

# THE MERIDIAN

Newsletter of the  
Quad Cities  
Astronomical Society

[www.qcas.org](http://www.qcas.org)



**APRIL 2018**

**QCAS Mission Statement:**

To stimulate an interest in the science of astronomy in the Quad Cities Area, to nurture an ongoing desire by Quad Cities Astronomical Society members to study the cosmos and to provide members of our community opportunities to experience the beauty and joy of Astronomy.



## Presidents Greeting:

Greetings fellow AA's!

March is a huge month for us as we had the Pleasant Valley High School Astronomy Club visit Menke Observatory on March 2<sup>nd</sup>, the Naturalist's visiting Jens-Wendt Observatory on the 14<sup>th</sup>, the Messier Marathon from the 16<sup>th</sup> through the 18<sup>th</sup> at Menke Observatory, and a Nebulae viewing get together back at Jens-Wendt on the 24<sup>th</sup>... Great fun ahead!

April is our joint Astronomy Day Celebration at Bettendorf High School. We'll meet up there just after lunch time and set up as many solar rigs as we can muster, and have a few scopes and maybe a few displays inside while folks wait for the Planetarium shows to begin. Afterwards we'll head out to Jens-Wendt Observatory again for some viewing. Then we get a breather for a few months.

August 12<sup>th</sup> is our Meteor Shower Party where we partner with Pleasant Valley High School to watch the spectacle... this year it may be held at the Jr. High as it may be a bit darker and we can control headlights coming and going. A special thanx to Ian for handling this!

And for the finale'... the last blast of the year... the September 7<sup>th</sup> – 9<sup>th</sup> Eastern Iowa Star Party! As we've talked about over the past few months, the 2018 EISP will be one for the books. Three heavy hitting speakers all in attendance on Saturday afternoon... Dr. Paul Sipiera, Dr. Jennifer Anderson, and David (Doveed) Levy!

Yep, there is a fee this year, but for such a spectacular line up, and in the intimate setting of the Wapsi River Environmental and Educational Center, what a bargain! \$50.00 for the full event... star party, door prizes and great guest speakers... of course we have 3 other options... \$35.00 just for the afternoon of speakers, and \$25.00 for just the 3 day event (no speakers or door prizes), so let me know ASAP what your plans are and I'll count that as a pre-registration, otherwise registration forms will be out soon! Oh... the 4<sup>th</sup> option? Stay at home and watch the tube! This would be the most expensive option because of all that you'd be missing out on!

Clear Skies!

Jeff



## Last Society Meeting Minutes:

### **Date/Time Location**

6:30 PM on Monday March 19<sup>th</sup>, 2018  
105 McCarthy, St. Ambrose University, Davenport, IA

### **Attendance** (15 in attendance)

Jeff Struve, Ian Spangenberg, Craig Cox, George Bailey, Robert Mitchell, Don Robinson, Ken Boquist, Mike Ombrello, Alan Sheidler, Paul Lavensque, Dana Taylor, Matt Neilssen, John Baker, Steve, VanHyfte, and Christian Allen

### **Presentations**

New Gear (and for sale)

- None at this time

### **Member Outings**

- March 2<sup>nd</sup> – Ian Spangenberg and the Pleasant Valley High School Astronomy Club visit to the St. Ambrose Menke Observatory. – 37 students in attendance.

Ian and I (Jeff) were able to arrange for a field trip for his Pleasant Valley High School astronomy club to visit Menke Observatory on the night of Friday, March 2nd.

Craig Cox, Mike Ombrello and I arrived early to make sure things were set up... Mike worked on his automated Losmandy/127mm Explore Scientific AP rig... Craig on his 16" Explore Scientific Dob, and I rolled the roof off of the roll off building and uncovered those scopes, unpacked and set up to computer control the 14" Edge SCT in the dome.

Just at sunset I decided to see if I could perform a multi star alignment even though stars were not yet visible by eye... and yep... I was able to slew to the 6 I chose for alignment.

Shortly after that alignment... about 6:30 PM, Ian showed up with about 30 students... and the fun began!

Mike was stuck a bit with the confounded software update syndrome, but was able to demonstrate gear needed and complexities of quality astrophotography... and of course some of the pit falls.

Craig demonstrated star hopping and how to use star maps and the Telrad. As clouds started to roll in, he was still able to provide students with spectacular views of a half dozen objects or so.

Inside the dome, I explained the differences in Alt/Az and EQ mounts and the benefits of each. We talked about why we do polar aligning, that Polaris was not the celestial center, and a bit about the earth's wobble/precession... We also talked about computer control, how it worked, why use a joy stick with the software, the pitfalls of high magnification of objects and atmospheric impacts, filtering... both visual and for AP, how and why color and monochrome camera sensors worked, Bayer matrix, how far away objects such as the Orion Nebulae was... what a light year was... Spectroscopy, how that worked and why it was used, how old the light from objects was... moving toward and away from that light, aka time travel... exoplanet and the belief in aliens...

The tons and tons of questions were only exceeding by the amount of fun we had... thanks to Ian for setting up this opportunity for us!

