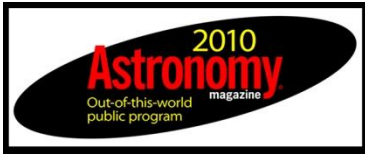


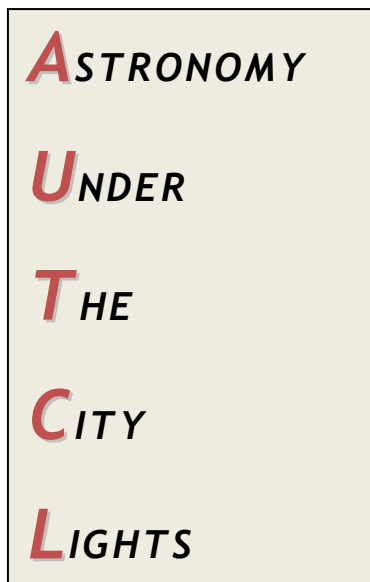
ASTRONOMY
UNDER
THE
CITY
LIGHTS



Public Outreach Program



**Out-of-this-World
Award 2010**



Submitted:
February 2011

Submission Letter

Official Entry Form

Description Essay

Awards Use Essay

"An Outreach Recipe for
Success"

Tools We Used

Sample Media Coverage

Night Times
Club Newsletter

AUTCL Photo Gallery

Other Club Activities &
Links

LCAS Submission to
Astronomy Magazine's 2010
"Out-of-this-world" Award



Submission Contents

- **Submission Letter**
- **Official Entry Form**
- **Description Essay**
- **Awards Use Essay**
- **"An Outreach Recipe for Success"**
- **Tools We Used**
- **Sample Media Coverage**
- ***Night Times* Club Newsletter**
- **AUTCL Photo Gallery**
- **Other Club Activities & Links**

Note: Event Handout Samples were included in the submitted package

Ken Daniel
1014 Gracewood Drive
Libertyville, IL 60048
February 8, 2011



Out-of-this-World Award 2010
Astronomy Magazine
21027 Crossroads Circle
Waukesha, WI 53187-1612

Dear Astronomy Magazine:

The Lake County Astronomical Society proudly submits for your consideration our "Astronomy Under the City Lights" program for the *Out-of-this-World Award 2010*. In what may be the only program of its kind in scope, engagement, and impact, we have connected with *more than 3,000* adults and children, and expanded our reach across the entire expanse of Lake County, Illinois. Our approach is unique and has been demonstrated as highly successful. Our engagement methods and tools are tuned to excite and engage young and old. Our program leaders have continually honed and refined this program, which we now share with you.

It is our desire, regardless of the outcome of this particular award, that we can share the power of this program with astronomy clubs across the nation. As such we have compiled and included our "Outreach Recipe for Success" in our supplemental material. It will allow us to hyper accelerate public outreach by engaging and sharing our proven recipe with other clubs across the world. This submission becomes one opportunity to do that, with maximum affect!

The Lake County Astronomical Society (LCAS) was formed in 1982, and has a long history of engaging and supporting public and private outreach across northeast Illinois. The "Astronomy Under the City Lights" program, started in 2008, has become our most successful program of all time, well exceeding our expectations. We humbly hope that our recipe can help jumpstart a new level of sorely needed public outreach for science and astronomy across our nation.

Sincerely,

Ken Daniel
Program Chairman
kenndaniel@yahoo.com
(847) 816-612

Enclosures:

1. Bound Submission (Entry form, Essays, and supplemental material)
2. Loose Submission (for ease of copy)
3. Sample supplemental materials

LCAS Submission to
Astronomy Magazine's 2010
"Out-of-this-world" Award



Official Entry Form



Official Entry Form

Astronomy magazine Out-of-this-world Award 2010

Date: February 1, 2010

Astronomy organization: Lake County Astronomical Society

Name of outreach program: Astronomy Under the City Lights

Applicant's name: Joseph J Shuster Sr

Address: 17622 W Julie Ln

City: Gurnee State: Illinois

Zip: 60031

Daytime phone number:

847-360-1975

Evening phone number:

847-456-7488

Applicant's e-mail address:

jshuster42@comcast.net

Please send **entry form, essays,**
and **supplemental material** to:
Astronomy magazine
Attn: Out-of-this-world Award 2010
21027 Crossroads Circle
Waukesha, WI 53187-1612

All applications and material must be
postmarked by **February 18, 2011.**

This 1-page entry form must accompany
the submission. No materials will be returned.

Please contact Assistant Editor Bill Andrews
with any questions:

[t] 262.796.8776, Ext. 276

[e] bandrews@astronomy.com

LCAS Submission to
Astronomy Magazine's 2010
"Out-of-this-world" Award



Description Essay

In 2008, the Lake County Astronomical Society initiated a program – "Astronomy Under the City Lights" (AUTCL) – with the objective of expanding astronomy club members with the public at our local libraries. As the program has developed, the results have far exceeded the original expectations. By the end of 2010, over 3,000 visitors enjoyed their first view of the Moon and planets.

The program is very popular with our partner libraries and their patrons. We started by enticing five library partners to participate in this new program. From there, the program and our reputation grew quickly. Soon six additional libraries sought out our club, and asked us to bring the AUTCL program to their location. We now visit our 11 partner libraries twice every year.

Fundamental to the program, we recognized that libraries attract motivated visitors, that are eager to learn. Some visitors attend our events in response to publicity from their local library. Other people are "accidental astronomers" who just happen to visit the library during our event. The events attract crowds that range from around 50 to 250 visitors.

The visitor reactions are most rewarding. A common scene is a parent who was just dropping off some books calling home to rally the spouse and kids to rush over to the library. One of the most common questions we get is "How long will you be here?". Kids who've browsed all the telescopes multiple times still object when a parent says it's time to leave. Our favorite question is "When will you be back here?"

Our events generate excitement because we've developed a format for AUTCL events that makes science and astronomy a fun pastime for adults and kids. Our members provide expertise and a variety of telescopes. The club provides tokens for kids to make the event more memorable. The club also provides a "hands-on" experience for the young visitors and provides special reference materials. The library staff arranges easy access to astronomy books for the visitors who want to continue the "astronomy experience" by taking some astronomy books home.

Our submission to the Astronomy Magazine's 2010 "Out-of-this-world" award includes "An Outreach Recipe for Success". This document covers the history of

LCAS Submission to
Astronomy Magazine's 2010
“*Out-of-this-world*” Award



the *Astronomy Under the City Lights* program as well as a recipe – tips, tricks, techniques, tools, etc. – that other astronomy clubs can use to reproduce the success of AUTCL. We also are including samples of our event tokens for kids (glow bracelets & stickers), handouts for adults, newspaper clippings, and a copy of the LCAS newsletter, the *Night Times*, showing our coverage of the events.

LCAS Submission to
Astronomy Magazine's 2010
"Out-of-this-world" Award



Application Use Essay

The proceeds of the 2010 Out-of-this-world award will be used to provide many of our library partners with a simple telescope to be borrowed just like other library resources. The telescopes will be used to accelerate our current library outreach program in an area that we have found to generate the most public interest in astronomy – “hands-on” experience with a telescope. The Lake County Astronomical Society schedules public star parties at over 10 library locations twice each year. We witness the excitement and lasting impression from giving kids (and parents!) full control of a simple telescope.

The telescopes would be small (3-4"), rugged, and very easy to use. A few typical accessories will also be included along with a carrying case. To help understand the sky, the "kit" will include a moon chart and other resources to help the patron to have a successful 'first light'. To further support the experience, we will develop a 'YouTube-like' video and other aids. Finally, members will serve as mentors for each library, to provide additional personal support.

Preliminary discussions with libraries were met with enthusiasm. We will pilot the telescope borrowing program with a small number of our library partners to develop the most effective deployment approach. Based on our experience we will expand to other libraries until we deplete the award. The techniques that we learn will be published to encourage other clubs to duplicate our success.

LCAS Submission to
Astronomy Magazine's 2010
"Out-of-this-world" Award



"An Outreach Recipe for Success"

An Outreach Recipe for Success

By Joe Shuster on behalf of the Lake County Astronomical Society

In 2008, the Lake County Astronomical Society (LCAS) initiated a program with the objective of expanding its community outreach. As the program has developed, the results have far exceeded the original expectations. By the end of 2010, over 3,000 visitors enjoyed their first view of the Moon and planets. We at LCAS believe this program is worth sharing and we hope other astronomy clubs can reproduce the exciting results in their communities.



Background

In 2007, LCAS celebrated its 25th anniversary as a club. The long club history included various forms of astronomy outreach and the club had a strong reputation in the community for our outreach activities. We visited schools to serve specific grades or classes. We presented to scout groups, and church groups. We even performed outreach at wedding showers and black-tie charity events. In addition to the private outreach, we also included some public outreach events like an annual Astronomy Day and a few visits



to area libraries. For many of these outreach events we relied on traditional astronomer habits: We recommended the darkest locations and moonless nights so we could show faint deep sky objects.

For the most part, our outreach was reactive: Some organization made a request to us and we'd provide some members and telescopes for the event. Each event request was independent and there was no concept of a "program".

Many LCAS members were comfortable with this level of ad hoc, on-request, mostly-private community outreach. But a few of us hungered for more opportunities for outreach and at the end of 2007 the planet Mars and a local library provided us with the foundation that would develop into our "Astronomy Under the City Lights" program.

Mars and Smart People

In late 2007, a local library requested an event to coincide with the Mars opposition. Astronomically speaking, this library was a disaster. The library is set on a village square that is worthy of a scenic postcard. The stately buildings and grassy park are dominated by large, mature trees. Even with the leaves off the trees, the thick branches block a lot of sky. With Mars low in the sky and snow on the grass surfaces, we were forced into a hard choice: To be anywhere near the library we had to be on the narrow sidewalk from the parking lot to the entrance. People going to and from the library would need to virtually trip over us and our scopes.

As it turned out, our telescope roadblocks were a blessing. The clear sky and moderate (for December) temperatures brought out great crowds to the library. Of course, most people were returning books, picking up videos, and attending indoor programs at the library. Only a small fraction were coming to the library to see us (and Mars). But, with our status as "partial roadblock", the bustling visitors decided it was just as easy to take a moment to view Mars. Of course, Mars' icecaps and surface markings generated tremendous excitement. Kids said, "Wow!". Our telescopes drew a lot of attention. Adults said, "How much?". People on a quick errand to the library mingled with us, asking questions and examining our telescopes. A couple of visitors phoned home to tell the spouse to load the kids in the car and hurry over to the library. The lines of people waiting for views grew and grew. We knew we were onto something.

Of course, "sidewalk astronomy" is nothing new. But we found the "golden sidewalks". It should have been obvious that pedestrians near a library will naturally be more receptive to astronomy outreach activities. Going to a library is a common symptom of intelligence. We didn't just have a crowd of people: We had a crowd of smart people.

After the library closed for the night and we were packing our gear, one of the LCAS outreach junkies commented, "Wow, what if we really *planned* to do this kind of thing". It was more of a sigh than a plan. But a few of us took it to heart and started a program very different from our traditional outreach.



A New Plan

The "Astronomy Under the City Lights" public outreach program that developed from our Mars opposition event was part "good ideas", combined with a lot of "lessons learned" (and a few "don't do that again's"). Here are the essential principles:

- Set the program
- Set the schedule.
- Insist on the Moon.
- Use the libraries' "clout".
- Go to the light.
- Forget deep sky objects.
- Allow "hands on".
- Build memories.
- Lines are good.
- Respect volunteers.
- Grow slowly.

Setting the Program

Probably the most important step is to establish your goals as a club. Our goals were:

- more outreach events
- more control over outreach events
- better attendance.

Once we had established these goals for the program we could be more flexible about some of our past practices and habits. We could introduce some novelty and innovation.

Another reason to be very clear about your purposes and practices is to set a common tone for your hosts and visitors. To get the benefit of "economy of scale" you need to have consistency in the events.

We suggested that to our host libraries that they treat these events as "no registration needed" and we encourage the idea that visitors can come at any time and leave any time during the event window. For a visitor, the event starts when they arrive and it ends when they leave. Plus, many of our visitors are "accidental". So the registration list doesn't provide any information we can use.



Finally, it doesn't hurt to have a good name for the program to build a reputation and brand. We chewed up a couple of poor choices before finding something descriptive and memorable.

Setting the Schedule

To get more control over the quality and consistency of the events, we insisted on having the primary control over the dates. We build a pool of available dates and allow the libraries to pick from our list. This gives us the ability to avoid event dates that conflict with other club activities. Later, we'll cover the process we use to fairly offer dates to libraries.

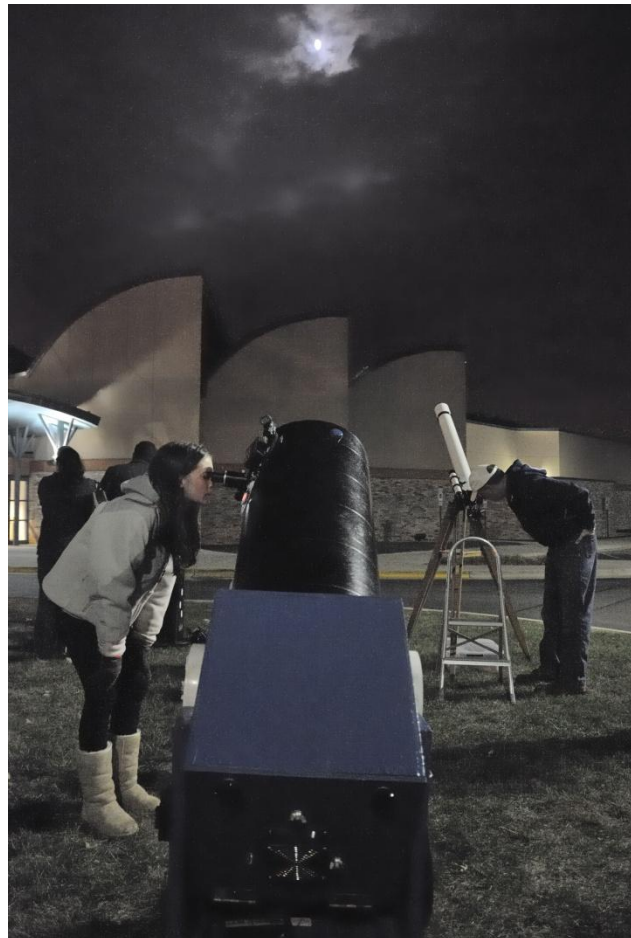
We broke the year into scheduling "seasons". What works best is a two season year: Spring and fall. We knew we couldn't hold events in June or July due to late sunsets. We learned (the hard way) that the northern Illinois winters made December and January unusable. Our spring season runs from February through May. Our fall season runs from August through November.

Insist on the Moon

This concept is extremely important for practical and educational reasons.

