



Mid-Hudson Astronomical Association September, 2013

Website: www.midhudsonastro.org

Yahoo Group: MHAstro

President : Willie Yee
Secretary: Jim Rockrohr
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Parks Liaison:

Vice President: Joe Macagne
Treasurer: Ken Bailey
Membership Coordinator: Caryn Sobel
Webmaster: Sean Dague
College Liaison: Dr. Amy Forestell

Directors: Steve Carey, Dave Lindemann, Karl Loatman, & Tom Rankin

September meeting location changed to LC104.

Meeting Minutes

Minutes of the monthly meeting of the Mid Hudson Astronomical Association, August 20, 2013

No minutes were submitted for publication

Officer's Reports:

Treasurer:

Submitted by Ken

Treasurer's Report for the month of August

Date: 14 September, 2013

Bank Balance:	\$2447.45
Outstanding Checks:	\$ 100.00
Outstanding Deposits:	\$ 0

Ending Bank Balance: \$2347.45

Checkbook Balance: \$2347.45
Balance with Bank: Yes

Ending balance total: \$2347.45
Notes: None.

Respectfully submitted: Ken Bailey
Treasurer

From the President:

TIPS AND TRICKS FOR OUTREACH

Although I have had a lifelong interest in astronomy, I have been doing observational astronomy for only about four years, and outreach somewhat less than that. In spite of being your president, I am a beginner in many respects. Having acquired a bit of experience in a short time allows me to be familiar with the issues of beginning outreach, while giving me a chance to develop some solutions. Hence this list of ideas from where I stand now.

1. Accessibility Trumps Dark Skies

As astronomers, we learn that accessibility to dark skies is paramount, even to aperture. In fact, dark skies were what finally engaged me in active astronomy. Four years ago, my daughter Irene and I were returning from a late night film shoot ([Star Trek Phase II](#), if you must know), and I was driving west out of Ticonderoga, NY. My daughter stuck her head out the window of the car and shouted "Daddy, LOOK at all the stars!" I pulled over and we got out of the car. It was a perfect night. No moon, no clouds, no light pollution. We stood for at least a quarter of an hour awed by the Milky Way, ****billions and billions**** of stars, fuzzy patches of stuff that were clearly not stars. Right then I decided I would not be caught under a sky like that without a telescope of some sort.

So I got a telescope, joined the MHAA, and started attending star parties. Early on, I found an opportunity to do some outreach at a Star Trek convention that was being held at a resort in the Pocono Mountains of Pennsylvania. It seemed a perfect spot. At the first day of the conference I consulted with the resort management, and picked out a place on the golf course that was away from the lights of the hotel building. It was a short walk, perhaps a quarter mile away. But the way was dark, I had no signage, and the people who were to direct the public to the site misunderstood their instructions, and as a result, **NOBODY CAME**. I heard the next day that a few people had driven around but were never able to find me in the dark. But it was a great spot with dark skies and unobstructed views.

Since then, I have attended many events under less than perfect viewing conditions (to put it mildly). If you are where the public is, even on the sidewalks of a city, as John Dobson discovered, your audience will not care about the lack of a dark sky.

2. Be Content With Limited Targets

Being able to view only a few objects that are visible under these conditions is quite satisfying to the public. Since most have never seen anything through a telescope, and since they have only a few moments individually at the eyepiece, they generally feel rewarded. The moon, Jupiter and Saturn, M 13, the Double Cluster, and Albireo never fail to excite. Conditions permitting, M 31 and M 42 are wonderful targets.

3. Be Prepared With Answers to Annoying Questions

The most common question in this category is "How much did that telescope cost?" Think about how you will answer this before responding in a negative way. My first instinct was to say, "About a month's pay," to which they would ask, "How much is that," and then I could say "Now you're getting personal." A witty, and seemingly appropriate response, and better than "None of your business," but not one that will keep someone engaged.

“Why do you ask?” is not much helpful either, since the reply is usually, “Just curious,” and you are back where you started.

“Are you thinking of getting one?” however, can lead to a discussion of the realistic costs of starting astronomy. Think about what response you would feel comfortable with, and that would promote the questioner’s involvement.

Other annoying questions may concern astrology, conspiracy theories, intelligent design, or hoaxes. You should have answers that you feel comfortable with, but thinking about them ahead of time will help you come up with answers that engage rather than turn people off.