- March 3<sup>rd</sup> – PAC at Castle Observatory- Alan and Ken
  - Pictures below
  - Alan worked with the setting circles on the scope in the Castle Observatory
- March 10<sup>th</sup> – PAC attended the WQPT Fundraiser @ 500 People – Western IL

- March 14<sup>th</sup> – IA Association of Naturalists Statewide Workshop at Sherman Park...

**QCAS puts on show for Iowa naturalists**

*By Paul Levesque*

Naturalists from around the state of Iowa gathered at Sherman Park on the evening of March 14 to see what the Quad Cities Astronomical Society – and the night sky – had to offer.

The naturalists, about 20 in all, had come to Clinton County for a workshop put on by the Iowa Association of Naturalists. Following a late afternoon hike and a delicious soup, chili and bread supper at the home of Sherman Park ranger Mark Roberts – host of the event – the naturalists strolled to the observatory for some viewing.

QCAS was represented at the event by myself, Jeff Struve, Craig Cox and Mike Dannenfeldt. Weather conditions were near-perfect – clear, outside of a few high thin clouds, with tolerable temperatures and no wind to speak of.

More and more stars came into view as the sun set and the sky darkened. The objects viewed included M81 and M82, the Orion nebula, the “Leo triplet” galaxies, some globular clusters, and some double stars.

The naturalists oohed and aahed, asked good questions, and seemed impressed by our equipment and our knowledge. Thanks again to Mark Roberts for inviting QCAS and for allowing this opportunity for a first-class outreach event.

- PAC – Will have their Niabi Public outing on 3/17
- March 16 - 18 – The Menke Observatory Messier Marathon

Wow.... it turned out to be an extremely short, quick, but nice night tonight! Got a bit chilly, but the warmth of the classroom and coffee helped out a lot...

Most of the folks left around 11 PM... the time we said we'd go to... if the timing were better, all may have considered staying longer... but even battling a lite frost, we did have a good night.

From the QCAS we had Ken Boquist, Byron Davis, Don Robinson, and Greg Weinberg, from the CAA we had Doug Slauson and Frank Olson, Jay Cunningham and 3 of his friends also attended as guests.

Ken and Don brought their dobs 15.5" and 6" respectively, Ken also set up his 9.25" SCT, Greg broke out his incredible night vision rig, Byron had his 152mm refractor, and Doug and Frank used my 127mm triplet as Frank is considering purchasing one... Jay and friends wandered around checking out what others were viewing and spent a bit of time with me in the dome with the 14" SCT...

Ken and I hung out until about 12:30... the sky was spectacular!

And so we wrap up the truncated version of the 2108 QCAS Messier Marathon!

#### Announcements

- March 24<sup>th</sup> – Nebulae Viewing at Jens-Wendt Observatory... Matt Neilssen will lead the event... please support his efforts! Thanx Matt!
- April 21<sup>st</sup> – Astronomy Day at Bettendorf High School and then Jens-Wendt
- Alan about NCRAL  
PAC will be hosting the NCRAL annual meeting at Stony Creek Convention Center, May 3-4, 2019  
Theme: Astronomical Voyages of Discovery, Past, Present, and Future

#### Main Presentation

The March Society Meeting Presentation, Orbital Mechanics, was presented by Ian Spangenberg. Quite a nice presentation with a lot of member participation and discussion... it was great to break out paper, pencil, and a calculator to do a little hard astronomy! Thanx Ian!

### Additional Demo

Dana Taylor shows a 3-D printed sundial that shows a dot-matrix time in its shadow

Powerful magnet falling through copper tube induces eddy currents that induce secondary magnetic fields that oppose the field of the falling magnet and slow its fall (Lenz' Law)

### Treasurers Report

- Pleasant Valley High School donated \$77.00 for our March 2<sup>nd</sup> Menke Observatory program.
- Our balance - \$5163.41 - \$450.00 EISP
- We still need to do a complete inventory.
- Check with your employer for grants and fund matching.
- Don't forget membership dues! \$20 per individual and \$10 per each family member! – Deadline is March 31<sup>st</sup>.

### Review of Minutes

The February Minutes as per the March Meridian were approved.

### Old Business

- The doors at McCarthy Hall are kept locked when school is not in session. These dates are as follows: January 15, May 21, June 18, July 16, and December 17... On those meeting dates, the doors will be open from 6:30 PM and locked again at 7:15 PM. If you are running late, and need access after 7:15, text Jeff at 309-737-0206 and he'll send someone to let you in. We hold a brief social/Open Discussion time from 6:30 until the meeting starts at 7:00 PM.
- April 21<sup>st</sup> – Astronomy Day at Bettendorf High School and that evening at Jens-Wendt Observatory...
- August 11<sup>th</sup> – Meteor Shower Party at Pleasant Valley High School or Jr. High School...
- September 7 – 9, 2018 is the EISP... speakers are shaping up!
  - Dr. Paul Sipiera, author and Planetary Studies Foundation President and CEO, who will speak on space rocks, and will bring in part of his extremely large collection for us to view.



- Dr. Jenifer Anderson, Professor of Geoscience, Winona St. University, who is expert in impact craters. I believe that she has done work for NASA, and she was one of the guest speakers at last year's North Central Regions Astronomical League event.