With the Moon in the sky, the weather for an event is automatically better. That's because the Moon can punch through haze or drifting clouds that would cancel an event that relied on perfect sky conditions. Just like a Jeep lets you travel where most cars can't, the Moon lets you enjoy views of craters and mountains in skies that would block planets and stars. So having the Moon in the sky reduces the chances of a cancellation due to weather. Additionally, the Moon is useful as an indicator on an "iffy" weather night. We tell folks that if they can see the Moon in the sky, then the event isn't canceled. Insisting on the Moon in the sky has reduced our canceled events by about 15-20%.

The other reason for having the Moon goes to the core of the outreach experience. For most of the public,



things in the sky are "things". Young kids can see the Moon, planets, and stars but they are just "there" with no substance or context. The first look through a telescope transforms that familiar ball in the sky from a "thing" to a "place". People think they know what the Moon looks like, but the view through the telescope is reliably shocking and transforming. When adults and kids realize that the "familiar thing" Moon is really a complex place, they also start to appreciate that the Earth is just one more of those complex places in the universe. It's the first step in understanding our planet's position in the universe. What we offer is a view of the Moon, but what we deliver is a revolution in perspective.

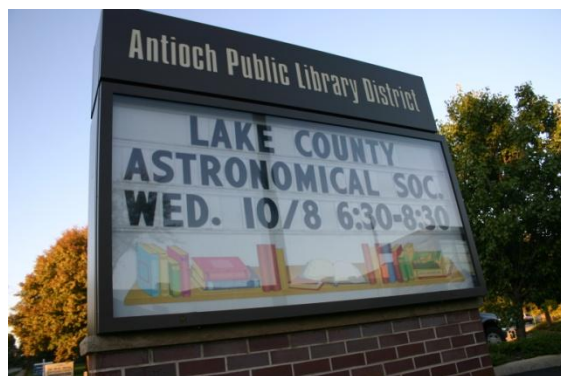
Of course we can base the events around planets. We can show Saturn's rings, Mars' icecaps and Jupiter's moons for their shock value. But the metamorphosis of perspective isn't as strong and persistent because most visitors won't recognize those planets in the sky. Meanwhile, anyone who looks at the Moon through a telescope will remember the drama of that view every time they see the Moon in the sky.

Insisting on the Moon in the sky does force some limits on dates. We schedule our events in a window of three days before and four days after the first quarter Moon. In earlier phases the Moon will set too soon or show too little detail. Later Moon phases aren't in a good sky position before the libraries close. This limits us to 8 candidate dates per month. In our area, almost all libraries close early on Saturday and Sunday. Many libraries close early on Fridays, too. So in most months we have 5 or 6 candidate dates per month. (As we'll see, even this number is reduced. But this limit has a benefit, discussed later.)

Use the Libraries' Clout

This falls into the category of "we should have guessed". It turns out that libraries don't just have the best audience. They also have community connections and marketing experience.

It's natural that local teachers and librarians communicate -- they're both in the knowledge business. Nothing broadcasts our events better than couple of librarians spreading the word to a few teachers who tell dozens of kids about our event. Librarians can also rally scout leaders to deliver a group of kids to our events.



Beyond the education connection, most libraries have great experience in marketing their programs. They develop and maintain newsletters, posters, and a website that they use to publicize our events. We continue our humble efforts to publicize events, but the libraries are the marketing giants. We have no hopes of matching their skill in this area.



Go to the light.

One of the hardest habits to break was setting up in the darkest location. Astronomers develop a strong aversion to light so we naturally tend to choose a location with as little ambient light as possible. Of course if you're at a library, even the darkest location is comically brighter than you'd ever choose for conventional observational astronomy. Finding the "dark spot" at a library is like finding the "dry spot" in the ocean.

Once you surrender to the fate of viewing in a bright location, it makes sense to pick the spots with the highest traffic. Our preferred location is just outside the entrance to the library.



Of course, the entrance area is often the brightest spot. Some of our best event photographs show the volunteers and visitors basking under the brightest outdoor light -- looking like human french-fries being kept warm by an array of heat lamps. Leave your red flashlight at home -- it's not only unnecessary but its beam is probably invisible.

But the payoff of the bright location is in traffic. We can attract the incidental visitors with a good location. Sometimes our lines make them wonder what they are missing. Sadly, at some libraries, we can't set up at the entrance and still see the sky. When we have to set up far from the entrance, we consistently see a drop in attendance and it's impossible not to correlate the set up location with overall attendance.

Remember one of the basic lessons: A little interdiction is good for attendance.

Forget Deep Sky Objects

If you "go to the light", then you can forget about viewing deep sky objects. Yes, your light bucket is still collecting all the light from M13 or M31. But your viewers' eyes are hopelessly constricted because of ambient light so the visitors won't see anything. We've tried to view objects like bright open clusters and other DSO's. But the visitors end up with an earful from the volunteer describing what the object should look like but never have the slightest visual gratification.

Save the DSO's for a dark site where people can become dark acclimated.

Constellations are equally difficult to see in the bright environment. But most astronomers aren't eager to give constellation tours anyway.

Meanwhile, we've had great success with planets. Another phase of finding our "place in space" occurs when people see a telescope aimed at a "bright star" only to find that it's a



planet -- with moons, phases, rings, polar caps, etc. We've gone to the ends of the solar system with success: Uranus and Neptune are great targets with the bigger telescopes. People love to talk about the extreme distances of these planets.

Allow "hands-on"

"Be careful!" "Don't touch the keypad." "Don't lean on the telescope." "I'll adjust that."

Kids (of all ages) hear a lot of warnings at outreach events. Warnings aren't usually associated with fun. But the warnings are often necessary to protect the visitors and the expensive equipment from damage. So to counteract the stifling effect of our unavoidable warnings we provide a hands-on outlet for our younger visitors.



We got an idea from an incident at one of the earliest events. A volunteer who brought a large dobsonian scope was called away. Two young ladies -- totally inexperienced -- decided they could manage the optics without supervision (or permission). The other volunteers were too busy with the crowd to intervene. By the time the owner returned to his scope, the girls had demonstrated surprising proficiency at managing the scope.

We decided that the idea of a hands-on telescope for kids was a good idea. It was a reasonably priced investment for the club and gave kids a much needed tactile outlet. Picking the right telescope and size was easy: We chose the members' consensus choice for the best telescope to buy for a youngster.

Our 6" dobsonian is just right for young visitors. For just a bit more fun, we decided to personalize the telescope. So we let the kids vote on the telescope's name at several events. "Dobbie" (the winning choice) is a big hit with kids. And it's great to see a kid show a parent how to use the telescope.

Sometimes, the best way to teach someone is to step back and let them learn.

Grow Slowly

To start the Astronomy Under the City Lights program, we reversed our normal reactive process. We contacted a few local libraries and began to educate the librarians about what we were offering in the program. Not all the libraries accepted our offer. But five did accept and because of the small number, we were able to offer a few libraries multiple



dates during the first season. That moderate pace let us work the kinks out of the system and allow our volunteers to get accustomed to the process.

After a successful season of events in 2008, we didn't need any additional proactive solicitation. By then, new libraries were contacting us to participate in the program. In 2008, we started with a group of libraries in the heart of our turf, Lake County, Illinois. But we've extended our reach outside Lake County into Cook County and McHenry County. In early 2011, we're discussing the possibility of crossing the state line into Wisconsin.

The number of libraries has grown to 11. That might be the limit we can support due to our scheduling rules. (Later, we'll discuss a tactic that could let us support more libraries.)

Growing slowly was a good choice.

Build memories

Reading teachers remind us that comprehension is nice, but retention is at least as important. For many of us, outreach isn't just about entertainment -- it's about inspiration. We'll do anything we can to help kids associate science with fun. From the beginning we looked for ideas to help preserve the memory of our events for our young visitors.



First and foremost, our host library can help reinforce the event experience. We sometimes forget to restate the obvious connection between our event and the library's collection of books about the Moon, planets, and all things astronomy. We encourage librarians to build a convenient "astronomy book shrine" so kids and adults can quickly find the books they want to borrow.

We also wanted "tokens" that the kids could take home and associate with the fun of astronomy. One easy idea was stickers. Kids love stickers. So we print colorful stickers for kids. "The Moon Rocks", "I ♥ Saturn", and "Junior Astronomer" are among the most popular choices. For the kids who aim Dobbie we offer "I Found the Moon" and "Telescope



Operator". (As stealth marketing, we include the club logo in the background and the club's public website address rings the sticker text.)

Another successful idea was to offer red glow bracelets to kids. These are tubes of glow material that activate when the stick is twisted. Connectors turn the stick into a bracelet. We chose red for obvious astronomy association. Originally, this was intended as a device to help us count kids attending the event. We didn't hand out a glow bracelet until the kid had viewed through a telescope. Later, we realized the mechanical steps (activating the stick and connecting the ends) gave us time to talk to the kid about what he/she had seen and remembered. We presume that helps reinforce the experience in the kids' memory. So the glow bracelets are fun, and reinforcement, in addition to their original role as a counting tool.

We keep trying new things with kids. Quizzes and puzzles are fun. (A favorite is "What star and planet can you see on a sunny day?") We also teach them to use their hands and fingers to measure sky objects. Most are shocked that the Moon is much smaller than their pinky held at arm's length.



Lines are Good

We learned early that anticipating crowd size was impossible. Even the libraries that insist on pre-registration can't provide reliable expectations on audience size. The public is unpredictable. When some of our early events had long lines at each telescope, we did our best to bring more volunteers to future events. We presumed that lines were an impediment -- something to avoid. But in later events we noticed that having too many volunteers (and no lines) seemed to discourage the incidental visitors. Human nature seems to say "if no one's waiting, there's nothing to see".

We're trying to return to our earlier (and smaller) volunteer team size and longer lines.



Respect Volunteers

It should be clear by now that this kind of program can't exist without volunteers. But also remember that the program arose because of volunteers with a desire for more opportunity. It's amusing to hear visitors gush about our generosity. "It's so nice of you to offer your time to us." Once in a while we confess to the fact that we're doing the event because it's fun to us.

But some of us can't get enough of a good thing. "Addiction" might be too strong of a word, but maybe it's not.

To help preserve domestic tranquility (i.e., irate spouses) and avoid burnout, we established scheduling guidelines. We won't schedule more than two events for a single workweek. For some months, the candidate dates fall exactly on a Monday-Friday period. So for those months, we can only offer two nights for the entire month.

We'd like to do more, but protecting our volunteers is a priority.



Other considerations

Aside from the primary issues discussed above, there are a lot of smaller issues that deserve attention.



Donations to the club -- We considered accepting/soliciting donations at the events but decided not to. We aren't holding the events as a fund-raising event so accepting donations seemed out of place. We refer folks to our public website for details on how to donate.

Visitor Volunteers -- Every so often, we'll have visitors bring a working telescope to an event and participate as a non-member volunteer. It's exciting to think that people are so willing and eager to help. It's doubly fun when the surprise volunteer is a youngster

with his/her telescope. Watching kids show kids the joy of astronomy is breathtaking.

Honoraria -- Our bylaws and 501(c)3 IRS charity status prevent us from charging visitors or hosts for our service. However, some libraries offer an honorarium and we do



accept these. The funds are used to pay for the event tokens like stickers and glow bracelets.

Club membership -- We had many questions about joining the club. So we produced membership application kits with addressed envelopes and membership applications to make it easy to join.

Club promotion -- We give interested parties our standard club information brochure. This includes some basics about the club as well as the address of the LCAS public website and the LCAS Facebook page.

Cancellation Response -- One of the most unsettled event issues is what to do if the weather is bad. There's an argument that we should still provide alternative activities and presentations. The counter argument to that is that a canceled "all-ages, drop-in-any-time" event can't be replaced with a standard program with a beginning, end, and a narrow target audience. Through 2010, we chose to cancel (or reschedule) events when weather was a problem.

Cloud Dates -- Due to our volunteer protection rules and growing number of libraries, our schedules became crowded. For several seasons we didn't provide for alternative dates in case of bad weather. But we review our scheduling process and found ways to conform to the scheduling rules and still allow for a "cloud date" in some situations. Cloud dates have reduced cancellations by about 10%.

Internal Marketing -- We devote some effort for internal club promotion of our events.



We have a strong core of volunteers, but we're always eager to attract new volunteers. We use the newsletter to preview events and review recent events. We do the same thing during our club business meetings and via our private Yahoo! group. Keeping the members tuned into outreach events requires multiple channels to suit the preferred style of each member.

Telescope First Aid -- We've had about 5 non-operational telescopes brought to events

and we've revived all but one. Most are owned by very young kids and sometimes the scope has never worked until the night of our event. The cases where we transformed a kid with a broken telescope into a "surprise volunteer" are indescribably enjoyable.



Additional Volunteers – We found that local high school science teachers were eager to motivate students to help us at our events. In some cases, the students brought their personal telescope or a school telescope. But in most cases, the students helped as “scopeless volunteers” (see below).

Everyone benefits when students and/or teachers participate as volunteers. The students learn (by example and practice) how to interact with the public. The adult visitors get a demonstration of how much the students learned. The young visitors get the message that science and astronomy are not just for “older people”. And the club can serve more visitors with fewer volunteers.



Drafting Dates -- As mentioned above, we develop a list of candidate event dates depending on the Moon phases, days of the week, and our scheduling rules. We could just toss the list to all the associated libraries but that would be chaotic. Instead, we have a "drafting" order for our libraries based on past events.

The first priority group is libraries who are new to the program for the current season. We want the newcomers to feel welcome. The second group is the hosts who had an event canceled in the prior season. The third priority group is hosts who had poor but acceptable weather for their event. The fourth group is the set of hosts who had good weather for their event. The last groups are the hosts who chose not to schedule an event in the prior season. Within a group, we sort the libraries using the 2nd most recent season results. So if two libraries both had a weather cancellation in the prior season, they'd both be in the second priority group, but the one that had successful event two seasons ago would pick after the one that had two straight clouded events.

Once we decide on the drafting order we contact the each library in order. Almost always, the library is eager to respond and select. But if they dally too long, we'll move on to the next drafter.

After all the libraries have a chance to pick an event from the schedule, we'll make a second round through any remaining candidate event dates. We haven't had a second draft round after we had 7 libraries. Usually, we can finalize our schedule within a week of contacting the first library.



Volunteers Reliability -- On the surface, it would seem easy to ask for volunteers, collect some names, and have events with a predictable set of members. But human nature interferes with that simple model. In reality, many members are hesitant to commit to events even though they intend to help. Sometimes, we expect "N" volunteers (based on RSVPs) and end up with 2xN volunteers. We had to learn that reality and factor that into the process of soliciting volunteers.

Reference -- We routinely include reference materials about the Moon to make it easier for volunteers and visitors to understand what they're seeing. Originally we relied on the Rukl atlas. In 2009 we purchased a lunar globe and that reference is used much more. It's a great tool for demonstrating phases, discussing the "far side", and showing features. One volunteer tells the story of a young viewer who figured out the association of the globe with the Moon. He visited the globe to find a feature and then hurried to the kids' dobsonian to view that object. He went back and forth for a long time finding new objects and then patiently waiting his turn at the eyepiece to view all the features that satisfied him.