4. EQ Mounts and Tracking -- GoTo Rules!

Having an equatorial mount makes it much easier track objects. The less time you have to spend re-aiming your instrument, the more time you have to engage the public. Having a tracking mount means that you will have to fiddle with the equipment even less. GoTo capabilities will shorten your time changing targets. Use whatever technology makes observing easier.

5. Grabby Hands

If you are in a public area where there are likely to be children, make whatever provisions you can for them. A step stool or ladder is obvious, but just as important is something for them to grab onto. I use a walker that I picked up at a garage sale. I found the even adults would often use it to steady themselves, which may be why many of them have a natural tendency to touch the eyepiece while viewing. Telling adults to use the focuser (and why) may also give them something to do with their hands rather than grab the eyepiece.

Small children, first grade and under will usually not be able to view anything through an eyepiece. One solution, if available is to have one scope set up with an attached camera and a laptop or tablet screen for viewing.

6. Consider Solar

Viewing our nearest star has the obvious advantage of being available during daylight hours. If you are in a club take advantage of those who have solar telescopes. Or have the club consider investing in a solar scope if funds permit. The sun can be a starting point of a discussion of many astronomical topics in addition to itself -- stellar evolution, the solar system, gravity, the galaxy, astronomical distances and so on. A valuable resource for solar astronomy outreach is the Charlie Bates Solar Astronomy Outreach Project <http://www.charliebates.org/> .

7. Use Astronomy Phone Apps

I use Sky Safari on my iPhone to answer all sorts of specific questions that may come up, such as “How far is that? How big is that? How many stars in that cluster?” Being willing to say you don’t know is a good thing. Being able to look up the answer on the spot is better.

8. Consider Binoculars

Some find that having binoculars available is a useful activity. People can explore the sky on their own, and learn the wealth of sites that are accessible through binoculars. They do not have to be fancy 10x50 astronomical binoculars. Common 7x35 birding binoculars are sufficient for outreach.

One caution here is that these are the likeliest objects to disappear forever in the course of a public viewing session. Take whatever steps are necessary to keep track of things.

Large mounted binoculars may slow down the whole process since there are many more adjustments to be made for each viewer’s eyes in order to take best advantage of them. On the other hand, if there are a number of telescopes available, they may be a good alternative for some folks.

Dr. Willie K. Yee
President, Mid-Hudson Astronomical Association

Solar System Ambassadors Program Accepting Applications

The NASA's Jet Propulsion Laboratory Solar System Ambassadors, or SSA, Program, a nationwide network of space enthusiast volunteers, will accept applications from **Sept. 1 through Sept. 30, 2012**.

Highly motivated individuals will be given the opportunity to represent NASA's Jet Propulsion Laboratory as volunteer Solar System Ambassadors to the public for a one-year, renewable term beginning Jan. 1, 2014.

While applications are being sought nationwide, interested parties from the following states are especially encouraged to apply: Alaska, Delaware, Mississippi, Montana, Nebraska, Oklahoma, South Dakota, West Virginia, Wyoming and the District of Columbia. SSA hopes to add 100 new volunteers to the program in 2014.

To learn more about the Solar System Ambassador Program and to apply online, visit <http://www2.jpl.nasa.gov/ambassador/>. The Announcement of Opportunity and application form will be available beginning Sept. 1, 2013.

If you have questions about this opportunity, contact Kay Ferrari, SSA Coordinator, by email at ambassad@jpl.nasa.gov.



How to hunt for your very own supernova!

By Dr. Ethan Siegel

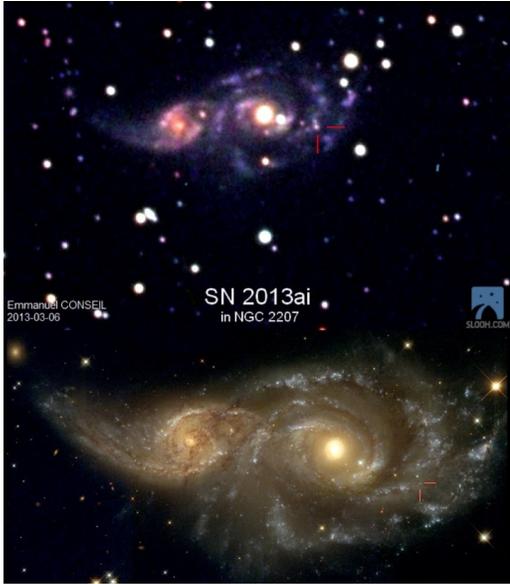
In our day-to-day lives, stars seem like the most fixed and unchanging of all the night sky objects. Shining relentlessly and constantly for billions of years, it's only the long-term motion of these individual nuclear furnaces and our own motion through the cosmos that results in the most minute, barely-perceptible changes.