- David Levy... yep... in person! We are still in the planning stage, but it looks pretty good. This will still need a few pre-registration reply's before we can commit... so if you haven't please email Jeff Struve at [PwrHsePro@aol.com](mailto:PwrHsePro@aol.com)



- ES donated a 102mm Carbon Fiber Triplet. Jeff will bring the scope to the Monday, March 19<sup>th</sup> meeting to open the box.

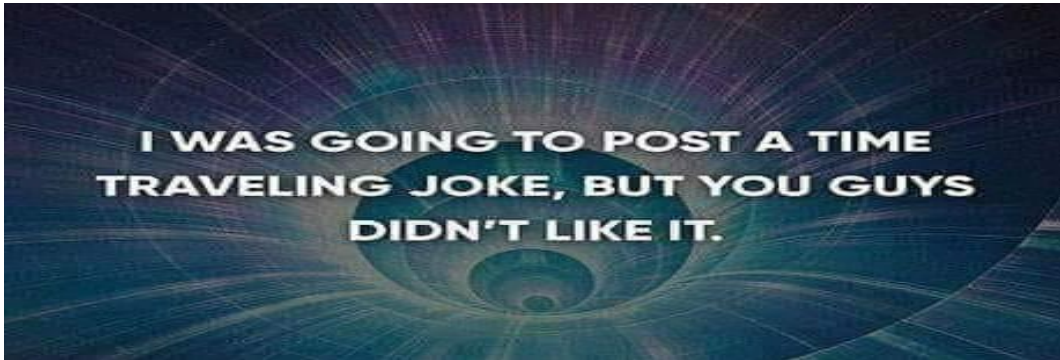


- Registration Fee
  - \$25 for the party only, \$35 for speakers only, \$50 for party, raffle, and speakers. \$10 per raffle ticket.
  - Munchies by donation
  - Please email Jeff as above or check in to QCAS Facebook page to mark your interest!
- Steve VanHyfte - 20" Newtonian:
  - Drive cover replacement – Will work on when weather permits
  - Reposition focuser flip mirror to align properly
  - Primary mirror is binding – repair – needs 18 point support structure – QC CO Lab?
  - Adjust the altitude for proper polar aligning
- Matt Neilssen - the new web site: Needs pics and info to post
- Future Society meeting presentations requested:
  - George Bailey asked for:
    - Measure double stars – position, angle, separation
    - Measuring variable stars – magnitude
  - Ken Boquist asked for:
    - Local weather forecasting for astronomical viewing
  - Ian Spangenberg asked for:
    - Black Holes
- We still will be setting up a time to collimate our SCT's
- We discussed the continuing endeavor to relocate the Jens Wendt Observatory to the Menke Observatory site. We feel that a 24' X 32' structure will meet our needs in housing the 20" and 16" Newt's as well as additional pads/piers for member use.



## New Business

- Future Presentations:
  - Future Meeting – Weather Forecasting by Christen Allen
  - Future Meeting – RSpec by Jeff Struve
  - Future Meeting – Nebulae Presentation for the public – Jeff Struve
  - Future Meeting – Carl Wenning on the Astronomical League
  - Future Meeting – Alan Sheidler has a number of presentations that he had previously used for other activities
  - Steve VanHyfte – Talk on LA, Observatory, Crater, Dark Skies....



## Next Society Meeting:

### Date/Time Location

6:30 PM on Monday, April 16<sup>th</sup>, 2018

105 McCarthy Hall, St. Ambrose University, Davenport IA

### April Presentation

The April presentation will be announced at a later date... sorry!

Presentations for future meetings include Steve VanHyfte on Crater Observatory, Christian Allen on weather forecasting the QCA, Jeff Struve on the RSpec Spectroscopy software and a presentation on Nebulae geared for public outreach, Carl Wenning on the Astronomical League, and Alan Sheidler on topics to be agreed upon. Contact Jim Rutenbeck or Jeff Struve if you'd like to make a presentation.

## Other Business

- April, Sat 21 – Astronomy Day w/evening Public Night – BHS
- 2018 EISP
- 20" Newt Refurb
- Observatory Relocation
- New Web Site



*"I hate it when the clocks go forward"*

## Last Board Meeting Minutes:

### **Date/Time Location**

Monday, March 5<sup>th</sup>, 2018

6:30 PM to 8:30 PM

Village Inn – Elmore, Davenport

### **Attendance**

Jeff Struve – Present

Craig Cox – Present

Robert Mitchell – Present

Matt Neilssen – Matt

Dana Taylor – Absent

Jim Rutenbeck – Absent

### GUESTS

### Agenda

- 2018 Calendar
  - March 14<sup>th</sup> – IA Association of Naturalists Statewide Workshop at Sherman Park...
    - Jeff and Craig will attend and Craig will talk to Mike O and Mike D
  - March 16 - 18 – The Menke Observatory Messier Marathon
    - Invite EISP Clubs – Munchies by donation
  - March 24<sup>th</sup> Public Open House - Jeff and Craig will be out of town
    - Matt will run... will still do a Nebulae program... the program will be roughly 6:30 PM – 8:30 PM for any public attending then club outing afterwards.
    - Advertise to QC Astronomy, QCAS, and PAC on Facebook
  - April, Sat 21 – Astronomy Day w/evening Public Night – BHS
    - Robert and Jeff inside displays
    - Matt and Craig solar scopes
    - BHS will open planetarium
    - Robert Matt Craig Jeff to Sherman
    - Invite QC Astronomy, QCAS, and PAC
  - August, Sat 11 – Meteor Shower Party w/Constellations and Mars – PVHS
    - May hold the event at the Jr. High... better location
    - PA, Screen
    - Bring lawn chairs and enjoy
    - Invite QC Astronomy, QCAS, and PAC
  - September 7-9 EISP
    - Dr. Paul Sipiera
    - Dr. Jennifer Anderson
    - David Levy
    - Door Prizes – Jim Rutenbeck
    - Charge \$25 for star party only, \$35 for speakers only, \$50 for star party, speakers, and raffle
      - Maybe SAU subsidizes?
    - The board voted on David Levy as attending as guest speaker as follows:
      - Jeff Struve – Yes
      - Craig Cox – Yes
      - Robert Mitchell –Yes
      - Matt Neilssen – Yes