Sideshows -- The sky sometimes offers some great events independent of the gracefully static Moon and planets. The most popular event is a flyover of the International Space Station. We enjoy the fun tension of gathering the crowd to pick out the ISS near the horizon. As it gets closer we can discuss speed, distance, and brightness. The on-line resources for predicting an ISS pass can also predict mid-sky "wink out" as the ISS passes into the Earth's shadow. Another popular demonstration is the orbital mechanics of Jupiter's system. As the Jovian moons slip in front of Jupiter or disappear or even just drift closer together, we can discuss how these objects orbit Jupiter and how important those motions were to developing a true sense of the solar system.

Split Squad Events -- As discussed above, there are only so many available nights per month. As we considered ways to serve more libraries, we debated the possibilities and advantages of serving more than one library on a night. In 2010, we had a very successful "split squad" event where we served two libraries with one clear night. We chose the libraries at far ends of our coverage area. This served two purposes. First we didn't want to have visitors forced to choose between two libraries in their vicinity. Second, we gave our volunteers the advantage of supporting the event closest to them.

We believe this tactic can be judiciously used to help serve more hosts and more visitors.



Scopeless Volunteers -- We found out that volunteers who don't bring a telescope are very helpful in administering the events. Such volunteers can help with the distribution of tokens and other materials. We also enjoy having photo records of the events. And the kids' dobsonian telescope benefits from some adult marshalling to ensure fairness and safety. We solicit 1-3 scopeless volunteers per event.

Signage -- We were lucky to have high quality signs made by a member of the club who worked at a sign company. These signs are valuable at our events to let the public know who we are.



Summary

The program has been a great success with the public, our host libraries and our eager volunteers. By our estimates, we've served views to over 1,800 kids and 1,260 adults at the 28 successful events since March, 2008.

We continue to learn new tricks and techniques for improving the outreach experience for everyone involved. We're confident that other clubs regardless of size and resources can apply our lessons for their own outreach success.



LCAS Submission to
Astronomy Magazine's 2010
"Out-of-this-world" Award



Tools We Used

- *"Dobbie" the Kid Powered Telescope*
- *Moon Globe*
- *Fun Kid Stickers*
- *Facebook Site*
- *Club Website*
- *Glow Sticks*
- *Tri-Fold Club Brochure*



Meet "Dobbie"

by [Lake County Astronomical Society](#) on Tuesday, July 27, 2010 at 4:00pm

If you attend an LCAS public outreach event, you'll probably see a group of young people "kid-handling" one of the telescopes. But don't worry: That's Dobbie. He is at the event to allow kids to get familiar with operating a telescope.



Before Dobbie, all the telescopes at our events were "hands off". The expensive mechanics and fragile optics need to be protected from inexperienced hands. And we didn't want anyone get hurt if someone accidentally hit the wrong button or moved a telescope while someone else was viewing.

But we did want to allow kids to have more direct contact with astronomy gear -- a "hands on" telescope. So in 2008, the club agreed to purchase a simple, light telescope that would be specifically targeted for kids -- ages 9-14. We chose a telescope that was affordable, portable, and powerful. The telescope needed a name so we asked students from Carmel Catholic HS to suggest some names. We narrowed the list to "**Dobbie**" (a Harry Potter character), and "**Brown Bear**"(from the kids' book). Then we asked young visitors to our public events to vote on their choice -- all during the the 2008 election. In the end, Dobbie edged out Brown Bear.

Dobbie is a big hit at our [Astronomy Under the City Lights](#) events. That's because Dobbie isn't a "toy". He's a powerful entry-level telescope that even an adult can appreciate. He has a 6-inch mirror and includes an eyepiece that magnifies objects 48 times. This allows great views of the Moon, planets, double stars, and bright deep sky objects (like star clusters, gas clouds, remnants from supernovae, etc.)



Kids learn how to use Dobbie in just a few minutes. First, they need to know how to point Dobbie accurately using the red-dot finder. Dobbie has a simple "dobsonian" mount that moves left-right and up-down. Individually or in teams, the kids quickly can find the Moon or bright planets. They can center the object in the eyepiece and then focus for a sharp view. (The kids really enjoy showing the adults how to do it!)

Like any "real telescope", Dobbie can accept common telescope accessories. Anyone who buys a telescope like Dobbie would normally buy one or two extra eyepieces to give more magnification. The maximum magnification for a telescope like Dobbie is about 250x. (At our events, we provide eyepieces to show views from 48x to 130x.) For viewing dim objects in the bright suburbs, a mini-telescope "finder" would be another valuable accessory to replace the standard red-dot finder. The red-dot finder is fine for the Moon and brighter planets. But for any dim objects, the finder telescope makes pointing the telescope much easier.



For easy transportation and packing, the telescope and the base are easily separated. The setup for viewing just takes a couple of minutes with no complicated alignment or adjustments. The only power needed is a tiny (supplied) battery for the red-dot finder.



Dobbie Details:

Manufacturer: Orion Telescopes and Binoculars

Brand: [SkyQuest XT6](#)

Type: Newtonian reflector (mirror)

Mirror size: 6" (150mm)

Focal length: 1200mm

Eyepiece: 25mm (48x)

Finder: Red-dot

Weight: Telescope 13.5 pounds, Base 21 pounds.

Cost: ~\$300 including shipping and taxes.

For additional information about Dobbie, post a question on our discussion page.
(You can also email us at contact@lcas-astronomy.org)

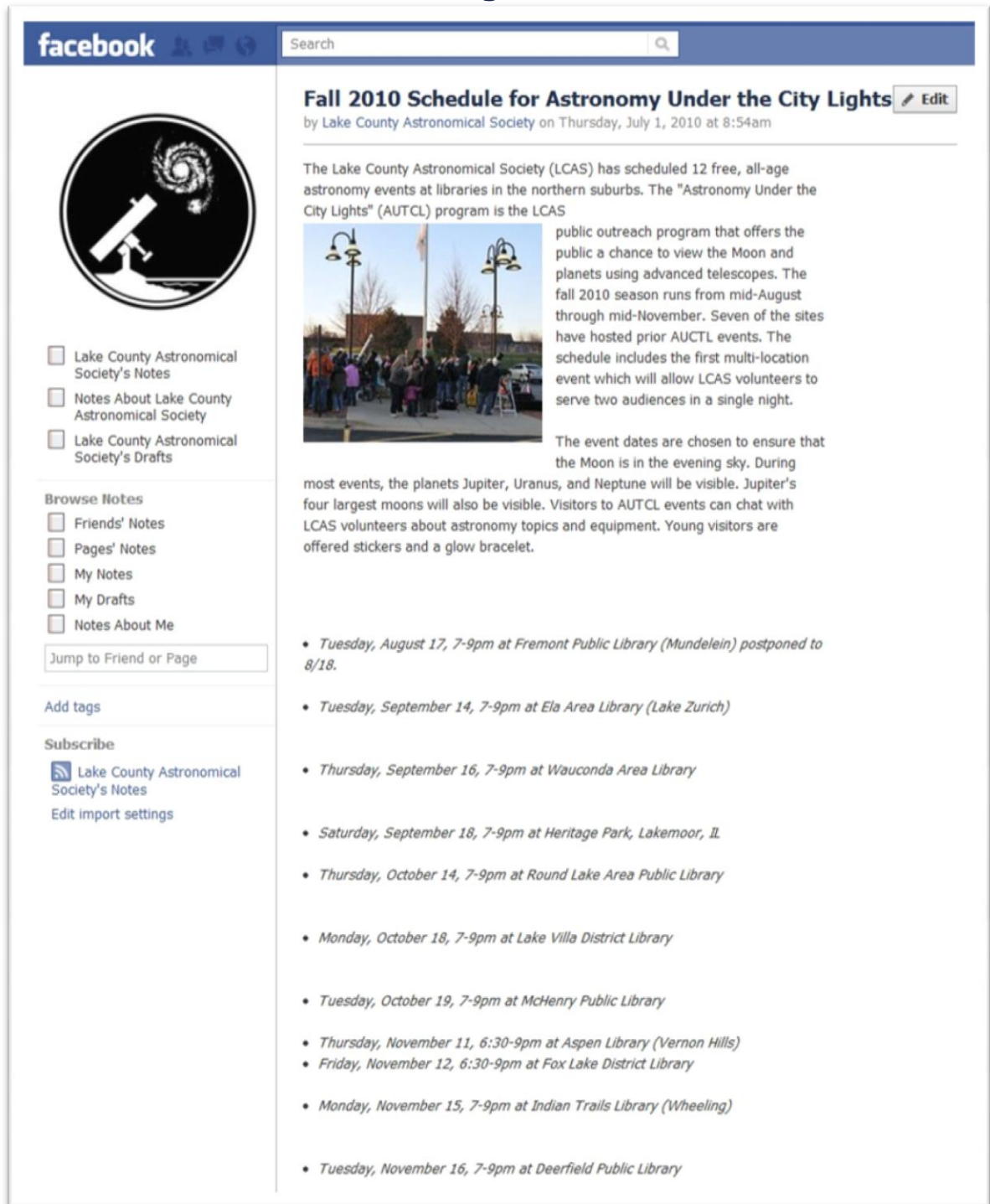
updated 11/12/2010 jjs



Fun Stickers for the Kids



Facebook Utilization - Scheduling




The screenshot shows a Facebook post from the Lake County Astronomical Society. The post title is "Fall 2010 Schedule for Astronomy Under the City Lights" with an "Edit" button. The author is "Lake County Astronomical Society" and the date is "Thursday, July 1, 2010 at 8:54am". The post content includes a paragraph about the society's outreach program, a photograph of an astronomy event, and a list of 12 event dates and locations. The left sidebar shows navigation options like "Lake County Astronomical Society's Notes", "Browse Notes", "Add tags", and "Subscribe".

Fall 2010 Schedule for Astronomy Under the City Lights Edit

by Lake County Astronomical Society on Thursday, July 1, 2010 at 8:54am

The Lake County Astronomical Society (LCAS) has scheduled 12 free, all-age astronomy events at libraries in the northern suburbs. The "Astronomy Under the City Lights" (AUTCL) program is the LCAS public outreach program that offers the public a chance to view the Moon and planets using advanced telescopes. The fall 2010 season runs from mid-August through mid-November. Seven of the sites have hosted prior AUCTL events. The schedule includes the first multi-location event which will allow LCAS volunteers to serve two audiences in a single night.

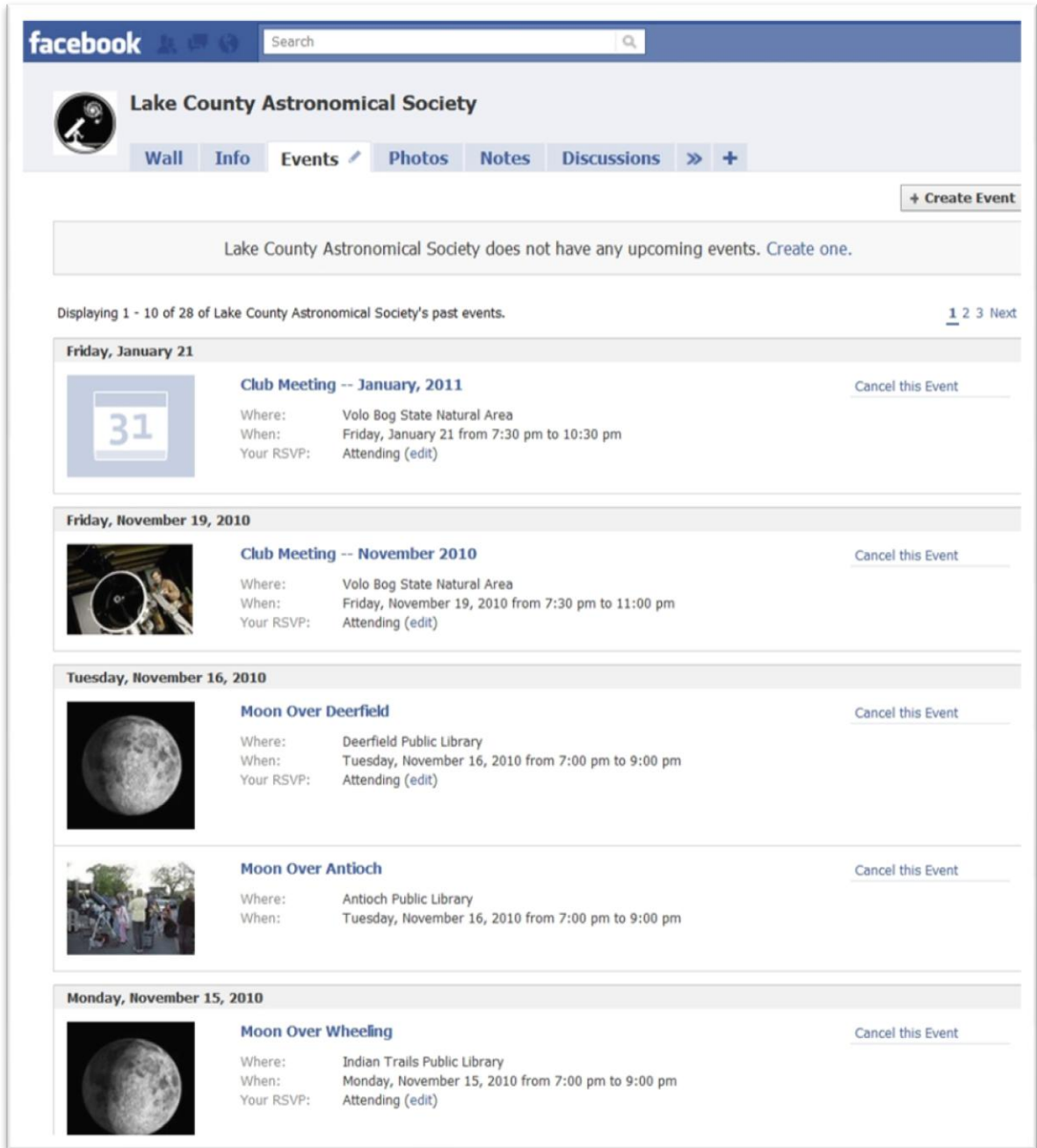


The event dates are chosen to ensure that the Moon is in the evening sky. During most events, the planets Jupiter, Uranus, and Neptune will be visible. Jupiter's four largest moons will also be visible. Visitors to AUCTL events can chat with LCAS volunteers about astronomy topics and equipment. Young visitors are offered stickers and a glow bracelet.

