



# Mid-Hudson Astronomical Association

## July, 2013

Website: [www.midhudsonastro.org](http://www.midhudsonastro.org)

Yahoo Group: MHAstro

President : Willie Yee

Secretary: Jim Rockrohr

Newsletter Editor: Rick Versace

Publicity: Paul Chauvet

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

## Meeting Minutes

### Minutes of the monthly meeting of the Mid Hudson Astronomical Association, June 18, 2013

The meeting was called to order at 7:31 PM by past President Rick Versace in the auditorium of the Coykendall Science Building at SUNY, New Paltz, NY. (President Willie Yee and Vice President Joe MacCagne were both unavailable.)

The minutes of the previous meeting were approved as published in the newsetter.

#### Officer's Reports:

**Membership:** Caryn Sobel was not present, but Ken Bailey reported that he had received 1 membership renewal.

**Treasurer:** Ken Bailey gave his report. The current balance is \$2803.91.

### **Treasurer's Report for the month of June**

Date: 8 July, 2013

Bank Balance:	\$2804.26	
Outstanding Checks:	\$ 59.46	
		225.42 (284.88 total)
Outstanding Deposits:	\$ 100.00	
Ending Bank Balance:	\$2619.38	
Checkbook Balance:	\$2619.38	
Balance with Bank:	Yes	

Outstanding checks since end of month: \$284.88  
Outstanding deposits since end of month: \$100.00  
Ending balance total: \$2619.38  
Notes: None.

Respectfully submitted: Ken Bailey  
Treasurer

**Outreach:** Candace Wall

Upcoming events include:

There will be an MHAA presence at the Grey Fox music festival again this year, July 18-21. Paul Granich reported that he is getting plenty of help and all is going well. Watch Yahoo and MeetUp for details.

Candace mentioned that there has been a request from the Center for Discovery for a presentation from us on July 24.

Candace will put more details on the Yahoo list as they become available.

**Publicity:** Paul Chauvet was not present.

**Webmaster:** Sean Dague was not present.

**Upcoming programs:** Joe MaCagne was not present

### **Old Business:**

**Video Library:** Ken Bailey hopes to complete the DVD list this week and bring the library to the next meeting.

**12" Club Telescope:** Karl Loatman is trying to get the scope from Tom Colt. He's having trouble connecting with him. A discussion followed:

- Where will we store the telescope once it is refurbished?
- Whoever has any of the club's telescopes should be required to take it to all of our public star parties to facilitate use by club members.
- A club officer should be appointed to be the "Scope Czar" to be responsible for the club owned telescopes and keep track of where they are.

**Other Club telescopes:** Paul Chavet has the 4" and is using it. There is a 10" home built Dobsonian available to be donated to the club if the club is interested.

**Walkway Solar System Model:** Willie Yee not present.

### **New Business:**

Ken Bailey moved that he be allowed to take 2 club tee shirts to the Mason-Dixon Star Party auction. It was seconded and approved unanimously.

Paul Granich moved that he be allowed to take 4 tee shirts to the Grey Fox festival. It was also approved.

Rick Versace asked for money to purchase helium for balloons for the Grey Fox event so the MHAA display can be more easily found. Ken Bailey moved that we approve reimbursement of up to \$200 for Grey Fox supplies. It was seconded and approved.

### **Visitors/New Members:**

4 visitors introduced themselves.

The meeting was adjourned at 7:49 PM.

The program that followed was a talk by Dr. Amy Forestell, Assistant Professor of Physics at SUNY, New Paltz, on comets.

Submitted by James Rockrohr, July 9, 2013.

### **From the President:**

Maybe you have noticed (or maybe not), the rectangles on our Meetup Page in the Sponsor's area. One is for the Night Sky Network, of which we are a member. Night Sky Network is sponsored by NASA and several other organizations, especially the Astronomical Society of the Pacific, and hosted at the Jet Propulsion Laboratory. It describes itself as "a nationwide coalition of amateur astronomy clubs bringing the science, technology, and inspiration of NASA's missions to the general public."