- Public Nights
  - Lights Off Signs and Parking Area Signs
    - Craig will investigate
  - Canned Presentations
    - Jeff has the following presentations completed
      - Binary Star Systems
      - The Moon
    - Jeff has the following presentations in progress
      - Nebulae
      - Intro to Imaging
      - Asteroids, Comets, and Meteors
- Administrative
  - Main agenda topics for 2018
    - New Website
    - Moving Jens Wendt Observatory to the Menke site
  - Treasurer Report
    - PVHS donated \$77.00 for the March 2<sup>nd</sup> event
    - Membership dues not received by March 31<sup>st</sup> result in membership lapse
    - We need to do a complete inventory of items owned
    - Balance \$4753.63 before new deposits
  - Trifolds
    - Jeff to try to have draft ready for the April Board meeting
  - Membership Registration/Renewal Forms
    - Jeff to try to have ready for April Board Meeting
  - Membership Cards
    - Use current until they run out
- Jens Wendt Observatory Relocation to the Menke site
  - Roll off Roof Building – 24' X 32'
  - Piers for 16" and 20" Newtonians and room for tripod mounted scopes
  - Poured floor – Expansion joints to eliminate vibrations
  - Roll off Roof building to be frame, Dome Building to be concrete block for aesthetically matching the current structures – have a warm room for PC remote control?
  - 6' walls with an additional 18" wall built onto roof for head room when roof is closed
  - Additional electrical capacity
  - Additional pads w/electricity outside
  - Make sure Wi-Fi band width is sufficient
  - Dr. Mitchell will check for the Menke Roll Off Building plans and see if their Engineering Class will take on drawing prints and materials list for our building.
- Revamp 20" (Steve VanHyfte) – Mirror cell revamp to 18 point (we are 9 point), Mirror edge support, Flip mirror, Replace the drive cover – Tentative completion date, July 14<sup>th</sup> Public Open
  - Add a refractor?
  - Focusers not aligned properly
  - Inferior focusers may be adding the flexure
  - TT John Baker about 18pt floatation system...
  - Drive Cover Box – has template ready
  - 20" is 99" long and horizontally 5.5' high



- Web Site
  - Will contain Treasurer Info (Board Member Access), Minutes, Applications, Links, Other
  - Approved budget of up to \$2500.00 for web site less picture gallery
- Other
  - Astronomical League
    - \$10 for club
    - Minimum of 5 members
    - \$7.50 per member unless all join then \$5.00 per member
  - Flipcause fundraising

**Next Board Meeting:**

**Date/Time Location**

Unless otherwise noted, Board Meetings will be held on the 1<sup>st</sup> Monday of the month at 6:30 PM at the Village Inn Restaurant on Elmore and 53<sup>rd</sup> in Davenport, IA. Please notify Jeff Struve if you plan on attending so seating arrangements can be made. Ordering from the menu is Dutch treat.

**Agenda**

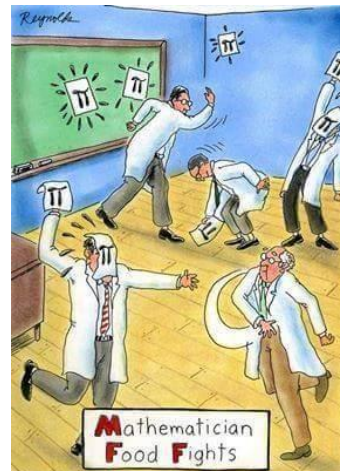
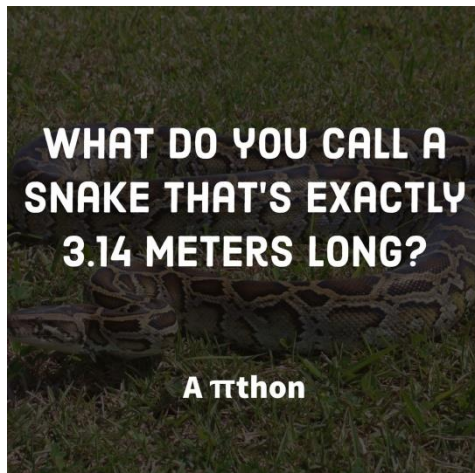
- Upcoming Events
- New documents
  - Trifold
  - Application Form
  - Membership Renewal Form
  - Membership Cards
- Observatory Relocation
- Discuss the new web site

**Other Business**

- Discuss work to be done on the 20"
- Discuss continued inventory
- Discuss selling our heavy fiberglass step ladder and replacing it with an aluminum ladder for use in the roll off roof building.