- *Tuesday, August 17, 7-9pm at Fremont Public Library (Mundelein) postponed to 8/18.*
- *Tuesday, September 14, 7-9pm at Ela Area Library (Lake Zurich)*
- *Thursday, September 16, 7-9pm at Wauconda Area Library*
- *Saturday, September 18, 7-9pm at Heritage Park, Lakemoor, IL*
- *Thursday, October 14, 7-9pm at Round Lake Area Public Library*
- *Monday, October 18, 7-9pm at Lake Villa District Library*
- *Tuesday, October 19, 7-9pm at McHenry Public Library*
- *Thursday, November 11, 6:30-9pm at Aspen Library (Vernon Hills)*
- *Friday, November 12, 6:30-9pm at Fox Lake District Library*
- *Monday, November 15, 7-9pm at Indian Trails Library (Wheeling)*
- *Tuesday, November 16, 7-9pm at Deerfield Public Library*



Facebook Utilization - Scheduling




The screenshot shows the Facebook interface for the Lake County Astronomical Society. At the top, there is a search bar and navigation tabs for Wall, Info, Events, Photos, Notes, and Discussions. A '+ Create Event' button is visible in the top right. The main content area displays a message: 'Lake County Astronomical Society does not have any upcoming events. Create one.' Below this, it indicates 'Displaying 1 - 10 of 28 of Lake County Astronomical Society's past events.' with pagination links '1 2 3 Next'. The events are listed by date:

- Friday, January 21**
 - Club Meeting -- January, 2011** [Cancel this Event](#)
 - Where: Volo Bog State Natural Area
 - When: Friday, January 21 from 7:30 pm to 10:30 pm
 - Your RSVP: Attending (edit)

- Friday, November 19, 2010**
- Club Meeting -- November 2010** [Cancel this Event](#)
 - Where: Volo Bog State Natural Area
 - When: Friday, November 19, 2010 from 7:30 pm to 11:00 pm
 - Your RSVP: Attending (edit)
- Tuesday, November 16, 2010**
- Moon Over Deerfield** [Cancel this Event](#)
 - Where: Deerfield Public Library
 - When: Tuesday, November 16, 2010 from 7:00 pm to 9:00 pm
 - Your RSVP: Attending (edit)
- Moon Over Antioch** [Cancel this Event](#)
 - Where: Antioch Public Library
 - When: Tuesday, November 16, 2010 from 7:00 pm to 9:00 pm
- Monday, November 15, 2010**
- Moon Over Wheeling** [Cancel this Event](#)
 - Where: Indian Trails Public Library
 - When: Monday, November 15, 2010 from 7:00 pm to 9:00 pm
 - Your RSVP: Attending (edit)


Facebook Utilization - Connecting


facebook
Search




Moon Globe
by Lake County Astronomical Society on Monday, September 20, 2010 at 8:58am Edit

LCAS uses a globe of the Moon for our outreach events. When we share views of the Moon through a telescope, the globe helps the visitors understand the nature and names of the features they can see through the eyepiece.

The 12" globe has hundreds of labeled features including craters, mountains, maria, and rilles. All the manned missions locations and many unmanned mission locations are marked on the globe. There are markings to show the limits of the lunar surface that can be viewed from the Earth. The globe shows lunar longitude and latitude lines so that you can find a location on the Moon using numeric latitude/longitude information.





The product includes a clear plastic base to rest the globe on a table or desktop. The base is not attached to the globe to make it easy to view the polar regions. In normal use, we hold the globe to show the features of interest.

The club purchased the Moon globe in 2010 via Amazon. We considered other globes, but there were no other globes that combined portability, size, and price as well as the Replogle globe. The purchase price, including shipping and taxes, was less than \$60. For more details on the Moon globe, see <http://bit.ly/LCASGlobe>.

facebook
Search



Meet "Dobbie"
by Lake County Astronomical Society on Tuesday, July 27, 2010 at 4:00pm Edit

If you attend an LCAS public outreach event, you'll probably see a group of young people "kid-handling" one of the telescopes. But don't worry: That's Dobbie. He is at the event to allow kids to get familiar with operating a telescope.

Before Dobbie, all the telescopes at our events were "hands off". The expensive mechanics and fragile optics need to be protected from inexperienced hands. And we didn't want anyone get hurt if someone accidentally hit the wrong button or moved a telescope while someone else was viewing.

But we did want to allow kids to have more direct contact with astronomy gear -- a "hands on" telescope. So in 2008, the club agreed to purchase a simple, light telescope that would be specifically targeted for kids -- ages 9-14. We chose a telescope that was affordable, portable, and powerful. The telescope needed a name so we asked students from Carmel Catholic HS to suggest some names. We narrowed the list to "Dobbie" (a Harry Potter character), and "Brown Bear" (from the kids' book). Then we asked young visitors to our public events to vote on their choice -- all during the 2008 election. In the end, Dobbie edged out Brown Bear.

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Like any "real telescope", Dobbie can





Public Website - Communicating



Welcome to the Lake County (Illinois) Astronomical Society!



Astronomy Under the City Lights! View the Moon at a local Lake County Library through powerful telescopes! Join us for one or more of our upcoming evening events! They are free and for all ages.

- Moon Over Amibach – Amibach Public Library District, Monday, February 14
- Moon Over Lakemore – Heritage Park in Lakemore, Tuesday, March 8
- Moon Over Wheeling – Indian Trails Public Library, Thursday, March 10
- Moon Over Mandelheim – Fremont Public Library, Tuesday, March 14
- Moon Over McHenry – McHenry Public Library, Tuesday, March 15

For details see our [Events Page](#).

LCAS - WHO ARE WE? We are people of all ages who are interested in the science of astronomy. While many are accomplished observers and astrophotographers, others are new to the hobby. The LCAS tries to respond to all levels of interest. Various members own large telescopes, some of which they've built themselves from scratch. On the other hand, some members don't own any telescope at all, but simply enjoy observing the night sky with their unaided eyes.

The LCAS meet on the *first Friday* of each month. *The meetings are free and are open to the public.*

Join our next meeting! The next public LCAS meeting will be on **Friday, February 18, 2011** at 7:30pm in the **Yolo Bog visitor center**.

The meeting format will be:

- 7:30 - 8:15 business meeting
- 8:30 - 9:30 public astronomy program
- 9:30 - ??? public **STAR PARTY** if weather permits

The February program will be:

Comet Hunting by Tony Farnham of the Deep Impact Project (via Video)

Following the meeting, we'll be setting up scopes outside under the stars (weather permitting) and sharing views of the night sky with the public. (For additional information, see [Star Parties](#).)

LCAS information
[Schedule of LCAS Public Events](#)
[Memberships, Benefits and How to Join](#)
[Club Contacts](#)
Where to find our meetings
[Public Star Parties](#)
 Astronomy Under the City Lights
[Astronomical events and observational techniques](#)

Find us on Facebook

Lake County Astronomical Society

Beginner's Corner
[Get into a Star in Astronomy](#)
[Beginner's Star Chart](#)
[The Care and Feeding of a Telescope](#)
[LCAS Member's Zone](#)

Useful references
[Dictionary of Astronomical Terms](#)
[Astronomy Links & Navigation](#)

For Educators
[NASA Teacher's Corner](#)
[International Year of Astronomy, 2009](#)
[The Science is Essential](#)
[Scolastic news website](#)
[Astronomy magazine website](#)



News

[Atmosphere of the Day](#)
[Lunar Atmosphere of the Day](#)
[Earth Observations of the Day](#)
[Hubble picture of the week](#)
[NASA ISS and Shuttle Schedule](#)

***** Recent Astronomy News *****

[The exoplanet](#)
[White hole on way to IS](#)
[Astronomer's discovery](#)
[Paradoxical star core](#)
[Cos. Nebula is dimmer](#)
[NASA: star rotator will be J14](#)
[Moon water from comets](#)
[Asteroid 13 transients released](#)
[Moon during galaxy cluster](#)
[Discovery to launch on Feb. 24](#)
[NASA releases latest astrophysics news](#)
[Kepler finds first rocky planet](#)
[Deaf galaxy has massive black hole](#)
[The Milky Way's hot brother](#)

[Weather sites for northern Illinois](#)

Fun Glow Sticks for the Kids

8 Inch Red Glow Bracelet... x

www.windycitynovelties.com/10777p/8-inch-red-glow-bracelets.html

Welcome to Facebo... | The Lake County As... | What's up in the so... | Digital Astrophotogr... | Hunt of the month | Real Time Flight Tra... | Cas.AaA | Wells Fargo Home P... | Shop with confidence, our site is secure | ask a party expert | news

FREE SHIPPING on orders over \$40*

8" RED SUPREME GLOW BRACELETS (6mm) (Bulk Packed)

Quantity	Price (USD)
Per tube (50 pieces), 1 - 4 tubes.	\$10.00
Per tube, 5 - 9 tubes.	\$9.50
Per tube, 10+ tubes.	\$9.25

Item #: **GBS602UN**

In Stock
(Item will ship within 2 business days)

Quantity:

WARNING: CHOKING HAZARD
Small parts. Not for children under 3 yrs.

Description

8" RED SUPREME GLOW BRACELETS. Packed in Tubes, 50 pieces per Tube. Connectors are included but not attached. Please order in increments of 1 Tube (50 Pieces).

Customers Who Viewed This Product Also Viewed

- 8" BLUE SUPREME GLOW BRACELETS (6mm) ...**
As low as: **\$0.19**
- 22" VARIETY PACK Glow Necklaces (6mm) ...**
As low as: **\$0.27**
- 8" VARIETY PACK (PRE-ASSORTED COLORS) ...**
As low as: **\$0.23**
- 8" GREEN SUPREME GLOW BRACELETS (6mm) ...**
As low as: **\$0.19**
- 22" RED GLOW NECKLACES (6mm) (Bulk) ...**
As low as: **\$0.17**

17¢ each



Tools We Used

Trifold Club Information

About LCAS

The Lake County Astronomical Society (LCAS) is a 501(c)(3) charitable organization that includes nearly 100 members of all ages and backgrounds who are interested in astronomy. While many members are accomplished observers and astrophotographers, others are new to the hobby.

No matter what your level of expertise, LCAS can help you pick the right equipment or get more from your current equipment. We can help you learn more about your particular area of interest or simply provide a forum to talk about the latest discoveries.

Many members own telescopes ranging in size from the most portable to some of the largest you can buy. Other members don't own a telescope at all, but simply enjoy observing the night sky with their unaided eyes.



LCAS member at Moon over Ela Library Outreach Event



A 501(c)(3) charitable organization

Lake County Astronomical Society
c/o Volo Bog State Natural Area
28478 W. Brandenburg Road
Ingleside, IL 60041

Tom Frazier, club president
(815) 678-6025
Email: contact@lcas-astronomy.org

Lake County
Astronomical
Society



Do the moon and stars catch your eye each night?

www.lcas-astronomy.org

Lake County Astronomical Society

Join the Lake County Astronomical Society

Membership benefits include:

- Monthly meetings that include an astronomy-related program and observing (weather permitting)
- Star parties at local LCAS dark-sky sites (a great chance to learn about different telescopes if you're considering buying one)
- Access to the club Yahoo! group to discuss numerous astronomy related topics
- Mentoring program to help you learn more about astronomy and astronomy equipment
- Monthly LCAS *Night Times* newsletter with topics on astronomy, astrophotography and much more
- Discounted subscriptions to various astronomy-related magazines
- Use of the club's telescopes and other accessories
- Access to books and computer programs in the LCAS library housed at Volo Bog

Community outreach

If you are a teacher, scout leader or librarian, you might be looking for ways to connect kids (and adults) with learning about science. Astronomy is a visible, interactive science that kids can continue to enjoy long after their initial introduction. Kids and astronomy are a great combination when properly mixed. Our club has always been eager to help share the fun of astronomy with kids and adults. We can present a "star party" at your location. We can help you pick a night and a time that works with your organization but also presents the best that the sky can offer to your audience. LCAS volunteer astronomers will give your visitors a tour of interesting objects in the sky. We can show things like the moon, planets, star clusters and multiple star systems from almost any location. In darker locations we can show gas clouds where stars are being born or the leftovers



from the explosions of dying stars. And with luck we might see a satellite, a meteor, a comet or the northern lights

How do I learn more?

LCAS meetings are open to the public and held on the third Friday of each month (except August and December) at 7:30 p.m. at the visitor center of the Volo Bog State Natural Area, 28478 W. Brandenburg Road, Ingleside, Ill. You don't need to be a member to attend one of our meetings. Join us and find out what LCAS is all about. Visit our Web site at:

<http://www.lcas-astronomy.org>

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Lake County Astronomical Society

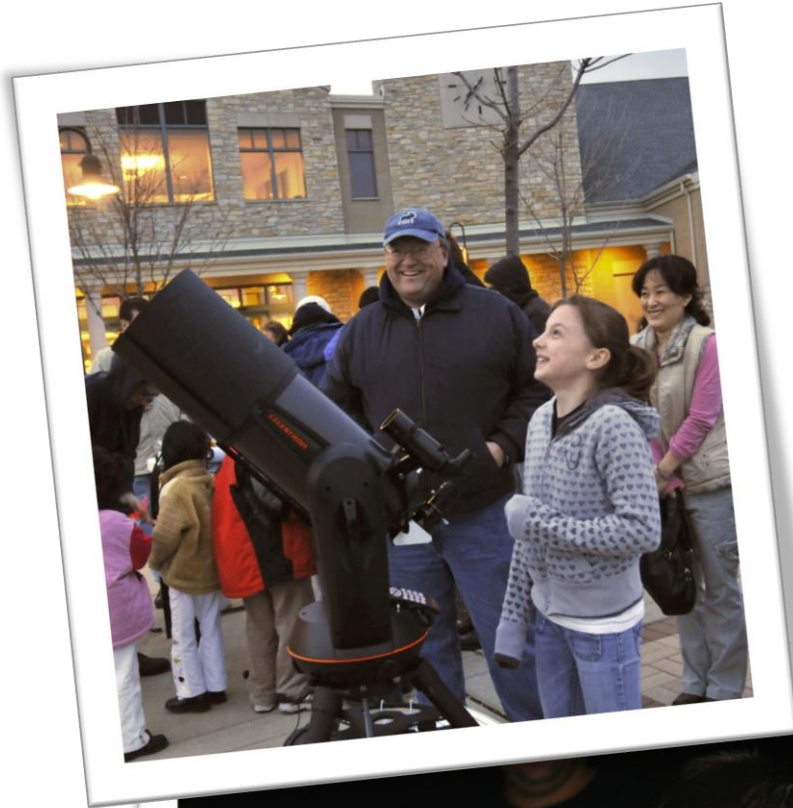


LCAS Submission to
Astronomy Magazine's 2010
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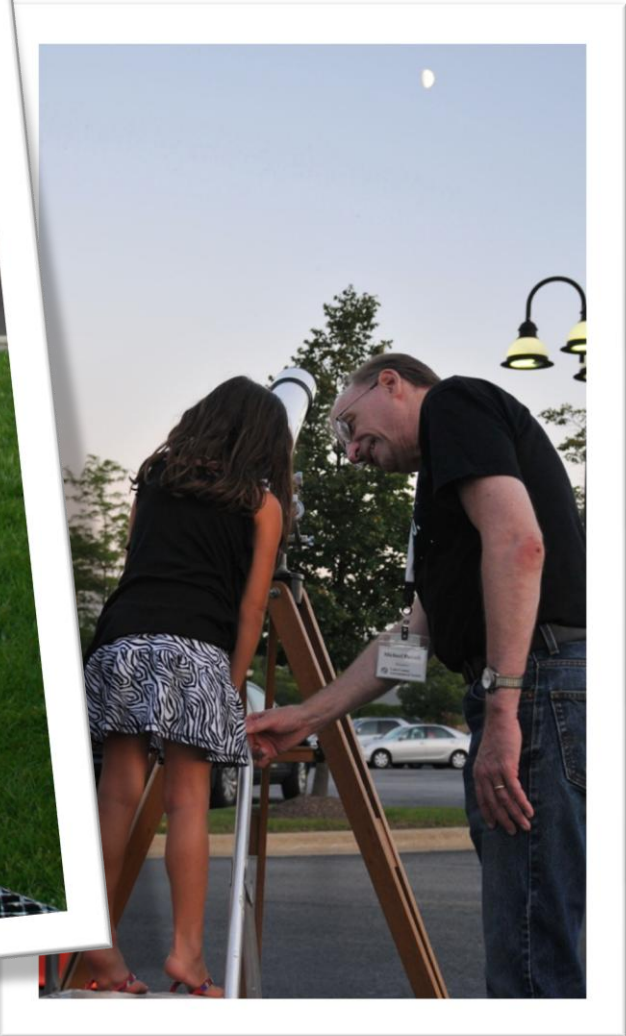


