



# Mid-Hudson Astronomical Association

## February, 2020

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

**President :** Jack Chastain  
**Secretary:** Jim Rockrohr  
**Newsletter Editor:** Rick Versace  
**Publicity:** Open  
**Speakers:** ?

**Directors:** Joe Macagne, Steve Carey, Willie Yee, Karl Loatman

groups.io Group: mhaa.groups.io

**Vice President:** Tim Denman  
**Treasurer:** Eric Myers  
**Membership Coordinator:** Open  
**Webmaster:** ?  
**Outreach:** ?  
**College Liaison:** Dr. Amy Forestell

### Minutes of the monthly meeting of the Mid Hudson Astronomical Association, December 2019, 2019

*(The December meeting was postponed because of bad weather. Here are the minutes...)*

#### MHAA MINUTES FROM DECEMBER 192019 MEETING

The meeting, postponed from the 17th due to the weather, was called to order at 7:30. Since there were only 10 members present only discussions could be held. Voting will take place next month on officers and club business. Several members were unable to make the new meeting date.

#### OFFICERS' REPORTS

**President:** Jack Chastain was present.

Mentioned that Paul Granich is no longer speakers chair. Change to be made when we get a quorum .

**Vice President:** C.E. Raum still unavailable.

**Treasurer:** Eric Myers was present.

Waiting to see how well Member Planet works before continuing our membership. He is also preparing a video library list.

Balance in the Dec newsletter.

**Secretary:** Jim Rockrohr was not available. Tim Denman to take the minutes.

**Publicity:** Tim Denman was present.

Ran into some self-induced issues with Meetup notifications about the meeting postponement but now is aware of the fix to the problem.

**Newsletter:** Rick Versace not present.

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

**Outreach:** Joe Macagne was present.

**Speakers:** C.E. Raum unavailable.

**Membership:** C.E. Raum unavailable.

## OLD BUSINESS

**November Star Party:** Jack reported that clouds rolled in early and ended the observation session early.

## NEW BUSINESS

- Possible membership in slooh.com was discussed. Eric to research prices for group membership.
- Weather apps for use in postponing star parties were discussed.
- We still need a member to stand in as VP.
- Still looking for member-made imagery for our opening background presentation! Currently we have images from members Greg Salyer, CE Raum, and Steve Dittmar and possibly others.

## CLUB TELESCOPES AND EQUIPMENT

Scopes:

- Meade 80mm - Karl Criterion RV6 - CE Orion 8" Dob - Jim Meade ETX-125 Maksutov - Eric
- Dobsonian 13.1" built by Gordon Waite - Tim Meade 6" reflector needing repair - Jack. Heavy duty mount like RV6, needs new motor and needs minor maintenance. Bushnell Northstar motorized GoTo - Eric

Imaging Devices:

- 1000mm camera lens - CE 2 cameras - deep space and planetary - Jack

## EVENTS

Scheduled:

- Dec 27 Star Party
- Jan 21 meeting
- Member presentations moved from tonight to be made.

**Proposed:** No new proposals.

**Guests:** None present

## PRESENTATION

Member presentations postponed until next month due to weather disruption.

## Holiday Party

Was fun and relaxing.

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# Minutes of the monthly meeting of the Mid Hudson Astronomical Association, January 21, 2020

The meeting was called to order at 7:30 PM by President Jack Chastain in the Science Hall auditorium at SUNY, New Paltz, NY.

The minutes of the delayed December meeting were not published in the newsletter and will be approved at a future meeting. (Thanks to Tim Denman for filling in for the secretary.)

### Officer's Reports:

**President:** Nothing new.

**Vice President:** C. E. Raum was not present.

**Secretary:** Jim Rockrohr was present. No news to report.

**Treasurer:** Eric Myers was present.

- See the newsletter for the latest information.
- Current balance was \$2939.96.
- Motion was made and seconded to pay the liability insurance bill of \$561 after Eric reviews the coverage and eliminates unused observing sites. Motion passed unanimously.
- T-shirts (\$15) and sweatshirts (\$25) are available.
- Member ship dues of \$25 per year can be paid by cash or check to Eric. Eric will work to get PayPal set up which will cost \$1 more. You can also pay through MemberPlanet for a \$2 charge.