**Secondary Topics**

- Intro to Spectroscopy class
- PixInsight meetings/class



**Member Spotlight:**

Is our 20" Newtonian an Honorary Member?

**Sky and TELESCOPE**

*Citrusopolis Stars from Australia*

**In This Issue:**

- Vol. 53, No. 3
- MARCH, 1977
- \$1.00
- What's New on the Moon? — I
- A Summer Science Program
- Laboratory Exercises In Astronomy — Pulsars
- Diameters of Minor Planets
- Two Solar Eclipses in 1977
- Looking South from Sliding Spring
- NASA Plans for 1977



At left, president Mike Hay of the Peoria Astronomical Society shows how a subsizer tool was used in rough-grinding An Goshawk's 20-inch telescope mirror. Polishing is almost complete above, where the 11-inch tool has been lifted to show the medium-hard push lap. Swirls of cerium oxide polishing agent cover the mirror blank's 314 square inches of surface.

**AN EASILY TRANSPORTED 20-INCH TELESCOPE**

AFTER 13 YEARS of building and using telescopes from four to 12½ inches in aperture, I decided to undertake a 20-inch reflector. The result, completed with the help of about 40 members of the Peoria Astronomical Society and other friends, is a unique instrument for our part of the country. Not only is it semi-portable, but we believe it to be the largest Newtonian reflector in the state of Illinois.

With a focal length of 100 inches (f/5), this telescope is ideal for observing deep-sky objects. Even at high magnification, diffuse nebulae appear bright. Virtually anything plotted on available atlases, listed in the Skalnate Pleso Atlas Catalogue, or having an NGC number may be seen. When taken to a star party, the 20-inch is admired by both beginning and veteran observers.

During grinding, the 75-pound Peoria mirror blank from Coulter Optical Co. was supported on a 55-gallon steel drum in my basement. An 11-inch tool, faced with ceramic tiles, was used to generate the ¼" deep curve. About 60 hours of rough grinding during which the size had to be replaced twice, were followed by 25 hours with progressively finer grits.

Polishing, like grinding, was done with the mirror face up. The 11-inch tool

**OBSERVATORY CASSEGRAIN MODELS BY STAR-LINER COMPANY**

Cassegrain Telescopes from 8" to 16"  
Newtonian Reflectors from 6" to 16"  
For Amateur or Professional

"Quality Is Our Most Important Feature"  
25 Years Experience

1. Massive Equatorial Mountings with precision ball bearings.
2. Precision Polar Axis arrangement for adjusting to all latitudes, also 360° azimuth movement.
3. Synchronous sideral motors on polar axis with clutch-design drives. Frequency control with precise adjustments.
4. Declination slow-motion controls electrically operated by console box.
5. Slowing motors with variable-speed controls on both polar and declination axes.
6. Console control box to operate all electrical features.
7. Optical axes from 1/20 wave. Flatness mirror and design.
8. All finders and guide scopes with illuminated cross hairs, rhodanite reticulated.
9. Lighted aluminum viewing circles.

**OPTICS BY STAR-LINER**  
Complete Cassegrain optical system (primary and secondary mirror ground on spherics). Size range from 8" to 40" diameter. Corrections up to 1/20 wave or better.

SEND NO CHECKS FOR COMPLETE SPECIFICATION SHEETS ON OUR OBSERVATORY MODELS.

**STAR-LINER Company** 1196 South Columbus Blvd.  
Tucson, Arizona 85711  
Phone: 602-798-2861

224 SKY AND TELESCOPE, March, 1977

The oak mounting base is very sturdy, but easily disassembled. Note the manner in which the cylindrical diagonal mirror is set in a crutch formed by two spider arms.

The author operates the eyepiece focuser, and can easily reach the telescope's flashlight finder. A stepladder is needed when the tube points higher in the sky than it does here.

...back for a lap of medium-soft pitch. With cerium oxide as the polishing agent, 20 hours were expended bringing the surface to a smooth, pit-free system. Then a soft 4¼" lap was used to deepen the mirror's center to a minimum. During this 20-hour operation, the mirror was frequently placed on a stand and examined with a five-zone test and Foucault tester. We analyzed the half-edge readings by the method in U.S. Howard's *Standard Handbook for Mirror Making* and worked until the error was good to ¼ of ¼ wave.

The finished mirror was taken to Clausen & Blake, Illinois, to receive a Beral coating. It was mounted in a nine-point flotation cell of my own design (see the photograph on page 226). The cell has six leather-covered hooks that support the mirror "floating" in a tank of water. Each of the three groups of hooks that equal areas of the mirror, hence equal portions of its weight, are supported. This minimizes the distortion of the figure by gravity. The mirror is accurately maintained by a constant flow of electrical current, epoxied where the trunnions are attached. The mirror cell at the lower end is attached at the upper end, has a further support effect.

The spider consists of three vanes of galvanized sheet steel. Where they join, a copper tube holding the elliptical diagonal mirror is bolted. The spider vanes are of unequal length and offset the diagonal about ¼" beyond the optical axis of the main tube, as measured from the eyepiece. This small displacement, explained in the telescope making books, permits better interception of the converging cone of light from the primary mirror.