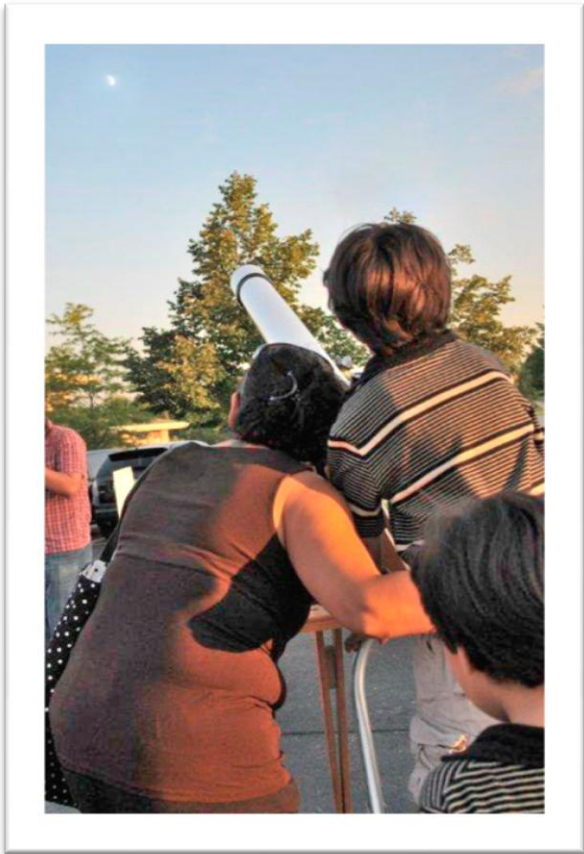
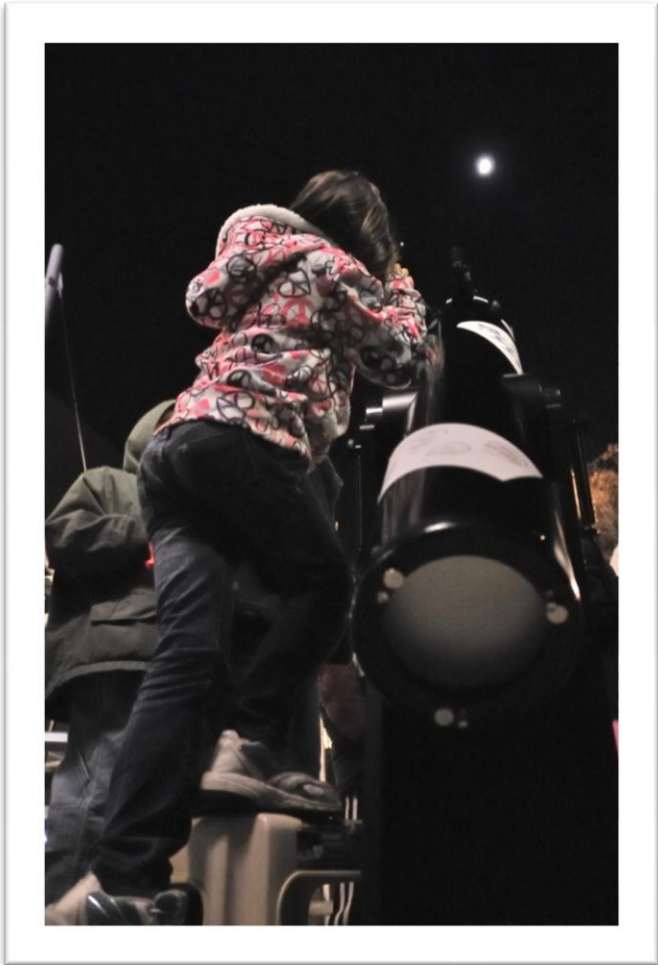
AUTCL Photo Gallery

Astronomy
Under
The
City
Lights
PHOTO
GALLERY

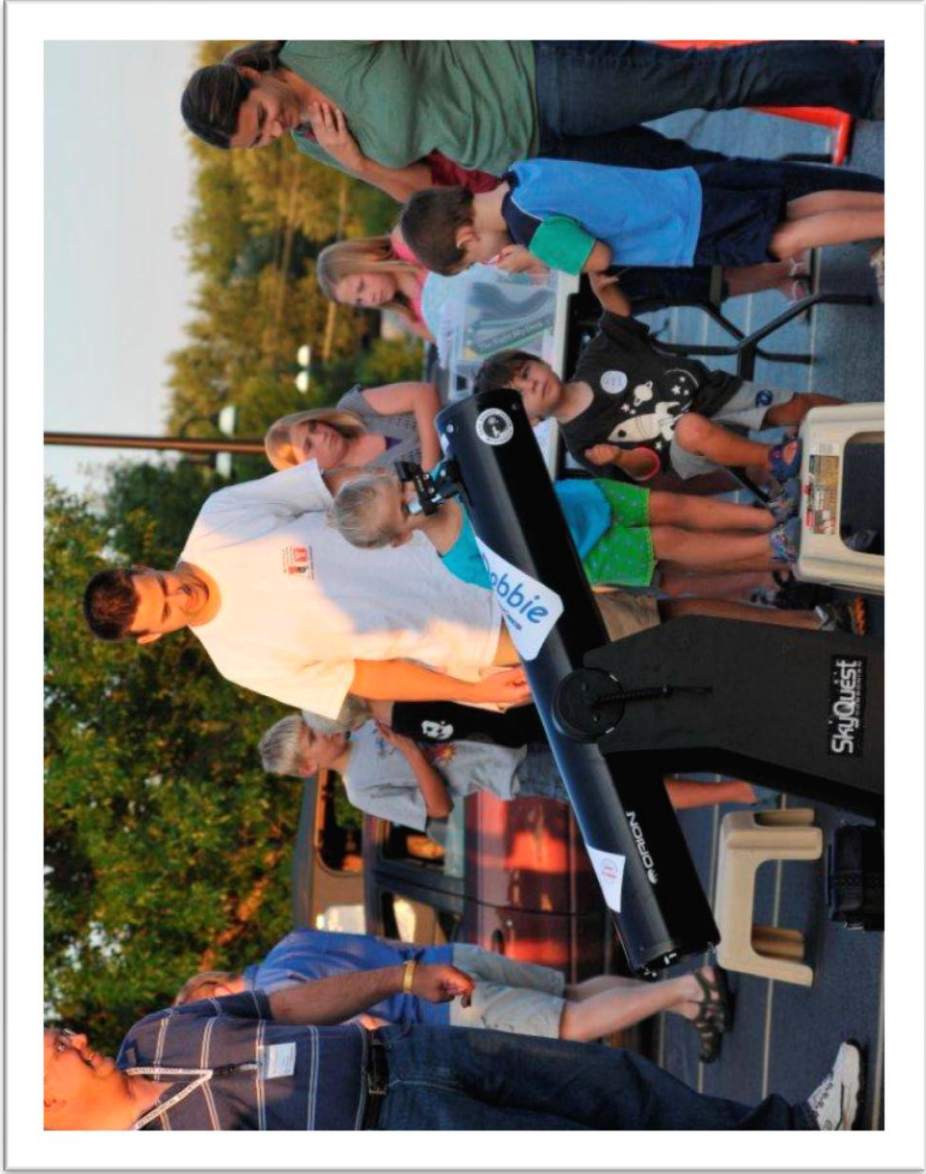












LCAS Submission to Astronomy Magazine's 2010 "Out-of-this-world" Award



Night Times - Club Newsletter

LCAS has had a club newsletter since the founding of the club in 1982. On page 6 of this newsletter (May 2008) you will see our first report back to the membership on the our first "Light Site" events. At this point, the events did not even carry the 'Astronomy Under the City Lights'(AUTCL) banner, but we already recognized the program was a hit with the public.

Mar. 25

LCAS NEWSLETTER

Lake County Astronomical Society

Published monthly by the Lake County Astronomical Society, Lake County, Illinois. Please direct correspondence to Bill Otten 36421 N. Traver Terrace, Geneva, Illinois 60131

Halley Fever? You feel in the past month or two I have received some mail regarding Halley's Comet that I would have thought and I'm guessing it is not over yet. The Astronomical League has been the most prolific with their mailings...formation of a Halley Hotline an idea we originally had in the society, that of a 900 number for the public which would carry up to the minute news of the comet and at the same time help with a little fund raising...an observer's packet with info on the comet for a nominal fee...a comet clearinghouse to distribute the packets and take orders from the 900 number. Trouble is it sounds as if the League is exploring any possibilities for raising funds away from the local level. Sure, they've told the societies they'll make materials available for progress to promote the comet (and astronomy) at the local level, and there is the booklet we can call called Mr. Halley's Comet. But who shares the revenue generated by the 900 hotline? Finance has it that the proceeds are split by the organization backing the number and the large telephone companies (40/60). And the program in their last mailing stating that state and national parks will be utilized to host interpretive programs as given by neighboring astronomical societies bothers me. If for one will not be seeking away to any park with an interpretive program offering...if the client is like I've seen before in some parks the quiet darkness, no light pollution, and people around you can trust. Sure our code says we're to promote the science of astronomy but not at the expense of the chance to view a comet in a lifetime apparition (unaccompanied by the Johnny come lately's). Well think about it. I'm certain we could produce a pamphlet as well as anyone, and keep the proceeds ourselves. They can have the 900 number and the biggest of the park box, they're all to commercial and built up anyhow. Just let me get together with some good observer's in some good 'olck' sites....

Down from the skyscraper and on with the news: Texas Star Party anyone? The party will be held May 13-19 in the Mountains of West Texas with programs, clinics, observing and the view which surround the McDonald Observatory.

Comet Reynolds has info regarding the Midwestern Astronomy Camp held each year at the University of Kansas.

Comet Halley is reported to be 50 to 100 times brighter than according to two be would be a pleasant predicted a poor app.

We still need a place the current Chicago Area in Lincolnshire.

Last month's proof turned out to be discussion on the although perhaps it more revealing than they expect? Who know it as the saying?

If you looked closely from the astronomy you may have seen of president and resident Good work Jack!

After quite some time of a new station Space research group with the purpose of a telescope in orbit. pictures from 14.5 amateur radio band stations which proper to receive the signal 25th magnitude. By the group is made progress of general a sale.

Nearly Astronomy Convention: NIAfest '95

The Northern Indiana Astronomical Group presents NIAfest this year on April 21 and 22 at Camp Crochet, our North Western Indiana. During the day, there will be joint speakers, live market, telescope and radio-astro contests, door prizes, and vendor displays, with observing at night. There are bookshelves and facilities for camping. The registration fee is \$10.00 (before April 15), and meals and camping fees are extra, depending on what you want. For more info, call (219)260-6249 or write to NIA/SET, 3370 E. Kenway Ln., Warsaw, IN 46580.

Monthly Obit: "There's always more. I'll think about Halley for the rest of my life. It's a symbol of humanity's quest, a reaching out, in fact, out what this universe is all about."
-Steph Marguier, studio architect

*NightTimes is the monthly publication of the Lake County Astronomical Society. Please submit all correspondence James Street # 206-610, IL 60045. Meetings of the LCAS are held at 7:00 pm on the 3rd Friday of every month. Members of the Council of the Lake County Astronomical Society are the north side of Route 176, east of Wheeling, Illinois, Metro West Chicago, Local Group, Yopp's Club of Astronomers.

LCAS NEWSLETTER

Lake County Astronomical Society

NightTimes

April 1995

25 Years Ago in Sky & Earth
April, 1970

This month featured our more observations of comet 1969C, Comet Ikey-Zeno-Kowale, which was magnitude 12 around Chicago and at that time had returned north toward Aries. It was expected to get nearly as bright as Comet Aenone-Hale.

Comet was visible westward apart as possible. How bright looked out of photography February 21. About 5% of Walter Scott Houston score The Glendale Dr. AIME, Schmidt-Cassegrain with instructions for making a 6-16 May and June, 1968, S&E.

The next meeting of the LCAS will be held on Friday, April 21, at the usual time and place. The program will be a report of the presentation on the building blocks of matter that Gary Smith did last year. Gary illustrated his presentation with some beautiful slides, and he has since updated the material with recent discoveries. And certainly what was once very obscure about the composition of matter in the universe.

Our first public star party of the year will be held at the Lake County Museum on Friday, April 21. So please come prepared to view off the surface in our guests that night, and of course, bring a telescope. We'll be getting together at about 7:00 PM to allow adequate time to set up our equipment, since the public usually arrives at that time. Checks will have been changed by then to daylight savings time.

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Night Times

Lake County Astronomical Society

May 2008

Next Meeting: Friday May 16th at 7:30 p.m.

We've got a really exciting program following this month's business meeting entitled "Cosmos-Hygiene: Mission to Saturn" presented by John Vivaldo of the Chicago Society for Space Studies.

Remember to bring your scopes and binoculars for observing after the meeting (weather permitting).

April 2008 Meeting Highlights

President Marlon Cowart presided over the business meeting, attended by 34 members and guests.

Meeting Highlights:

- Treasury Balance \$3,655.80
- LakeSky Balance \$8,450.27
- Total Balance... \$12,106.07

- Leon Fasano was honored for his work on the LakeSky Telescope (see page 2).
- Dave Wagner reported on the feedback from Kenosha County on the LakeSky Observatory Project. The output of the Kenosha April board meeting was as follows: "On the advice of our corporation counsel, the Committee last evening agreed to suspend any further negotiation on the details of a lease until such time as LCAS has the necessary funds available for the project at Bristol Woods County Park."
- With no indication of support by Kenosha County for an observatory at Bristol, it was felt LCAS would not practically be able to raise significant funds for the project. In light of this decision, the LCAS membership agreed to pursue other sites. A draft letter thanking our advocates at Kenosha and at the Pringle Nature Center was created and will be issued by President Cowart.
- Discussion on our future steps with the project will be conducted at future meetings.
- We need to find a new location to store the LakeSky Telescope. Contact an officer if you have a location or suggestion on a future storage location.
- Program and Observing Chairman Chris Larsen has resigned his position as a result of taking a new job on the east coast. Dirk Leahy was elected to fill the position.
- Joe Shuster reported on the success of the Library Saturn / Moon Parties (page 6), and is looking for volunteers for upcoming events.
- John Smith and Greg Laves shared some of their observations from the trip to Gran Quivira.
- Pete Kasper demonstrated his Equatorial Dobsonian platform he constructed.
- Members made plans for Astronomy Day, May 10th.