## MHAA Treasurer's Report for February 2020

As of 16 February 2020 we have \$3,290.21 in our bank account, along with \$45 in Petty Cash, and one membership renewal via Member Planet expected to be transferred into the bank account next month. We have one outstanding check to Paul Chauvet for \$138.84 to pay for 6 months of Meetup.com and 2 years of DNS registration for [midhudsonastro.org](http://midhudsonastro.org).

I have prepared an end of year report with a proposed budget for the next year, for presentation at our February business meeting, and I will also send a copy to Rick so it can go into the Newsletter. Members present at the meeting will vote on the budget, and some amounts might change after discussion at the meeting.

I have reviewed our insurance policy and found that it needs to be updated to remove a venue we no longer use, and to adjust the descriptions in the policy of the two venues that we do use. I'm working with the broker now on this and should have it updated shortly. This might lower our annual premium a bit (I am hopeful) but I won't know for sure until it's done. Meanwhile, I paid the minimum monthly payment to keep the existing policy in force until we get this straightened out.

I have updated the web page for joining or renewing membership, at <https://sites.google.com/a/midhudsonastro.org/join/>, to allow payment via Member Planet or PayPal, or via mail, or in person. A link to this page is on the front page of our Meetup site, <https://www.meetup.com/mhastro/>.

There are still 7 people who paid dues last year who have not yet paid dues this year, and I expect at least a few of them will pay in the coming month or two. We now have "rolling" memberships where a person pays for one year when they join or when they next renew, and there are 18 members who will (we hope) renew between now and next December. If they are on Member Planet they should get a reminder via e-mail, but if they are not then we need a way to send them a reminder.

Respectfully Submitted,  
Eric Myers  
Treasurer

## MHAA Treasurer's Report for FY 2019 – 2020 and Proposed Budget for FY 2020 – 2021

According to the Bylaws of the Mid-Hudson Astronomical Association the fiscal year begins on the first day of March, and the Treasurer is to submit a proposed budget for the coming year at the February meeting. Before presenting the proposed budget, I want to report on the finances for the past fiscal year:

### Income:

Dues (check/cash x 13): \$499.96

### Expenses:

Insurance: 75.12 Dues (Member Planet x 17) \$342.42

Speakers: \$250.00 T-shirt sales \$230.00

Meetup.com: \$213.72 Tips & Donations: \$250.00

Publicity: \$21.61 Other/Unclassified: \$150.00

Science Fair Prizes: \$148.00 Credit Interest: \$3.87

Domain Registration: \$31.98 **TOTAL: \$1,476.25**

Park Permit: \$25.00

**TOTAL: \$ 765.43**

We began the period in March 2019 with total cash assets of \$2,465.55, and should finish February 2020 with a total of \$3,221.36, for a net gain of \$755.81.

The proposed budget for next year assumes income from about the same number of members, but not from t-shirts or life memberships, and anticipates expenses for publicity, prizes, and equipment repairs.

**Proposed Budget:**

Insurance: \$511.00 (may go down, may not)  
Park Permit: \$25.00  
Meetup.com: \$220.00 (estimate -- may go up again)  
Domain Registration: \$000 (just paid for 2 years)  
Publicity: \$100.00  
Equipment Repairs: \$150.00  
Science Fair Prizes: \$200.00  
Speakers: \$300.00  
**TOTAL: \$ 1,538.00**

Additional expenses would require approval of the membership at a later meeting.

Respectfully submitted, *Eric Myers* Treasurer

## **MHAA Membership Report for February 2020**

As of 15 February 2020, MHAA has 12 lifetime members (we just added another), and 33 paid memberships. There are 7 people who paid for a membership last year but have not yet done so this year, and I expect at least a few of the will pay dues soon. Our insurance policy rates are based on a membership of 60 people, which leaves us room to expand some and still have adequate coverage.

Respectfully Submitted,  
Eric Myers  
Treasurer

**Publicity:** Tim Denman was present. Press releases are going out. Tim has also successfully put our meeting details into several newspaper event calendars.

**Newsletter:** Rick Versace was not present.

**Webmaster:** Paul Chauvet was not present. No issues known.

**Outreach:** Joe Macagne was not present.

**Upcoming programs:** C.E. Raum was not present.  
• See MeetUp page for the latest information.

**Membership:** C. E. Raum was not present.

**Solar System Ambassador:** Willie Yee was present. He is giving several presentations in the area.

### Old Business:

- Annual club dinner will be at the Lakeview House Restaurant in Orange Lake, NY, just outside of Newburgh on Friday, January 31. Dinner is prix fixe at \$49.95 per person plus tip. Cocktails at 6 PM, dinner at 7 PM. Jack discussed the proposed menu.