A desire for portability influenced the choice of mounting. After sketching various designs, I chose a detachable fork, easily separated, the telescope, fork, and base weigh 100, 40, and 50 pounds, respectively.

The fork and base are of oak planking. The declination trunnions turn in holes

**Telescope Drives**

of Professional Quality  
Precision machined drives, custom built for any focus ring and shaft. Complete units include:

- Adjustable Friction Clutch
- 1/8" Tooth Worm Gear
- 1/8" in. wt. Synchrotron Motor 115/220V, 50 & 60 Hz.
- Anti Backlash Device
- Hand operation shaft and housing, diameter, with anti-chatter. New Address: Schmidt & Associates, Dept. 2, Box 246, Woodstock, Ohio, 43086

**DayStar™ Filters**

- Hydrogen-Alpha, Calcium K-line, Corona, Laser-line, and Custom filters
- High bandwidths: 0.4 to 100 angstroms
- Wavelengths: 3700 angstroms through 2.5 microns

Del N. Woods  
P.O. Box 1290  
Pomona, Calif. 91766  
Phone: 714-629-0600  
N. Y. Area: 914-780-3738

March, 1977, SKY AND TELESCOPE 225

**BERAL COATINGS**

The ideal coating for front surface precision mirrors.

Prices for Beral coating telescope mirrors:

- 3" to 5" — \$10.00, 6" — \$10.00, 8" — \$12.00, 10" — \$14.00, 12½" — \$18.00

Prices for sizes up to 30" diameter on request! Diagonal 2" mirror axis or smaller, when sent with mirror — \$3.00. Add postage and insurance for return mail.

**50 YEARS OF SERVICE 1927**  
**DUDLEY LEROY CLAUSING**  
8118 Monticello Ave. Skokie, Ill. 60076  
Phone: (312) 801-3099

**STELLAR PHOTOMETER**

DDM Enterprises offers the first all-solid-state photometer designed for photometric astronomy. The Model PLS consists of a lightweight hemispheric coupler with illuminated reticle, tip mirror, and sensitive silicon detector. Main unit with illuminated 7½ inch meter and simplified controls offers measurement down to 1000 magnitude with an 8 inch telescope. Boasting a wide spectral response from blue to infrared, and 100 msec. response time and indestructible detector element, the Model PLS has many advantages over photometers using photomultiplier tubes. Priced at \$695.00.

**SOLAR SYSTEM CAMERA**

The Model PLS is the finest camera available for high magnification planetary, lunar, and solar photography. Featuring simultaneous viewing during exposure, highly reticulated shutter, and accurate aerial focusing, the PLS is the unsurpassing choice for the discriminating astronomer. \$300.00

**OBSERVATORY DRIVES**

Primarily intended for observatory use, the Model OD-1 series of drive controllers incorporate the latest advances in electronic circuitry and the finest components to make available to both amateurs and professionals the best in electronic telescope drive controllers. A temperature coefficient of only 10 ppm/°C, 25 watts of output power, and outstanding tracking accuracy are just a few of the outstanding features of these controllers. Prices start at \$25.00.

Send \$5.00 (US funds) for new 1977 catalog.

**DDM ENTERPRISES**  
1912 W. 12 Mile Road  
Royal Oak, Mich. 48073  
213-542-2336

The 20-inch reflector set up for observing. It is expected that this instrument will eventually be remounted in the large dome, which at present houses a 12½-inch telescope. All photographs are from the author.

board in the fork arms, the end of each being split so that friction may be applied with a thumb screw. The polar axis is a length of 5' tubing that turns in ball and tapered-roller bearings. A leather-lined brake band provides adjustable drag in hour angle.

When the telescope was finished and mounted, it still required some sort of finder. Years ago, observing sessions taught me that star-hopping to a deep-sky object, using a conventional finder scope, can be frustrating and time-consuming. Yet in a constellation study class, constant use was being made of a powerful flashlight to indicate stars and such naked-eye Messier objects as the Andromeda nebula and Beehive cluster.

As the beam pierced the night sky like a giant pointer, a thought crossed my mind: Why not mount a flashlight on a telescope and let the beam guide me to the exact location of a faint telescope object? After several experiments, the setup worked like a charm. It proved quite easy, with the aid of a chart or atlas, to aim the telescope at an unseen object by watching the beam's end point among the stars.

The finder on the 20-inch is a six-cell flashlight, with a PR-18 bulb and paraboloidal reflector that gives it a pencil beam. First, a 12" long tube, 2" across and painted flat black inside, was bolted to the telescope through curved wooden blocks. A metal ring, just fitting the end of this tube, was epoxied to the flashlight's front end. The rear of the flashlight is gripped in a conventional ring mount, which permits accurate alignment.

By now, most members of the Peoria Astronomical Society and other amateur astronomers in this area have replaced their finderscopes with flashlights.

ART GEHRMANN  
Peoria, Ill. 61603

226 SKY AND TELESCOPE, March, 1977

## Submitted Articles:

### **THE WILTON OBSERVATORY PROJECT**

*By Grant Harkness*

“From Where Will Our Next Explorers Emerge?”

The Wilton Observatory Project represents a new dawn in K-12 education and will stand as a benchmark in educational excellence both locally and abroad. Your contribution will help to bring about a bright new future for the whole of humanity.