Welcome New Members!

This month LCAS is very pleased to welcome 7 new and one returning member families!

Welcome to - Marc W Cygnus of Mundelein, Larry G. Smith of Ingelisle, Eugene V. Lenarz of Libertyville, Thomas Franzer of Richmond, Mark Jensen of Lindenhurst, Scott Traynor of McHenry, Bill Weismann of Round Lake Park, Wayne Wagner Family of Grayslake (returning).

Join Us! Club Dark Site Viewing

Date: Saturday May 3rd
Time: Anytime Dark to Dawn
Location: Von Bergen Farm / Hebron

NightTimes is the monthly publication of the Lake County Astronomical Society. Meetings of the LCAS are held at 7:30 PM on the third Friday of every month at the visitor center of the Volo Bog State Natural Area, 28478 W. Brandenburg Road, Ingelisle, Illinois. Following an astronomy program open to the public, visitors are invited to view the moon, planets and stars through members' telescopes, weather permitting. Club contacts and phone numbers are listed on the third page. LCAS is a 501(c)(3) not-for profit organization chartered to promote the interest and participation in astronomy. Established in 1982.

Night



Times



May 2008

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Thoughts from...

Matt Lowry
Star Struck Yet Earthbound

There is a humorous account about Thales of Miletus, considered to be the father of Greek natural philosophy, which I'd like to recount.

One evening, Thales was walking along gazing upwards at the starry sky, musing upon the nature of the heavens. Suddenly he fell into a deep ditch, and he found himself unable to get out. After calling for help, a young slave girl came to the philosopher's aid. After the rescue, the young slave girl said to him, "Thales, how can you expect to know the distant stars when you cannot keep track of the very ground beneath your feet?!" (or something to that effect)

I'll wager that a fair number of us can sympathize with Thales, while many whom we know can sympathize with that slave girl.

But why should we ponder the stars and the workings of the universe, like Thales did long ago? Why not keep ourselves busy with more practical matters? These are questions that formed the basis of the Greek natural philosophy of Thales and his contemporaries.

Civilizations that pre-dated the Greeks, such as the Egyptians and Babylonians, did have a practical understanding of astronomy. They knew the cycles of the moon, sun, and planets. Such knowledge was of great importance when it came to determining when the Nile would flood or when to plant crops for the next harvest, and this practical knowledge served these people well.

But it wasn't until the advent of Greek natural philosophy that serious questions were asked about why it was that the universe acted the way it did. Thales was more concerned about the "universals" - what we'd likely call natural laws today. In pondering the universals, Thales speculated about cosmology, cosmogony, the fundamental "stuff" of the universe, the extent to which rational thought led us to truth, and whether we can truly trust our senses when observing the world around us.

Thales and his contemporaries inspired later generations of natural philosophers such as Socrates, Plato, and Aristotle. These philosophers in turn imparted wisdom and questions which were passed down through the generations in Middle Age Europe and the early Islamic world. Over the centuries the endeavor we call "science" grew out of the gradual development of Thales's natural philosophy.

Today, when investigating the universe around us, we still have a healthy tension between those who still ponder the "universals" of Thales and those who value mostly practical knowledge. Those pondering the "universals" include astronomers probing the deepest depths of space with their instruments and physicists attempting to understand the fundamental basis of matter & energy via the Large Hadron Collider. Then there are those who seem to be concerned only with building a better I-pod.

I would argue that while a better I-pod is a wonderful thing, we cannot lose sight of Thales's quest to understand the "universals" of nature. To ponder such questions is to continue his quest of gaining a truer and deeper knowledge of not only the universe around us, but of ourselves and our place within it.

So the next time you go stargazing, do what I do, and say "Thank you" to Thales of Miletus.

Ad Astra - Matt Lowry

LCAS Honors Leon Fasano “Father” of the LakeSky Telescope



At our April business meeting President Marlon Cowart recognized Leon Fasano, on behalf of the officers and members of LCAS, for his skills, enduring effort, and commitment, which lead to the creation of the *LakeSky Telescope*. Over a period of many years, Leon personally

dedicated himself and lead the effort to refurbish the 2000 pound Nishimura telescope mount, and created a brand new 20 inch telescope to place on that mount. Leon completed much of the work himself, committing several thousand hours of effort on the project, using his garage as workshop for the effort.

Leon was presented with an engraved green laser pointer, as well as a [proclamation](#) (which you can view on our public website) declaring Leon the ‘Father’ of the LakeSky Telescope, and granting him life time membership in the club for his special service.

LakeSky Star Award Presentations



We may have waited for the spring thaw to finally present this award, but Mel and Bobette Von Bergen have always been tops on our list of LCAS supporters.

Thanks to their support, LCAS members have been able to observe under dark skies from [their farm](#) near Hebron since 1987! Over the years we have probably held close to 200 viewing events at the farm.

Thank You Mel and Bobette!!!



Chris Larsen presenting the LakeSky Star Award to Mel & Bobette Von Bergen

Meet Your Officers

John Hansen

Hello fellow LCAS members! I am John Hansen, your Treasurer and publisher of the club newsletter.



I was a statistician for the A.C. Nielsen Co. (Media TV ratings) for some 37 years until I retired in 1998. It was shortly after my retirement that I began to actively renew my interest in astronomy. That's also when I got a new 8"

Celestron SCT (NexStar8i) telescope at Christmas from my wife. Later I met an old friend, Travis Whitlow (he also had worked at the A.C. Nielsen Co.), who invited me to an LCAS club meeting. I soon joined and have been an active member for 6 years.

How did I first find an interest in astronomy? Well, I remember when I was 10 or 11; I would take my dad's binoculars outside on a clear night, lay in our yard and look up at the sky. I learned to locate the Pleiades and some star clusters. When I was about 14 my interest grew and I built a 3" refractor and tripod. Although my first scope had some chromatic aberration problems I used it mostly for viewing the moon and planets. My best friend in high school had bought a 6" Newtonian reflector and I remember we watched a total eclipse of the sun (my first) through solar filters mounted on his telescope.

Later when I attended the University of Wisconsin, I took an astronomy course as an elective. The University of Wisconsin had built an observatory with a 36" SCT just outside of Madison. Once a week we had our lab night at the observatory. In the 1950's I inherited my uncle's 4" Newtonian reflector and with his Carl Zeiss Jena eyepieces (pre-WWII made in Germany). This was a GREAT scope -- hand made by my uncle who was an engineer by education and with a keen interest in astronomy. I still use it at home. I only have to roll it out of the garage and put in an eyepiece.

What can I say about my 6 years of club experiences? I learned a lot about telescopes and observing from some of the real experts in the club. I know I won't be a great astro-photographer like some of the members, but I love to participate in the club activities like --- star parties, Dipping Into Astronomy classes,

going to the Von Bergen farm for "dark sky" night observing, publishing the newsletter, helping on the *LakeSky Telescope* project. As a club officer I find it a real honor and it allows me a chance to support our club and its many activities. I hope to meet you all at our monthly meetings and/or while participating in one of our club activities.

Clear Skies to you.

Monthly Quote: "The only way of discovering the limits of the possible is to venture a little way past them into the impossible."
- [Arthur C. Clarke](#)

Club Contacts

- President:** Marlon Cowart
- Vice-President:** Jim McCullough
- Publicity:** Dave Wagner
- Secretary:** Jacque Franz
- Treasurer:** John Hansen
- Membership:** Rodrigo Roesch
- Programs and Observing:** Dirk Leahy
847-894-0652
- Webmaster:** Michael Purcell
Keith Smolinski
- Librarian:** Jim McCullough
- Editor:** Dave Wagner
- Publisher:** John Hansen
- Telescope Curator:** Jim Westgate

Send any club inquiries to:

contact@lcas-astronomy.org

Send any newsletter inquiries to:

editor@lcas-astronomy.org

Visit our website for more contact info- www.lcas-astronomy.org



New Mexico Observing Trip

March 28 through April 9, 2008

Jack Kramer

Imagine a site where all it takes to begin observing is to go out the back door and remove the cover from your scope. How about a site at an elevation of 6700 feet where you're contending with a lot less of the Earth's atmosphere. And consider that that same place has virtually no light pollution – the nearest town has a population of only about 1000 and is 25 miles away. That's [Gran Quivira](#), a national park in New Mexico, where members of the LCAS have been going for twenty-two years for really dark sky observing. This year's trip was somewhat unique in that we reserved the residence there for a two-week stretch (rather than the usual one-week) – that accommodated a variety of schedules among the participants and more nights of observing. Also unusual was the fact that weather conditions allowed observing on every single night! At the end, the ones who were still there left two days early because, yes, you can overdose on observing.

2008 Trip (L to R): Jack Kramer, Lesa Andree (holding a pole from Martin Willes' scope as his stand-in, since he was n't there at the time), Michael Purcell, Kevin Bonges, Greg Lutes, John Smith, Jim McCullough



The members who went this year are pictured above, along with Martin Willes. The National Park Service has invited us back next year to help them celebrate the 100th anniversary of the Salinas National Monument, of which Gran Quivira is a part. We're now anticipating another trip there in the fall of 2009.

I'll let other folks offer their color commentary on the trip, but do want to mention that on the final evening of April 8, us stragglers had a bit of good luck. The moon occulted the Pleiades and it so happened that Gran Quivira was in just the right spot to witness a grazing occultation of the Pleiad star Asterope. With the one telescope still set up we watched as the star skimmed along the edge of the moon. Michael

Purcell was the lucky one to witness the star momentarily blink out as it passed behind a highland area on the moon. That was a perfect ending to a great trip!

Editor's note: Thanks Jack for sharing some of your experiences on the trip, as well as the photo below of the very first Gran Quivira trip! The other participants have also submitted some of their reflections and observations on the Gran Quivira site, which will be shared in upcoming newsletters.



First trip to Gran Quivira in April 1986 (L to R): Michael Purcell, Frank Rompella, Jeff Blyatn, Grant Barlow, Greg Lutes, Chuck Klingel, Jack Kramer (kneeling)

Camping Star Party with Pack 190 Cub Scouts

LCAS has been requested to support Cub Pack 190, to provide a star party for the scouts at their campout somewhere in the area of Burlington, Wisconsin. This is the same well-behaved troop that we had a star party for back in November.

Target dates are June 6th or 7th. Details are still being formulated, but we'll want to get an idea on support in early May. We are looking for 2 or more volunteers, perhaps some former scouts and/or campers. Please contact Joe Shuster jshuster42@comcast.net if you might be able to support!

Night Sky Network Free Teleconference Extreme Astronomy – May 7th

Get ready for NASA's launch of the newest high-energy space telescope, GLAST. Scheduled for launch on May 16th, LCAS and other Night Sky Network members will be treated to a timely talk by Dr. Lynn Cominsky, Research Scientist with GLAST and Director of NASA Education and

Public Outreach Programs, among many other distinctions. She has also worked extensively with SWIFT and XMM-Newton, two other high-energy radiation telescopes.

You can download the companion presentation from the link below (available by May 6th).

<http://www.bpcps.com/lcas/ThisMonth/NSNTEleconference/>

On Wednesday, May 7th at 8:00 pm Central Time call the toll-free conference call line 1-800-779-8164 anytime after 7:45 pm. An operator will answer and

- You will be asked for the passcode: NIGHT SKY NETWORK

- You might be asked for the call leader: MICHAEL GREENE

- You will be asked to give your NAME and the CLUB you belong to, and number of people listening with you.

Stellar Compass for Space Explorers

Patrick L. Barry



In space, there's no up or down, north or south, east or west. So how can robotic spacecraft know which way they're facing when they fire their thrusters, or when they try to beam scientific data back to Earth?

Without the familiar compass points of Earth's magnetic poles, spacecraft use stars and gyros to know their orientation. Thanks to a recently completed test flight, future spacecraft will be able to do so using only an ultra-low-power camera and three silicon wafers as small as your pinky fingernail.

"The wafers are actually very tiny gyros," explains Artur Chmielewski, project manager at JPL for Space Technology 6 (ST6), a part of NASA's New Millennium Program.

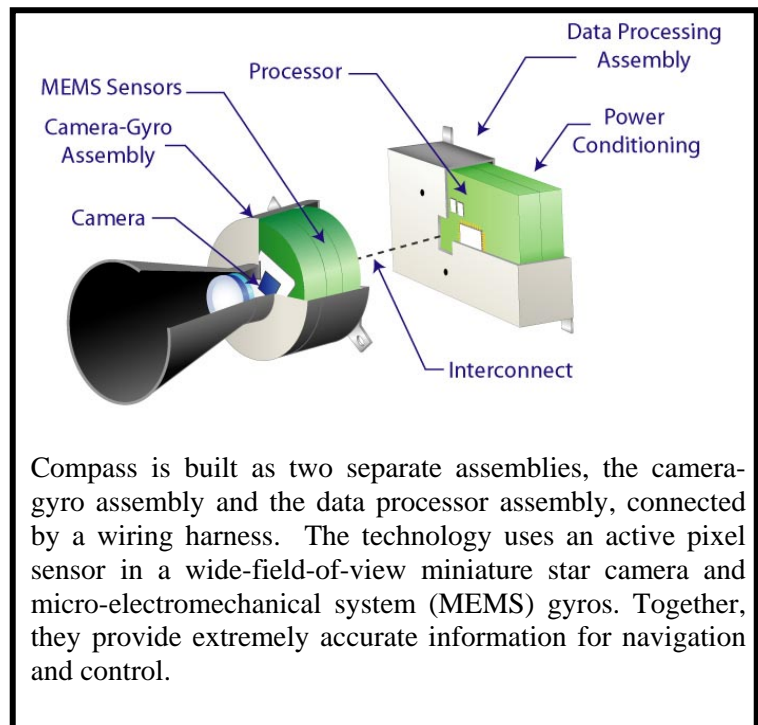
Traditional gyros use spinning wheels to detect changes in pitch, yaw, and roll—the three axes of rotation. For ST6's Inertial Stellar Compass, the three gyros instead consist of silicon wafers that resemble microchips. Rotating the wafers distorts microscopic structures on the surfaces of these wafers in a way that generates electric signals. The compass uses these signals—along with images of star positions taken by the camera—to measure rotation.

Because the Inertial Stellar Compass (ISC) is based on this new, radically different technology, NASA needed to flight-test it before using it in important missions. That test flight reached completion in December 2007 after about a year in orbit aboard the Air Force's TacSat-2 satellite.