NSN's webpage <https://nightsky.jpl.nasa.gov/index.cfm> allows access to its many features. First, there are listings for all the member clubs. Each listing is complete enough to serve as a club's main web site. MHAA's is here [https://nightsky.jpl.nasa.gov/club/club-view.cfm?Club\\_ID=1300](https://nightsky.jpl.nasa.gov/club/club-view.cfm?Club_ID=1300) In addition to event scheduling, one can keep track of membership, volunteer hours, and do group messaging. And of course, NSN makes the club findable for anyone searching by geographic area or looking for events. This would be a great resource for a club that is just starting out and has no funds for its own web page. For us, it is an additional resource.

The website contains abundant other resources. A variety of educational materials are available including videos, slide shows, suggested activities and handouts. All free for the asking. I recommend you check out NSN if you are looking for materials or suggestions for a presentation. One set of items is not easily found: Toolkits. These are packages of materials, including posters, DVDs, and objects useful for demonstrating different phenomena. I ordered The Magnetic Sun toolkit and received a box and a mailer containing a poster, magnets, a variety of objects like pipe cleaners and compasses, and instructions on how to use them for each activity. Each club is allowed to choose a toolkit every time it logs two events for a quarter. So, if you are looking for some activities for outreach, do a search on "Astronomy Activities" on the main NSN page, and let me know if you want to order a particular toolkit.

There are many links from the NSN site, including many NASA sites, and some of our favorites such as Clear Sky Chart and Skymaps.com. Quite enough to keep you occupied for a couple of cloudy evenings, especially if you spend time watching the videos.

I have taken the lead in logging our events onto NSN, and keeping everything updated there. If someone would like to take that on, I would be glad to hand it over, and appoint a Night Sky Network Coordinator. Otherwise, I will continue to do it, and remain your ever loyal El Presidente.



## Inventing Astrophotography: Capturing Light Over Time

By Dr. Ethan Siegel

We know that it's a vast Universe out there, with our Milky Way representing just one drop in a cosmic ocean filled with hundreds of billions of galaxies. Yet if you've ever looked through a telescope with your own eyes, unless that telescope was many feet in diameter, you've probably never seen a galaxy's spiral structure for yourself. In fact, the very closest large galaxy to us—Andromeda, M31—wasn't discovered to be a spiral until 1888, despite being clearly visible to the naked eye! This crucial discovery wasn't made at one of the world's great observatories, with a world-class telescope, or even by a professional astronomer; it was made by a humble amateur to whom we all owe a great scientific debt.

Beginning in 1845, with the unveiling of Lord Rosse's 6-foot (1.8 m) aperture telescope, several of the nebulae catalogued by Messier, Herschel and others were discovered to contain an internal spiral structure. The extreme light-gathering power afforded by this new telescope allowed us, for the first time, to see these hitherto undiscovered cosmic constructions. But there was another possible path to such a discovery: rather than collecting vast amounts of light through a giant aperture, you could collect it *over time*, through the newly developed technology of photography. During the latter half of the 19<sup>th</sup> Century, the application of photography to astronomy allowed us to better understand the Sun's corona, the spectra of stars, and to discover stellar and nebulous features too faint to be seen with the human eye.

Working initially with a 7-inch refractor that was later upgraded to a 20-inch reflector, amateur astronomer Isaac Roberts pioneered a number of astrophotography techniques in the early 1880s, including "piggybacking," where his camera/lens system was attached to a larger, equatorially-mounted guide scope, allowing for longer exposure times than ever before. By mounting photographic plates directly at the reflector's prime focus, he was able to completely avoid the light-loss inherent with secondary mirrors. His first photographs were displayed in



1886, showing vast extensions to the known reaches of nebulosity in the Pleiades star cluster and the Orion Nebula.

But his greatest achievement was this 1888 photograph of the Great Nebula in Andromeda, which we now know to be the first-ever photograph of another galaxy, and the first spiral ever discovered that was oriented closer to edge-on (as opposed to face-on) with respect to us. Over a century later, Andromeda looks practically identical, a testament to the tremendous scales involved when considering galaxies. If you can photograph it, you'll see for yourself!

*Great Nebula in Andromeda, the first-ever photograph of another galaxy. Image credit: Isaac Roberts, taken December 29, 1888, published in A Selection of Photographs of Stars, Star-clusters and Nebulae, Volume II, The Universal Press, London, 1899.*

Astrophotography has come a long way, as apparent in the Space Place collection of NASA stars and galaxies posters at <http://spaceplace.nasa.gov/posters/#stars>.

## 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 3<sup>rd</sup> 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](http://www.midhudsonastro.org).