#### PROJECT MISSION

The overall mission of the Wilton Observatory Project is to expand upon the already robust offerings and technological capabilities of the Wilton Community School by providing an inspirational and educational arsenal of astronomy technology. This technology will be adapted and integrated to supplement and support existing STEM programs and curriculum as well as create stand-alone educational avenues. "Every Child Benefits, Every Child Is Inspired" is a core tenant of the project and will be crucial in answering the question of "From where will our next explorers emerge?"

#### PROJECT FUNDING

The Wilton Observatory Project will seek funding through campaigns targeting social media, PTO engagement, corporate and private partnerships along with philanthropic organizations. All proposed costs are expected to be covered by fundraising and the project is not seeking construction and instrumentation funding from the School Board. The project also seeks to cover ongoing operational expenses via a fund set up with money not spent after all initial costs are covered. The project seeks only the land needed for the building phase. Reoccurring electrical, gas, and building maintenance costs will be incurred by the school district, as with any school facility. These costs, as previously stated, will be supplemented by the profits of the observatory investment fund.

#### OBSERVATORY LOCATION

The proposed location of the observatory will be on the grounds of The Wilton Community School, East of the maintenance building and football field, near the Southern border of the property. This location provides easy access to electrical and gas services, as well as high-speed data. This location also provides the students with a modest walk, reducing travel times seen with more remote locations along the Northeast portion of the property. The Observatory Command Center, housing the control and data acquisition computers and main instructional space, will be located within the AG Building, utilizing a remodeled space formerly used as a computer lab.

#### OBSERVATORY DESIGN

This project utilizes a unique, cost-effective and environmentally conscious approach to development. The main observatory that houses the primary telescope, a 12" Meade LX600ACF, along with the instrumentation will have a roll-off roof with a centrally located and seismically isolated pier. Local control and observation will be available within this building through the use of a small-scale control center, featuring full system operability across all modules and applications. Temperature will be maintained within a few degrees of ambient outside air temperature and the space will feature a dehumidifier.

This approach reduces heating and cooling costs and impact, as well as increases the quality of the observatory user experience through reduced temperature differences. Interior lighting will have both white and red options for normal and night vision operations.

The Observatory Command Center will be developed within an existing building on the grounds of the Wilton Community School. The former ICN Room in the AG Building will be remodeled to meet the needs of the project. The resulting space will feature a Command and Control Station where students and student groups will be able to guide the telescope, monitor target tracking, formulate target lists, monitor live feeds from international notification networks and monitor progress. Their activities will be featured on a large TV above their work station. At a separate location within the room will be a Data Acquisition Station where students and student groups will control the instrumentation packages attached to the telescope. Their work will be featured on a TV above their work station as well. Central to both stations will be a teacher's desk that will feature a computer capable of



controlling and monitoring all aspects of the observatory and can be utilized as a stand-alone command station during times when students are not engaged in Command and Control and Data Acquisition activities.

Data sets collected during the course of observatory operations will be cataloged and stored in cloud storage and will be accessible to other students, student groups and teachers. This aspect of storage for future utilization adds depth and purpose to the activities the students will be involved in. The Observatory Command Center will feature work stations loaded with processing and analysis software that will allow students the opportunity to collect incoming data and analyze it or compile it into sets for other uses. Functionally this provides four separate avenues of exploration within the same space, those being Command and Control, Data Acquisition, Data Processing and individual or teacher-led study.

Through the utilization of an existing space for our Observatory Command Center we will reduce our environmental impact for this project, see an underutilized room have new life breathed into it, meet all ADA requirements, provide restroom facilities to program users, as well as increase overall accessibility to all grade levels. This mixed approach to project development truly will be the best blend of old and new.



**The Wilton Observatory Project**  
INSPIRING THE WORLD'S NEXT GREAT EXPLORERS!

**Contact Us**  
[WiltonObservatoryProject@gmail.com](mailto:WiltonObservatoryProject@gmail.com)  
563-447-0151

**Social Media**  
[www.facebook.com/WiltonObservatoryProject](http://www.facebook.com/WiltonObservatoryProject)  
<https://twitter.com/wcsobservatory>

**Contribute**  
[www.PayPal.me/WiltonObservatory](http://www.PayPal.me/WiltonObservatory)

Wilton Observatory Project  
Wilton Community School  
1002 Cypress Street  
Wilton, IA 52778

## UChicago activities at Yerkes Observatory to end in 2018

March 7, 2018

The University of Chicago has announced plans to wind down its activities at Yerkes Observatory in Williams Bay, Wis., over the next six months and to formally cease on-site operations by Oct. 1, 2018.

The upcoming summer season will therefore be the final season of University activities at Yerkes. The University is announcing the plans well in advance in order to engage with Yerkes staff and nearby communities, including the village of Williams Bay, in considering long-term plans for the property.

Despite its important history, the Yerkes facility and its instrumentation no longer contribute directly to the research mission of the University of Chicago, which has made major investments in the Magellan and Giant Magellan telescopes in Chile. Yerkes has continued to make important contributions through its education and outreach programs, and that work, which remains important to the University, will now relocate to the Hyde Park campus.