"It just performed beautifully," Chmielewski says. "The data checked out really well." The engineers had hoped that ISC would measure the spacecraft's rotation with an accuracy of 0.1 degrees. In the flight tests, ISC surpassed this goal, measuring rotation to within about 0.05 degrees.

That success paves the way for using ISC to reduce the cost of future science missions. When launching probes into space, weight equals money. "If you're paying a million dollars per kilogram to send your spacecraft to Mars, you care a lot about weight," Chmielewski says. At less than 3 kilograms, ISC weighs about one-fifth as much as traditional stellar compasses. It also uses about one-tenth as much power, so a spacecraft would be able to use smaller, lighter solar panels.

Engineers at Draper Laboratory, the Cambridge, Massachusetts, company that built the ISC, are already at work on a next-generation design that will improve the compass's accuracy ten-fold, Chmielewski says. So ISC and its successors could soon help costs—and spacecraft—stay on target. Find out more about the ISC at <http://nmp.nasa.gov/st6/>



Compass is built as two separate assemblies, the camera-gyro assembly and the data processor assembly, connected by a wiring harness. The technology uses an active pixel sensor in a wide-field-of-view miniature star camera and micro-electromechanical system (MEMS) gyros. Together, they provide extremely accurate information for navigation and control.

This article was provided by the Jet Propulsion Laboratory, California Institute of Technology, under a contract with the National Aeronautics and Space Administration.

Saturn/Moon Party Update

Joe Shuster

If you've been reading the recent *Night Times* you know that "light site" viewing has been a hot topic. In the January NT we highlighted the successful Cook Library event where we viewed Mars and the Moon. In February, March and April, the NT carried a series of articles about the process of light site events. In March we published the schedule for the March, April and May events at libraries. And the April issue squeezed in a nugget about one of the events. Here is an update on the events through April 2008.

Ela 1 – Our first library light site event of 2008 was March 9 in Lake Zurich at the beautiful Ela Area Public Library.



Chris Larsen, Dave Wagner, Tom Mathieson, and I set up scopes for viewers starting at 6pm. Clouds block the view of Saturn for 99% of the night, but the crescent Moon easily poked through thinner clouds for most of the night. We estimated the 130 viewers (about 80 kids) stopped by for their first view of the Moon. The glow bracelets were popular with the kids. Their favorite sticker was "The Moon Rocks".

Ela 2 – We returned to Lake Zurich on April 9 with a much thinner Moon and more clouds. We only got a few glimpses of the Moon and not even a short sighting of Saturn. But even with poor weather, the good marketing by the library and Dave Wagner (including a great placement in the Daily Herald) brought out a hopeful crowd. Volunteers Dave Wagner, Mike Dziedzic, Ron Stanley, Jeff Berman and I showed our telescopes and talked about the club and astronomy to about 75 people (including 50 kids).

Cook 1 – On April 10th we were scheduled to be at Cook Library in Libertyville but the monsoon weather ruined any hope of an outdoor event. I setup in the lobby and talked with a few folks about upcoming events and astronomy.

Fremont – In Mundelein, at Fremont Library on April 14th we finally had some good luck with weather. The skies were deep blue as Michael Purcell, Dave Wagner, Jim McCullough, Ron Stanley, and Mike Dziedzic setup the telescope array.



Meanwhile, Matt Lowry, John Hansen and I worked the crowd with the traditional trifold and other information for adults and glow bracelets and stickers for kids. The lines for



viewing the Moon (starting well before sunset) formed immediately. As the sky darkened and we could enjoy Saturn, the excitement rose and we were very mobbed. The high traffic continued until almost closing time at the library (9pm) and as late as 9:15 people were coming into the parking lot to see us. In the end we estimate 245 viewers (150 kids) and the viewers included several families from the Ela 2 event who followed us from Lake Zurich to Mundelein.

Cook 2 – Cook Library had a nice enough sky for their event on April 15th. The skies started out hazy but improved through the night and the early gusty winds relented for most of the



program. In the early going, John Hansen and I had our hands full with the early crowd, but the Cavalry arrived in the form of Dave Wagner, Mike Dziedzic and Jeff Berman to help with traffic management just as the crowd started to build. We had some spectacular views of Saturn and its moons because the viewing location was a little darker. The gibbous Moon got rave reviews. I was able to show one little girl named Carolyn (herself a veteran of two other LCAS events) a crater named for the first famous woman astronomer, Caroline (sometimes "Carolyn") Herschel – a wonderful connection of astronomy and a kid. We also had more event "crossover":

A lady who viewed with us at the Fremont event brought her whole family to the Cook event the next night. Helpers from the library assisted about a dozen kids in drawing Saturn and

the Moon. We'll display the pictures at Astronomy Day. The numbers at Cook Library were 135 total viewers with 90 kids.



Lake Villa – We will present another of these events at Lake Villa Library in Lake Villa on May 12th.

Antioch -- On May 14th we will be at the Antioch Public Library for some light site viewing, closing the spring season. For the other libraries in the program we pursued the library and proposed the events. However, the Antioch library found us and asked to be included on the program because they discovered the

events from our public website – another publicity success for the club.

Summary – The events in March and April exceeded our wildest expectations in terms of the number of viewers and the number of acceptable weather nights. Three out of five events had good skies. We entertained and educated almost 600 people, including 370 kids. Eleven of the club members participated in the events.

We didn't schedule any events at libraries for June or July because the sunset times are close to the time the libraries close. The soonest we could reasonably resume these events is in August. From August through December, there are 17 nights that meet the criteria for an event at a library: Monday-Thursday and viewable Moon. For the period of August through November the planet Jupiter will be in the sky along with the Moon.

The participating libraries have been unanimous in their enthusiasm for future events because of the excitement of their patrons, the great enthusiasm of the club volunteers, Dave Wagner's promotion "machine", and the great professionalism the club has shown. Viewers have frequently asked us "When will you be back here?"

The hosts and the audience are ready for more of these events in the fall. Are we?

Editor's Note: Joe asks a very valid question... 'Are we ready / able to take on more of these events in the fall'? While this program has been perhaps the most impactful public outreach ever undertaken by LCAS, before we commit to a fall program we need to understand if the

general membership is willing to support this amazing outreach program. John Heywood, English playwright and poet, wrote this proverb, "Many hands make light work." To sustain this program, we'll need many hands... hands that come early and late, come with and without a scope in tow. All will make light work of these events.

Cast your vote! *If you'd like to see the club continue to provide these high impact events at your local libraries, drop Joe an email and let him know you can support one or more of the events below. Let Joe know if you would participate in several of the fall events. If we can make 'light work' of these events in May, we can then proceed with confidence to plan more events, with 'many hands' in the fall. The families of Lake County have demonstrated their interest and excitement about these events. We need to demonstrate the club has that same interest and excitement by supporting these events if you are able!*

Mark your Calendars!

Location

Lake Villa Library

Date

Monday, May 12, 7 pm

Location: 1001 East Grand Av, Lake Villa

Location

Antioch Public Library

Date

Wednesday, May 14, 7pm

Location: 757 North Main Street (Route 83), Antioch

We are also in need of additional hands to support the Oakland School Star Party (2nd through 5th graders) on Tuesday, May 13. This is always a well organized and well attended event under dark skies.

Location

Oakland School

Date

Tuesday, May 13, 7:30 pm

Location: 22018 W. Grass Lake Rd, Antioch, IL

Contact: Joe Shuster jshuster42@comcast.net if you can help out at any of these events.

Astronomy Day 2008

This is one of the biggest public events sponsored by our club. Mark you calendars! On Saturday May 10th, LCAS members will be holding our annual Astronomy Day event at the Volo Bog State Natural Area. We have both daytime and nighttime events, so we are looking for every possible member who can join to come on out in support and to enjoy the event. We already have lots of activities planned. Here are some suggestions if you are still looking for some way to participate.

Daytime events – Event 10am – 4pm (setup 8-10am)

Members at large – provide some relief time for other exhibitors, hand out brochures, help out at the children’s craft table. Fill in where ever and when ever the spirit moves you! ‘Members at large’ are often the most needed support! Come when you can!

Display your scope – set up your scope or other equipment as a static display, or set up a laptop computer running planetarium (sky views) software. If you have special solar observing equipment or filters, set up outside and share views of the sun.

Static displays – Display photos, create a ‘theme’ board related to astronomy.

Telescope Workshops – New this year. When we get folks in that have equipment, but don’t know how to start, or are having some problems, or just have questions on setup... provide some coaching, or perhaps demonstrate on a similar scope what they need to do. We could even invite them to bring their scope during the evening session, and give them a hand. If you wish to volunteer for some one on one support, drop a note to Dave Wagner with you name and type of scope(s) you could support.

djwhouse@ameritech.net

Nighttime events – Event 8:30 pm (setup 7:30 – 9pm)

Members at large – hand out brochures, glow bracelets, stickers. Just engage and chat with folks in lines.

Bring your Scope – Saturn and the Moon will be the main event, but feel free to share views of any and all objects. Don’t forget to bring a step stool for little ones!

Projected Photos for display / 3D Photos – we are going to display some astronomical photos up in the Bog visitors

center during the evening as well. This will help to engage visitors should we get some passing clouds, or should they need a warming room. Rodrigo Roesch has some 3D style photos to display. For that we need some of those Red/Cyan color lens glasses. If you have some you can donate, we certainly use more of them.

Invite your family and friends! It’s a great family day. We’ll have lots of activities for all ages.



**The Lake County
Astronomical Society
presents:**

Astronomy Day 2008

Saturday, May 10th

Volo Bog State Natural Area Visitor Center, Ingleside, Ill.

FREE Daytime Activities 10 a.m. to 4 p.m.

FREE Public “Star Party” at 8:30 p.m.

Join us in celebrating Astronomy Day 2008. There will be a variety of free daytime events plus an evening Star Party — your chance to see the moon, stars, Mars, Saturn, and other sky objects through a wide range of telescopes.

Scheduled Events:

- Comet Making Demonstration
- Solar Observing (Using specially equipped telescopes)
- Tour a Scale model of the Solar System
- Children’s Activities
- Telescope displays
- “Ask the Astronomer”



**Astronomy Day 2008
at Volo Bog State Natural Area
Visitor Center, Ingleside, Ill.**

For more information, contact:
Mr. Chris Larsen
Lake County Astronomical Society
PH (847) 602-0478
contact@lcas-astronomy.org
<http://www.lcas-astronomy.org/>



For directions, go to: <http://dnr.state.il.us/lands/landmgmt/parks/r2/volobog.htm>

May 2008 LCAS Almanac

Prepared By: Bruce Bahde

May 1	Gerard Kuiper discovers Nereid, moon of Neptune, 1949	May 13	Oakland School Star Party. Mercury at greatest elongation (22 degrees) (11:00 p.m.)
May 3	Dark Site Viewing VBFarm, Saturn stationary, Eta Aquarid meteors	May 14	Antioch Library Saturn/Moon Party
May 4	Eta Aquarid meteors	May 15	Nicolas Lacaille born, 1713
May 5	New Moon (7:18 a.m.) Moon at perigee, Eta Aquarid meteors	May 16	LCAS Meeting 7:30 p.m. Volo Bog
May 7	Night Sky Network Teleconference	May 17	Joseph Lockyer born, 1836
May 9	Jupiter stationary	May 19	Full Moon (9:11 p.m.)
May 10	ASTRONOMY DAY Volo Bog	May 20	Moon at apogee
May 11	First Quarter Moon (10:47 p.m.)	May 26	Mercury stationary, Neptune stationary,
May 12	Lake Villa Library Saturn/Moon Party. Mars at aphelion	May 27	Last Quarter Moon (9:57 p.m.)
		May 29	Uranus 4 degrees south of Moon (4:00 am)

LCAS Submission to
Astronomy Magazine's 2010
"Out-of-this-world" Award



Sample Media Coverage

neighbor

Comics

Life's not easy,
but it's a load of laughs
if you're a Born Loser

— Page 3



SECTION 5

L7235

Astronomical club hopes to build
observatory house telescope

Moon party

Astronomy club
sets up telescopes
for public views

By Ryan Pagelow
RPAGELOW@SCN

Rather than a moon party, the Lake County Astronomical Society's new observatory site is aimed at providing a glimpse into space elicited

allow for dark skies and low viewing points of the horizon. It also has to be easily accessible to the public.

"That means we have to consider parking, bathrooms, security options and the overall interest of the local community in the location," Wagner said.

The society has considered possible sites in Lake County, Bristol, Kenosha and Wisconsin Dunes. Natural features like hills and trees are also considered.

The site committee has already created designs, which include a dome that were intended for a previous location in Kenosha, but it's not certain whether the facility will have such a feature. Group officials say the dome alone could cost \$30,000 to

\$50,000, depending upon its size.

They are also considering including concrete paths on one side of the building. Club members are currently planning their own parties.

"To raise the funds, we would need to spend a lot of time getting money through fundraisers," Wagner said. "Our best bet would be getting support from corporate sponsors and contributors."

The astronomical society hopes the creation of its observatory will support the county, schools and people interested in astronomy.

"We will continue to actively pursue and negotiate sites for our intended observatory," Wagner said. "It's one of the main priorities of our club."

Stars, planets and galaxies ... Oh my!
Lake County Astronomical Society provides glimpse into universe

A highest honor



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Lake County circuit judge to be cited during Campaign Days

LAKE VILLA / LINDENHURST

A page just for you

YOUR DAILY REMINDER

Lake Villa District Library will host a musical performance at 2 p.m. Sunday at 1001 E. Grand Ave. The performance features a phone/vibraphone trio that plays standards. Details, (847) 356-7711

Moon party

Astronomy club sets up telescopes for public views

By Ryan Pagelow
RPAGEL@SCN1.COM

Rather than wait for stargazers to come to them, the Lake County Astronomical Society recently started ambushing innocent bystanders outside public libraries around the county with their large telescopes aimed at the moon and Saturn.

The free peeks into space elicited "ooo's" and "ahh's" from a crowd gathered at the Lake Villa District Library, where the club set up a half dozen telescopes on Monday. Saturn's rings were clearly visible through the scopes. Saturn's moon Titan was also visible as a tiny speck.

It was the first time 9-year-old Kameron Hall of Lake Villa had ever looked through a telescope.

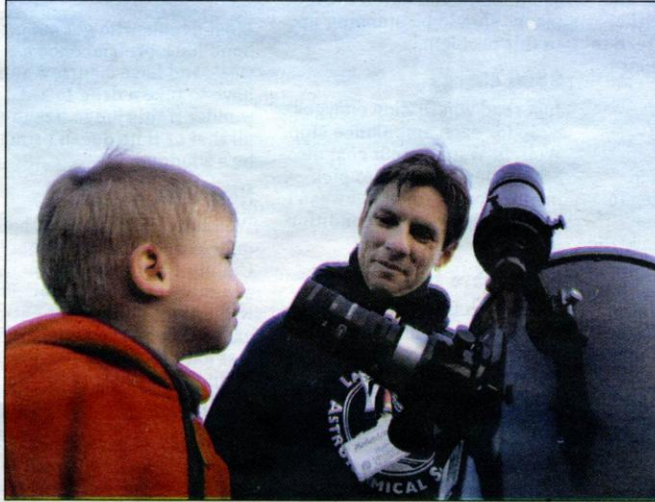
"I saw lots of craters and dark spots on the moon," she said. "The dark spot looked like a toad."