### New Business:

- **Election of officers:**
  - The slate of nominations was published in the November newsletter:
    - **President: Jack Chastain**
    - **Vice President: Tim Denman**
    - **Recording Secretary: Jim Rockrohr**
    - **Treasurer: Eric Myers**
    - **Publicity: (open)**
    - **Newsletter: Rick Versace**
    - **Board of Directors: Willie Yee, Karl Loatman, Joe Macagne, Steve Carey**
  - There being no additional nominations from the floor, a motion was made and seconded to elect these nominees as officers for 2020. The motion passed unanimously with 14 paid members present.

### Upcoming Events

- **Next Club Star Party:** January 24, 7:00 PM. Be sure to RSVP with license plate number, make and model of your car by the Thursday evening before the star party, even if there is only a remote chance that you will attend on Friday evening or Saturday, if postponed due to weather. It's better to have too many people on the list rather than someone who isn't registered.

### Observing Reports:

- Betelgeuse has been acting strangely.
- Recent Space X test online.
- On 1/22 see Venus with Neptune only 10' to the west of it.

### Visitors/New Members:

There were about 15 people in attendance at the end of the business meeting.

The business meeting was adjourned at about 8:10 PM. **The next meeting is February 18<sup>th</sup>, 2020, in the Science Hall Auditorium, SH181, at SUNY, New Paltz.**

The presentations that followed were by various members:

- Eric Myers gave updates on the Peppercorn Solar System display used on the Walkway Over the Hudson and other venues.
- Scott Ewart gave a discussion of scaled densities and the gravity interactions of a bowling ball and a peppercorn.
- Karl Loatman discussed the differences in calendars in use in 1680 (Julian vs. Gregorian) and how it affects research in archeoastronomy.
- Willie Yee gave some "entanglement related" magic tricks.

Submitted by James Rockrohr, February 15<sup>th</sup>, 2020.



This article is distributed by NASA Night Sky Network

## Betelgeuse and the Crab Nebula: Stellar Death and Rebirth

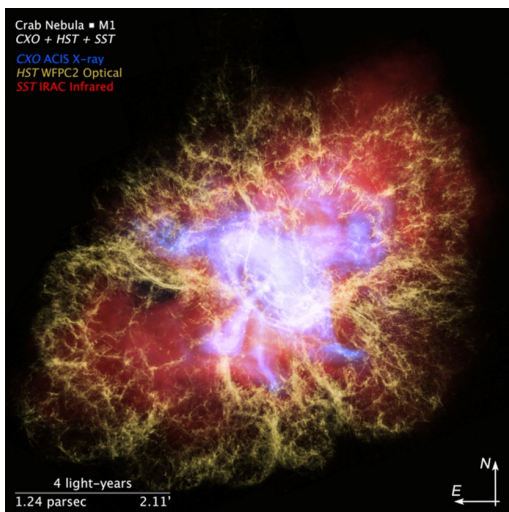
David Prosper

What happens when a star dies? Stargazers are paying close attention to the red giant star **Betelgeuse** since it recently dimmed in brightness, causing speculation that it may soon end in a brilliant supernova. While it likely won't explode quite yet, we can preview its fate by observing the nearby **Crab Nebula**.

**Betelgeuse**, despite its recent dimming, is still easy to find as the red-hued shoulder star of Orion. A known variable star, Betelgeuse usually competes for the position of the brightest star in Orion with brilliant blue-white Rigel, but recently its brightness has faded to below that of nearby Aldebaran, in Taurus. Betelgeuse is a young star, estimated to be a few million years old, but due to its giant size it leads a fast and furious life. This massive star, known as a supergiant, exhausted the hydrogen fuel in its core and began to fuse helium instead, which caused the outer layers of the star to cool and swell dramatically in size. Betelgeuse is one of the only stars for which we have any kind of detailed surface observations due to its huge size – somewhere between the diameter of the orbits of Mars and Jupiter - and relatively close distance of about 642 light-years. Betelgeuse is also a “runaway star,” with its remarkable speed possibly triggered by merging with a smaller companion star. If that is the case, Betelgeuse may actually have millions of years left! So, Betelgeuse may not explode soon after all; or it might explode tomorrow! We have much more to learn about this intriguing star.



