 128, John Eaccarino, Amateur Observers' Society of New York; No. 129, Michael D. Stewart, Astronomical Society of Kansas City; No. 130, John Kutney, Astronomical Society of Las Cruces; No. 131, Philip Hall, Member-at-Large; No. 132, Becky Schultz Ramotowski, Albuquerque Astronomical Society

Messier Award

No. 2592, Todd Billeci, Honorary, The Astronomy Connection; No. 2598, Becky Schultz Ramotowski, Honorary, Albuquerque Astronomical Society; No. 2599, Steve Fast, Regular, Houston Astronomical Society; No. 2600, Adam Atanas, Regular, Houston Astronomical Society; No. 2601, Fulton Wright, Jr, Honorary, Prescott Astronomy Club; No. 2602, David Osenga, Honorary, Twin City Amateur Astronomers; No. 2603, Vera L. deVelde, Honorary, The Astronomy Connection; No. 2604, Chris Todd, Honorary, Howard Astronomical League of Central Maryland; No. 2605, Brett Schaerer, Honorary, Rose City Astronomers

Meteor Award

No. 139, Brent Johnson, 12 hours, Hawaiian Astronomical Society; No. 141, John A Bailey, 24 hours, Tallahassee Astronomical Society; No. 142, Mark Simonson, 30 hours, Everett Astronomical Society; No. 150, Bob Vickers, 30 hours, West Kentucky Amateur Astronomers; No. 153, Andrew B. Foreman, 6 hours, Astronomy Club of Tulsa; No. 154, David P. Rudeen, 6 hours, The Etna Astros

Open Cluster Award

No. 55, Salvador Aguirre, Member-at-Large – basic award; No. 56, Lee Green, Twin City Amateur Astronomers – Advanced award

Outreach Award

No. 0052-M, Scott Kranz, Astronomical Society of Kansas, Master; No. 0366-M, Stephen Bieger, Atlanta Astronomy Club, Master; No. 0406-S, Will Young, Astronomical Society of South East Texas, Stellar; No. 0413-S, Joyce Lynch, Austin Astronomical Society, Stellar; No. 0418-M, Hugh Stevens, Texas Astronomical Society, Master; No. 0422-S, Steve Boerner, Astronomical Society of Eastern Missouri, Stellar; No. 0444-S, Brian Buttafuccho, Museum Astronomical Resource Society, Basic & Stellar; No. 0445-O, Dr. Willie K. Yee, Oklahoma City Astronomy Club, Basic Outreach; No. 0446-O, Mike Krzywowski, Austin Astronomical Society, Basic Outreach; No. 0447-O, Dan Dalessio, Astronomical Society of Southern New England, Basic Outreach; No.

0448-O, Deb Dalessio, Astronomical Society of Southern New England, Basic Outreach; No. 0449-S, Craig Mathews, Pomona Valley Amateur Astronomers, Basic & Stellar; No. 0450-O, Jay M. Skuban, Northwest Suburban Astronomers, Basic Outreach; No. 0451-O, Shawn Weaverling, Omaha Astronomical Society, Basic Outreach; No. 0452-O, Kevin Jones, Northern Virginia Astronomy Club, Basic Outreach; No. 0453-O, John Brueggemann, Northeast Florida Astronomical Society, Basic Outreach; No. 0454-O, Wayne Abler, Northeast Wisconsin Stargazers, Basic Outreach; No. 0455-O, Aaron Scott, Oklahoma City Astronomical Club, Basic Outreach; No. 0456-O, Mark Jones, St. Louis Astronomical Society, Basic Outreach; No. 0457-O, Louis Dorland, Omaha Astronomical Society, Basic Outreach; No. 0458-O, Brad Young, Astronomy Club of Tulsa, Basic Outreach; No. 0459-S, Rita Breeden, St. Louis Astronomical Society, Basic & Stellar; No. 0460-M, William R. Breeden, St. Louis Astronomical Society, Basic, Stellar & Master; No. 0461-O, Ryan Steinhauer, Omaha Astronomical Society, Basic Outreach; No. 0462-O, Colleen Steinhauer, Omaha Astronomical Society, Basic Outreach; No. 0463-O, Todd Billeci, The Astronomy Connection, Basic Outreach; No. 0464-M, Donald E. Ficken, St. Louis Astronomical Society, Basic, Stellar & Master; No. 0465-O, Chad Ruhl, Richland Astronomical Society, Basic Outreach; No. 0466-O, Erika Rix, Austin Astronomical Society, Basic Outreach; No. 0467-S, Steven Bellavia, Amateur Observers' Society of New York, Basic & Stellar; No. 0468-O, Jeromy Naethe, St. Louis Astronomical Society, Basic Outreach

Planetary Nebula Award

No.50, George J. Robinson, Advanced Award, Member-at-Large; No.51, Jim Kaminski, Advanced Award, Manual, Member-at-Large; No. 24, Clifton Mygatt, Basic Award, Olympic Astronomical Society; No. 52, S. Kent Blackwell, Advanced Award, Back Bay Amateur Astronomers; No. 53, Bruce Scodova, Advanced Award, Richland Astronomical Society