It prompted the third-grader to check out an astronomy book at the library and announce that she wanted a telescope for Christmas.

The Lake County Astronomical Society visited seven libraries this spring. The biggest one in Mundelein in April attracted about 240 people, mostly kids, said Joe Shuster, a retired computer software engineer who leads the community outreach program.

"We were literally mobbed," he said.

The library visits, which will probably resume in the fall when it gets darker early enough for libraries to be open, are meant to give local stargazers a taste of astronomy and what the club does. The club recruited a few new members during the library events. You don't have to own a telescope to be a member. You just need



Marlon Cowart of Round Lake Beach talks to Samuel Sheedy, 4, of Lindenhurst about how a telescope works.

STARGAZERS UNITE

Lake County Astronomy Society meetings are open to the public and held on the third Friday of each month (except August and December) at 7:30 p.m. at the visitor center of the Volo Bog State Natural Area, located at 28478 W. Brandenburg Road in Ingleside. The first hour is their business meeting. Scheduled programs on astronomy topics start at 8:30 p.m., followed by stargazing (weather permitting). It also periodically holds star parties in local



dark-sky sites, which gives people a chance to learn about different telescopes if they're considering buying one — or if they have one and they're not sure how to best use it.

Joe Shuster of Gurnee and Dave Wagner of Lake Zurich look for Saturn in the sky above Lake Villa District Library.

a curiosity for galaxies and star clusters millions of miles away.

For Jeff Berman, a safety inspector from Lindenhurst, building his own telescope is as much fun as actually looking at celestial objects. He brought his homemade 100-pound telescope to the library astronomy event. He bought the 13-inch reflector mirror and built the base and tall telescope tube for the mirrors in 1983 after reading books about it.

Scott Bowers, a mail carrier from Lindenhurst, is interested in astrophotography. By attaching a camera to his telescope he's been able to shoot faraway objects such as a rare supernova in the M-51 galaxy.

There are only about seven days a month when the moon is high enough in the sky to be visible at 7:30 p.m. when the library star parties usually begin. For purists, libraries don't make great viewing areas because of

the light pollution and distorting heat emanating from parking lots. The club usually finds the darkest skies in its home base in the Volo Bog State Natural Area where it holds its monthly meetings, or on a farm near Hebron in McHenry County.

The 100-member Lake County Astronomy Society started 25 years ago with employees from Abbott Laboratories, said club president Marlon Cowart of Round Lake Beach, who is a chemist for Abbott.

Earlier this year the group had announced plans to build a \$70,000 to \$100,000 observatory in Bristol, Wis., by 2010, where there are dark skies and a low horizon, but the plan was scrapped after the Bristol village board did not grant the non-profit group a lease. The group is still looking for a place for a permanent observatory for its 20-inch telescope that weighs about 2,000 pounds.

Rabies found in Lake

NEWS-SUN STAFF REPORT

A bat found in a Lake Villa yard last week has tested positive for rabies, according to officials.

As it does each year, Lake County Health Department is urging residents to avoid contact with bats. Officials said there was no human contact with the bat found on the lawn of a Lake Villa home.

This is the first time a bat tested positive for rabies in Lake County this year. Last year, nine bats tested positive. Bats are the only animals that have tested positive for rabies in the past 20 years in Lake County.

Rabies is an always fatal disease that affects the nervous system of humans and other mammals. However, the disease is fully preventable with treatment.

Most commonly, people get rabies from the bite of a rabid animal. In other cases, people can contract rabies if any infectious material from a rabid animal, such as saliva, comes in contact with one's nose, mouth, open wound or gets into the eyes.

If the bat is in your house, do not touch it because it may need to be tested for rabies. Close the doors and windows to keep people away from the area where the bat is located. A trained animal control officer will remove the bat at no cost to the resident. The caller to the appropriate jurisdiction.

Health officials are urging residents to avoid touching, hitting





Stars, planets and galaxies ... Oh my!

Lake County Astronomical Society provides glimpse into universe

By COLIN SELBO
cselbo@lakecountyjournal.com

Gazing into the night sky at the moon and the stars with the naked eye can be a beautiful sight.

But most people do not give a second thought to the many objects that light up the sky.

Yet when those same stars, planets or galaxies are viewed through a telescope, it can literally be like looking into another world. It is an experience that is well-known to members of the Lake County Astronomical Society.

"That transformation of an object from mundane to spectacular is what it's all about," said member Joe Shuster, who serves as public outreach coordinator for the club.

Founded in 1982, the Lake County Astronomical Society educates its members about the vast wonders of the night sky. The club was started by a group of employees from Abbot Laboratories, and currently boasts about 100 members, Vice President Leon Fasanano said.

The club meets monthly at the Volo Bog State Natural Area in Ingleside, and hosts additional sky-viewing events during the year in Lake County, Shuster said.

Astronomy is a mix of both hobby and science, Shuster said, and the club aims to accommodate both die-hard astronomers and those who are new to the field.

Even children are encouraged to come and look into a telescope especially designed

If you go ...

What: The Lake County Astronomical Society

When: The club meets the third Friday of each month. The next meeting will be Friday, Sept. 17 - the business portion of the meeting begins at 7:30 p.m. and will be followed by a public astronomy program at 8:30 p.m.

Where: Volo Bog State Natural Area Visitor Center, 28478 W. Brandenburg Road, in Ingleside

To learn more: Visit www.lcas-astronomy.org

for them, he said.

"They catch on so quick; it's amazing," Shuster said. "One of the reasons I'm convinced that young kids are interested in astronomy is that I was interested in astronomy when I was a kid."

Programs hosted monthly by the club hit on a range of topics, including space probes, viewing techniques, light pollution and dark matter. If skies are clear following each meeting, club members will set up telescopes and invite the public to take a look into the sky, program chairman Darryl Hedges said.

"Like any club, it's an opportunity for people who share a common passion," Hedges said. "I think we've all been fascinated by the beauty of the night sky."

Hedges still remembers the first time he ever saw Saturn through a telescope.

"The word 'wow' just came right out of my mouth," he said.



Colin Selbo - cselbo@lakecountyjournal.com
Sai Tadiboyina, 6, of Mundelein, gets a view of the moon with help from Michael Parcell during the Lake County Astronomical Society's "Moon Over Mundelein" event at the Fremont Public Library.

Lake Julian
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Call for info. for group outings

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Lake County Astronomical Society set scopes on starry subjects

Author(s): COLIN SELBO **Date:** August 20, 2010 **Section:** County News

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Even children are encouraged to come and look into a telescope especially designed for them, he said.

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To learn more: Visit www.lcas-astronomy.org

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Star parties come to Lake County

Author(s): JOSEPH MULLER - foxlake@weeklyjournals.com

Date: September 18, 2008 **Section:** News

FOX LAKE - To gaze at the surfaces of Jupiter and the moon, Lake County residents won't need to splurge a couple thousand dollars into a high-powered telescope. The Lake County Astronomy Club (LCAC) will host its "Astronomy Under the City Lights" event at the Fox Lake Library starting at 7:30 p.m. on Tuesday, Sept. 9. During the event, LCAC let residents use its telescopes to view the moon and any other visible planets. Although light pollution from cities prevents people from gazing at most planets from a telescope, LCAC Outreach Coordinator Joe Shuster said people can still see some of the brighter planets during specific times of the year. "When we showed Saturn to people last year," Shuster said, "it was a big hit." During the Fox Lake star party, residents will be able to see the moon, Jupiter's surface, and some of Jupiter's moons. Throughout the year, the Astronomy Club brings its "Astronomy Under the City Lights" activity to different Lake County libraries. "The event is a great time for anybody," Shuster said. "The kids get really excited." Shuster said that they also give tokens, red glowing bracelets, and stickers donning phrases like "the moon rocks" to children. Shuster said past star parties have been a huge success, pulling in as many as 245 people in one night. "Some people like the event so much, they follow it around to different libraries," he said. Local libraries have also worked with the Astronomy Club by showcasing books about astronomy during the event, Shuster said. "Some people use our telescopes then grab a book about astronomy from their library," he added. The telescopes used for the event range from smaller telescopes to high-end amateur instruments. "Some of our telescopes are top-of-the-line optical instruments," Shuster said, adding that some the telescopes range from anything between \$1,000 to \$4,000. If anyone has a telescope and needs help aiming it work properly, Shuster said LCAC members would be happy to help. The event could possibly be canceled due to weather conditions, but Shuster's hopes are high. "We've had great luck this year with the weather," Shuster said, noting that only two of their eight previous events were canceled this year due to weather. Aside from the "Astronomy Under the City Lights" events, the Lake County Astronomy Club also hosts a monthly meeting featuring astronomy lectures and a star party. Lake County Astronomy Club



members are from all ages and levels of experience with astronomy. Can't make it to Fox Lake? Here are the LCAC's other events: LCAC September 2008 Meeting When: 7:30 p.m. Friday, Sept. 19 Where: Volo Bog Visitor Center Program: LCAC member Joe Shuster discusses many of the small but important adapters, connectors, holders, triggers, and 'whatevers' needed to use your optics with your astroimaging equipment. Moon Over Lake Villa When: 7:30 p.m. Monday, Oct. 6 Where: Lake Villa Public Library, 1001 E. Grand Ave., Lake Villa Moon Over Antioch When: 7:30 p.m. Wednesday, Oct. 8 Location: Antioch Public Library District, 757 North Main Street (Route 83), Antioch LCAC October 2008 Meeting When: 7:30 p.m. Friday, Oct. 17 Where: Volo Bog Visitor Center Program: The program will be an LCAC astrophotography show

Technical problems: If you have a technical problem with your account please e-mail newslibrary@newsbank.com.

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Other Club Activities & Links

- LCAS Public website: <http://www.lcas-astronomy.org>
- LCAS Facebook page: <http://bit.ly/LCASonFB>
- Additional photographs: <http://bit.ly/LCASOutreachJJS>
- AUTCL partners: <http://bit.ly/LCASPartners>
- List of other LCAS Public and Private Activities

Non-AUTCL Outreach Programs and Activities Provided in 2010

I. On-Request Events/Speakers Bureau

The events listed below represent the on-request special programs that were conducted in the last year. Our club is well known in our area for providing excellent outreach programs and is regularly requested to provide special events. Since we do not have an observatory, the events are scheduled at the requester's location.

The Chapel Church in Libertyville, IL — January 31st

200+ church members of The Chapel Church in Libertyville, Illinois had the opportunity to view the Moon and winter constellations. Hosted by 10 LCAS members with telescopes and binoculars.

Boy Scout Leadership Training — April 17th

LCAS member held an hour-long instructional class for 35 adult Boy Scout leaders from across the country on the basics of observing. Afterwards, everyone enjoyed clear dark skies outside with the help of 6 additional LCAS members with their telescopes and binoculars.

"Introduction to Astronomy Class" for the Waukegan Public Library — March 18th

LCAS member fulfilled a request by the Waukegan Public Library for someone to hold a class on basic astronomy for a small group of 13 adults for whom English is not their primary language.

Scout Outreach Events:

Wauconda Boy Scout Campout — June 12th (Cancelled Due To Poor Weather)

Chain of Lakes Cub Scout Campout — October 16th (80 kids and adults) Hosted by 7 LCAS members with their telescopes and binoculars.

North Star District Loopapalooza – January 15, 2011 – Provided two Cub Scout Astronomy Classes – 19 scouts received Astronomy Loop

The Marriott Hotel "Starpark" Presentation / Open House — September 17th

LCAS members helped organize and run this special event for the Lincolnshire Marriott Hotel to celebrate its designation as the first commercial hotel "Starpark" in the United States. The event was attended by over 100 special guests invited by the Marriott and included the participation of several area clubs.



Viewing Event for the Kids at Carmel Catholic High School - December 3rd

Field Trips to Yerkes Observatory and Fermi National Laboratory

Approximately half of the 60 people attending these events were non-members.

II. Regular Yearly Events

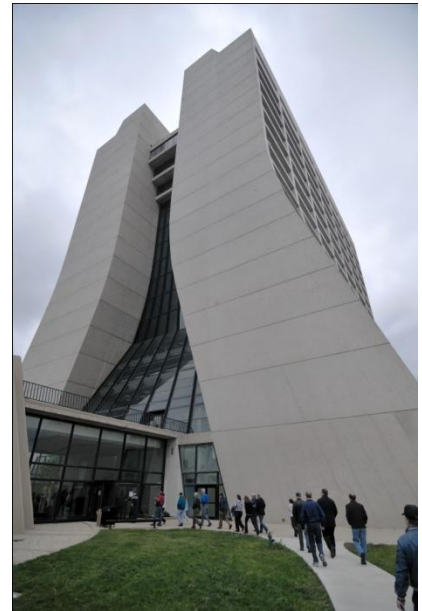
Here is an additional program and other regular events hosted by the club.

Dipping Into Astronomy (DIA)

Annual education program on astronomy with local schools. In 2010 sixty 5th graders received an Introduction to Astronomy class. Dipping into Astronomy (DIA) was developed in 2005 in cooperation with the Volo Bog Nature Center. We piloted DIA with five Big Hollow 5th Grade classes in the fall of 2005. Since then we have conducted the program for 37 classes, totaling 1,115 students (Kids and chaperones).

Astronomy Day

LCAS hosts an Astronomy Day event each year. In 2010 approximately 135 kids and parents visited a state park's Visitor Center on an overcast, rainy day to celebrate the wonders of the universe. Hosted by 11 members from LCAS.



Monthly Meetings

Our monthly meetings are open to the public, and includes a free program on an astronomy topic. After the program we provide a weather-permitting observing session with club telescopes and binoculars.



LCAS Monthly Programs in 2010

Date	Program Topic
January 15	Swap Meet and Show & Tell
February 19	Audrey Fischer / Light Pollution
March 19	Bill Hicks — Fermilab / Finding Water On The Moon
April 16	Donna Kubik / Fermilab's 500 Megapixel Camera
May 21	Robert Arn — Millikin University - Inexpensive Astrophotography
May 22	Astro-imaging Workshop
June 18	Teleconference with Steve Cullen / President and COE of LightBuckets
July 16	Jack Kramer / A New Way Of Looking At The Moon
August 20	Club Picnic
September 17	Matt Lowry / The Large Hadron Collider
October 15	Ken Daniel / Exoplanets
November 19	Drew Carhart / Solar Observing
December 17	Holiday Party

Out-of-this-World Award 2010
End of Submission



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Event Handout Samples

In this package we included a few physical samples of some of our 'handout' materials. You can see them referenced in the "Tools We Used" section of the document.

- **Glow bracelets**
- **Stickers**
- **LCAS tri-fold brochure**