The **Crab Nebula (M1)** is relatively close to Betelgeuse in the sky, in the nearby constellation of Taurus. Its ghostly, spidery gas clouds result from a massive explosion; a supernova observed by astronomers in 1054! A backyard telescope allows you to see some details, but only advanced telescopes reveal the rapidly spinning neutron star found in its center: the last stellar remnant from that cataclysmic



*This image of the Crab Nebula combines X-ray observations from Chandra, optical observations from Hubble, and infrared observations from Spitzer to reveal intricate detail. Notice how the violent energy radiates out from the rapidly spinning neutron star in the center of the nebula (also known as a pulsar) and heats up the surrounding gas. More about this incredible “pulsar wind nebula” can be found at [bit.ly/Crab3D](http://bit.ly/Crab3D) Credit: NASA, ESA, F. Summers, J. Olmsted, L. Hustak, J.*

event. These gas clouds were created during the giant star's violent demise and expand ever outward to enrich the universe with

heavy elements like silicon, iron, and nickel. These element-rich clouds are

like a cosmic fertilizer, making rocky planets like our own Earth possible. Supernova also send out powerful shock waves that help trigger star formation. In fact, if it wasn't for a long-ago supernova, our solar system - along with all of us - wouldn't exist! You can learn much more about the Crab Nebula and its neutron star in a new video from NASA's Universe of Learning, created from observations by the Great Observatories of Hubble, Chandra, and Spitzer:

[bit.ly/CrabNebulaVisual](http://bit.ly/CrabNebulaVisual)

Our last three articles covered the life cycle of stars from observing two neighboring constellations: Orion and Taurus! Our stargazing took us to the "baby stars" found in the stellar nursery of the Orion Nebula, onwards to the teenage stars of the Pleiades and young adult stars of the Hyades, and ended with dying Betelgeuse and the stellar corpse of the Crab Nebula. Want to know more about the life cycle of stars? Explore stellar evolution with "The Lives of Stars" activity and handout: [bit.ly/starlifeanddeath](http://bit.ly/starlifeanddeath).

Check out NASA's most up to date observations of supernova and their remains at [nasa.gov](http://nasa.gov)

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## 2020 Star Party Schedule

|              |         |
|--------------|---------|
| January 24   | 5:00 PM |
| February 21  | 5:30 PM |
| March 27     | 7:00 PM |
| April 24     | 7:30 PM |
| May 22       | 8:00 PM |
| June 19      | 8:30 PM |
| July 20      | 8:30 PM |
| August 21    | 7:30 PM |
| September 18 | 7:00 PM |
| October 16   | 6:00 PM |
| November 13  | 4:30 PM |
| December 11  | 4:30 PM |

## 2021

|            |         |
|------------|---------|
| January 15 | 4:30 PM |
|------------|---------|

## 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.

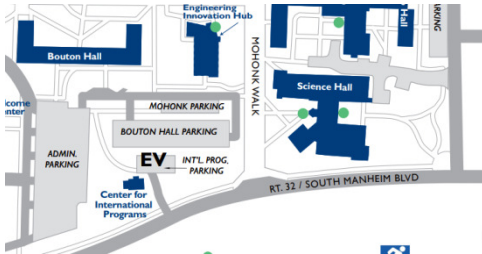
Star Parties at Lake Taghkanic are held in the West Parking lot, next to the beach. The skies are darker than in Wilcox, with less stray light to deal with. The horizon is also much lower, especially to the south and east, making many more targets possible.

**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 the Science Hall Bldg., SUNY New Paltz (directions below) at 7:30 PM. All indoor events are FREE! All are welcome. The presentations are generally geared towards teenagers and up.
- ♦ 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.
- ♦ 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).



The Meeting will be in the Science Hall, SH181 (The square at the South entrance area in the image). The building is at the corner of Rt 32 and Plattekill Ave. Parking is available on the road or possibly in the large Admin parking lot. The Bouton Hall and Mohonk parking are not necessarily recommended, particularly when college is in session. Parking is available on the street as well, and there are a couple spaces on the North West parking on the road - MAKE SURE they are unmarked places though!