Solar System Observing Award

No. 72, Bryan Tobias, San Antonio League of Sidewalk Astronomers; No. 73, Timothy T. Myer, Astronomical Society of Southeast Texas; No. 74, Mark Simonson, Everett Astronomical Society

Sunspotter Award

No. 131, Barbara Biever, Member-at-Large; No. 132, Pat Al-Greene, Omaha Astronomical Society; No. 133, Joseph Michail, Member-at-Large; No. 134, Melissa Adams, Member-at-Large; No. 135, George J Robinson, Member-at-Large; No. 136, Melinda Hopper, Member-at-Large

Electronic version of the Reflector available

Beginning with the September 2012 issue, *Reflector* will be available online. All members will continue receiving a printed version through the mail. We would like to hear your thoughts on the League offering an online version. Please send them to *Reflector* president, Carroll Iorg, president@astroleague.org.

Astronomical League office email addresses

Society rosters: rosters@astroleague.org
 National office: leagueoffice@astroleague.org
 League Sales: leaguesales@astroleague.org

Explore the Moon



With our brand-new Moon globe!

Sky & Telescope, the essential magazine of astronomy, has produced a beautiful and extremely accurate new 12" globe of the Moon. Unlike previous Moon globes based on artistic renderings, this new globe is a mosaic of digital photos taken in high resolution by NASA's Lunar Reconnaissance Orbiter under consistent illumination conditions. The globe shows the Moon's surface in glorious detail, and how the nearside actually appears when viewed through a telescope. It also shows the farside in equal detail. The globe includes 850 labels that identify major basins (maria), craters, mountain ranges, valleys, and the landing sites of all the Apollo missions and robotic lunar landers.



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To have your star party or event listed, please send the details including dates, sponsors, web site, to: astrowagon@verizon.net.

January 26

Regional Meeting of Amateur Astronomers 2013
Gardner-Webb University / Ritch Banquet Hall
Boiling Springs, North Carolina
www.ccastro.org/rmaaka-bobfest.html

February 2

10th Annual Dark Sky Festival
Harmony, Fl.
www.darkskyfestival.com

February 4 - 10

Winter Star Party
West Summerland Key, FL
www.scas.org/wsp.html

February 6 - 10

Orange Blossom Special Star Party
Withlacoochee River Park
Dade City, FL.
www.stpeteastronomyclub.org/obs.php

March 2

Tri-Star 2013
Guilford Technical Community College,
Jamestown, NC
Greensboro (NC) Astronomy Club
and the Cline Observatory
www.gtcc.edu/observatory/tristar.aspx

March 9 - 16

The Tenth Annual OzSky Star Safari
(aka Deepest South Texas Star Safari)
Coonabarabran, New South Wales, Australia
www.ozsky.org/

March 13 - 17

Hodges Gardens Star Party
Hodges Gardens State Park
Florien, Louisiana, USA
www.braastro.org/hgsp.html

April 12 - 13

NCRAL 2013
Kahler Hotel, Rochester, MN
www.rochesterskies.org

April 20 - 21

Northeast Astronomy Forum
Rockland Astronomy Club, Suffern, NY
www.rocklandastronomy.com/neafl/index.html

The 2013 Astronomical Calendar: Specially priced for League members

The Astronomical League is pleased to announce a special offer for our members from the Universal Workshop, the producers of Guy Ottewell's popular Astronomical Calendar. They are making the 2013 edition of the Astronomical Calendar available at a discounted price. There are plenty of good reasons why it has been published for nearly four years. The 2013 edition will not disappoint!

Packed throughout its 84 road atlas-sized pages are monthly sky charts; daily celestial highlights; charts, tables, and explanations of planetary movements; eclipse times and paths; and lunar occultation specifics. There are extensive descriptions of the year's meteor showers and periodic comets as well. This book tells, in clear language, what events occur and when they happen.

League members can order this incredible compilation of 2013's celestial events for \$19.95, shipping included (standard ground shipping to US addresses, only). Volume discounts, beginning with a minimum of 11 copies, for clubs are available. But, to take advantage of the free shipping offer, you must order by Monday December 31, 2012, and either use the special website, www.Universalworkshop.com/clubs, or call 800-533-5083. The newly edited Astronomical Companion is also available at \$19.95, shipping included — if it is ordered at the same time as the Astronomical Calendar. *Universal workshop.com* accepts Master card, Visa, Discover, American Express and PayPal.

Place your order today!

Celebrate Starlight, the Commemorative Book: Deadline Extended

As part of the festivities of ALCon 2012, League clubs were asked to submit one to four page histories of their organizations. Facets to consider sharing were the answers to questions such as these: How has your club affected astronomy? Does it have memorable moments? Have specific members advanced astronomy in some way? Does your club currently participate in fascinating or unusual projects and events? Does it actively battle light pollution? What is your club particularly proud of? Show your club's passion and let it shine!