Unless, that is, you're talking about a star reaching the end of its life. A star like our Sun will burn through all the hydrogen in its core after approximately 10 billion years, after which the core contracts and heats up, and the heavier element helium begins to fuse. About a quarter of all stars are massive enough that they'll reach this giant stage, but the *most* massive ones -- only about 0.1% of all stars -- will continue to fuse leaner elements past carbon, oxygen, neon, magnesium, silicon, sulphur and all the way up to iron, cobalt, and, nickel in their core. For the rare ultra-massive stars that make it this far, their cores become so massive that they're unstable against gravitational collapse. When they run out of fuel, the core implodes.

The intruding matter approaches the center of the star, then rebounds and bounces outwards, creating a shockwave that eventually causes what we see as a core-collapse supernova, the most common type of supernova in the Universe! These occur only a few times a century in most galaxies, but because it's the most massive, hottest, shortest-lived stars that create these core-collapse supernovae, we can increase our odds of finding one by watching the most actively star-forming galaxies very closely. Want to maximize your chances of finding one for yourself? Here's how.

Pick a galaxy in the process of a major merger, and get to know it. Learn where the foreground stars are, where the apparent bright spots are, what its distinctive features are. If a supernova occurs, it will appear first as a barely perceptible bright spot that wasn't there before, and it will quickly brighten over a few nights. If you find what appears to be a "new star" in one of these galaxies and it checks out, report it *immediately*; you just might have discovered a new supernova!

This is one of the few cutting-edge astronomical discoveries well-suited to amateurs; Australian Robert Evans holds the all-time record with 42 (and counting) original supernova discoveries. If you ever find one for yourself, you'll have seen an exploding star whose light traveled millions of light-years across the Universe right to you, and you'll be the *very first* person who's ever seen it!



SN 2013ai, via its discoverer, Emmanuel Conseil, taken with the Slooh.com robotic telescope just a few days after its emergence in NGC 2207 (top); NASA, ESA and the Hubble Heritage Team (STScI) of the same interacting galaxies prior to the supernova (bottom).

Read more about the evolution and ultimate fate of the stars in our universe: <http://science.nasa.gov/astrophysics/focus-areas/how-do-stars-form-and-evolve/>.

While you are out looking for supernovas, kids can have a blast finding constellations using the Space Place star finder: <http://spaceplace.nasa.gov/starfinder/>.

Directions To The Star Party Site—

[Lake Taghkanic State Park](#) is in the town Ancram, NY. The park entrance is on the Taconic Parkway 10 minutes north of the exit used for Wilcox park.

Star Parties at Lake Taghkanic are held in the West Parking lot, next to the beach. The skies are darker than in Wilcox, with less stray light to deal with. The horizon is also much lower, especially to the south and east, making many more targets possible.

IMPORTANT: all events at Lake Taghkanic State Park require an **RSVP** which includes license plate number of the car you are bringing (please do so via [Meetup](#)). The park is patrolled by state police, and all non registered cars will be ticketed and risk our use of the park.

General Information:

- ♦ For the foreseeable future, all indoor meetings will be held on the 3rd Tuesday of each month in Coykendall Science Bldg., SUNY New Paltz (directions above) at 7:30 PM. All indoor events are FREE! All are welcome. The presentations are generally geared towards teenagers and up. For more information, call the Club Hotline.
- ♦ Dates listed for star parties are the primary dates. The rain date is the following night unless otherwise noted. Only one session is held for a given weekend, usually on the primary date, Friday, unless postponed (usually due to inclement weather) to the backup date, Saturday. Exceptions to this are noted in the “Scheduled Events” section above. Call the Club Hotline for updated information. Everyone should meet at the gate at the scheduled time. The gate will be closed after that time.
- ♦ All outdoor events are FREE! All are welcome. If you bring small children, it is **your** responsibility to keep a close eye on them. Please do not bring white-light flashlights. Instead, bring a red astronomer’s flashlight or an ordinary flashlight covered with several layers of red cellophane. If in doubt about the weather, check the status of the event at www.midhudsonastro.org.