The deadline for submissions for the *Celebrate Starlight, the Commemorative Book* has been extended to February 1, 2013. Histories will be archived on the League website. You may send your club's history to John Goss, vicepresident@astroleague.org.

Electronic Membership Directory Available

As a cost saving measure, the League now provides the annual Membership Directory at the League's website, www.astroleague.org.

The Directory lists contact information for League Officers, Regional Officers, Program and Project Administrators, as well as the names of all League clubs and their respective ALCors. That information can still be found in the appropriate sections of the League website. If you would like an electronic version, please contact the League's national office, leagueoffice@astroleague.org, or: rosters@astroleague.org.

*** NCRAL 2013 ***

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- 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:
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 Phone: 816-333-7759; Email: leagueoffice@astroleague.org
Or join online at: WWW.ASTROLEAGUE.ORG

League Sales are online!

The League's online Store is available at the Web site, www.astroleague.org. Click on the link on the left side of the home page. The online store includes the latest shopping cart technology and accepts credit cards. Shipping & handling (S&H) is calculated at checkout. Merchandise is also available by mail order, payable by check. Please select your items, add the applicable S&H fee, and mail your order to:

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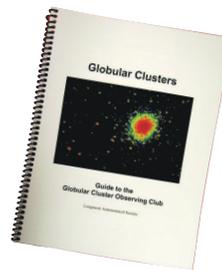
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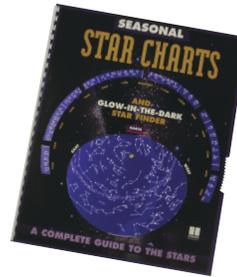
Carbon Stars
*A guide to the
Carbon Star Observing Club*
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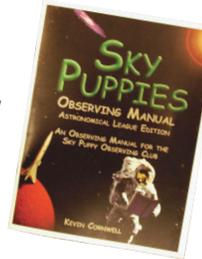
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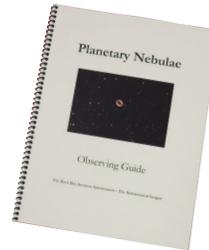
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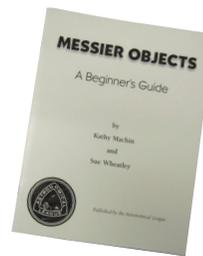
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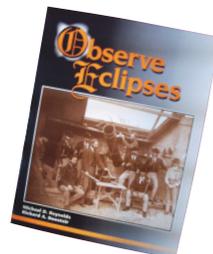
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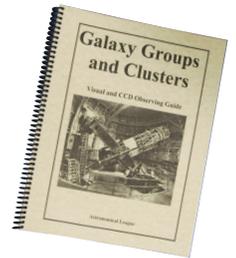
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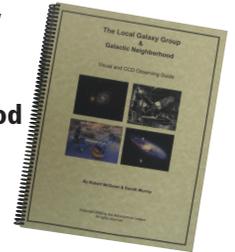
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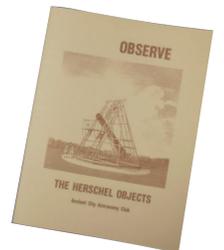
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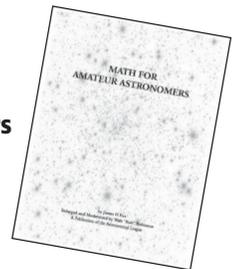
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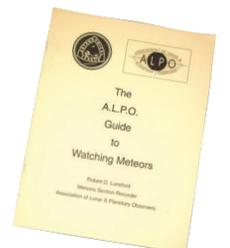
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Host Organizations: Atlanta Astronomy Club, Astronomical League

Partnering Organization: Association of Lunar and Planetary Observers (ALPO) • This year, ALPO presentations will be mainstreamed with League talks



Accommodations...

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- Shuttle service between hotel and presentations at Fernbank Science Center, and Agnes Scott College Bradley Observatory for those without transportation
- Be sure to ask for the Astronomical League rate.
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- Saturday night's Awards Banquet



Primary Venue: Fernbank Science Center

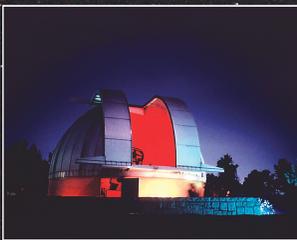
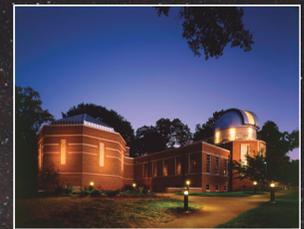
- Talks held in 70ft planetarium
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- Vendor displays



Excursions around Atlanta

Agnes Scott College Bradley Observatory

- Friday night's Star BQ
- Delafield Planetarium
- 30 inch Lewis H. Beck telescope
Atlanta Astronomy Club's Vila Rica Observatory
- Full size roll-off roof observatory
- 20 inch Newtonian reflector



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