“Science at Yerkes in the 20th century led to key discoveries and advances in the field of astronomy, when the observatory helped build the foundation for modern astrophysics,” said Edward (Rocky) Kolb, dean of the Division of the Physical Sciences and a professor in the Department of Astronomy & Astrophysics. “It is an important part of the history of the University, and we hope it will become, in some form, a valuable resource to the surrounding community and visitors to the Lake Geneva area.”

Since the observatory was established by the University in 1897, it has been the home of groundbreaking work by scientists such as George Ellery Hale, Edwin Hubble and Subrahmanyan Chandrasekhar. The facility was the home of UChicago’s Department of Astronomy and Astrophysics from the time it opened until it began relocating to Hyde Park in the 1960s. In recent decades, the University’s research in observational astronomy has shifted to using facilities located all over the globe and in space.

The University and staff at Yerkes will honor existing commitments for events at the facility scheduled before Oct. 1, and will accept new bookings on a case-by-case basis.

“Unfortunately, operating Yerkes no longer makes sense for the University from a programmatic or cost standpoint. Drawing to a close our operations there is the first step in a collaborative process to determine the ultimate disposition of the buildings and property,” said David Fithian, executive vice president of the University. “We currently have no specific plans nor have we approached any potential buyers.”

Derek Douglas, vice president for civic engagement and external affairs, will represent the University in discussing options with the leadership of Williams Bay and its residents starting this month.

<https://news.uchicago.edu/article/2018/03/07/uchicago-activities-yerkes-observatory-end-2018>



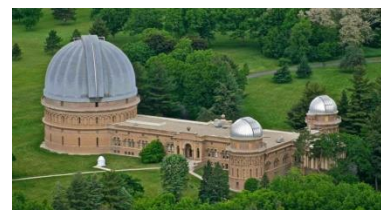
 StarLight Festival at Yerkes Observatory  
Public · Event · by StarLight Festival

 Interested  Share  More

2 Dates · May 26, 2018 - May 27, 2018

<b>MAY</b> 26 Sat 9:00 AM	<b>MAY</b> 27 Sun 9:00 AM
------------------------------	------------------------------

Yerkes Observatory - University of Chicago  
373 W Geneva St, Williams Bay, Wisconsin 53191



## An email from the NASA Night Sky Network

Quad Cities Astronomical Society

From asherwood asherwood@astrosociety.orghide details

To PwrHsePro PwrHsePro@aol.com

Hi club members,

We're reaching out from the NASA Night Sky Network, a coalition of more than 450 clubs across the US dedicated to astronomy outreach. We've been providing astronomy clubs with tools and resources from NASA and beyond for more than a dozen years and continue to innovate based on your needs.

We see your club is doing great outreach and we want to offer our services and support if you are interested.

The NASA Night Sky Network offers:

- Members-only webinars with NASA scientists

- Toolkits full of activities designed just for amateur astronomers

- Club Management tools for membership, email, event coordination, and more - all available online for centralized and ongoing collaborative use

- Automatic discounts on magazines that members update themselves

- Outreach award pins and other recognition prizes

- See all the events listed and get your club's events added.

As a bonus, clubs that sign up and post 10 upcoming events by the end of July receive an Eclipse Toolkit full of hundreds of solar viewing glasses and handouts to share with your club and community.

To find out more about the network and apply to become a member club, click here:

<https://nightsky.jpl.nasa.gov/about.cfm>

If you have any questions, feel free to contact us here:

[nightskyinfo@astrosociety.org](mailto:nightskyinfo@astrosociety.org)

Clear skies, Andee Sherwood, Night Sky Network

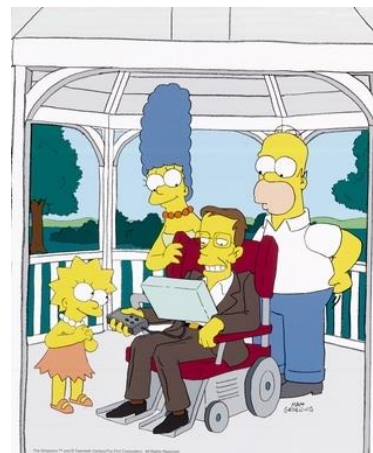




Stephen Hawking (01/08/42 – 03/14/18) – A pictorial memorial



“Not only does God play dice, but... he sometimes throws them where they cannot be seen.”



“Life would be tragic if it weren't funny.”





“My goal is simple. It is a complete understanding of the universe, why it is as it is and why it exists at all.”



“We are just an advanced breed of monkeys on a minor planet of a very average star. But we can understand the Universe. That makes us something very special.”

**Gallery**

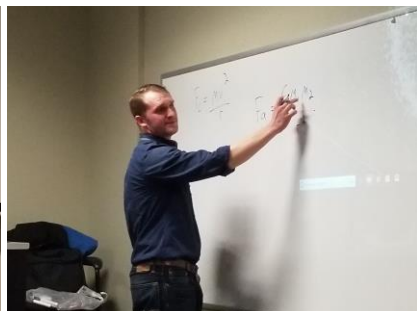
March 2<sup>nd</sup> Pleasant Valley High School visit to Menke Observatory



March 14<sup>th</sup> Iowa Association of Naturalists Statewide Workshop visit to Jens-Wendt Observatory



Ian's Presentation

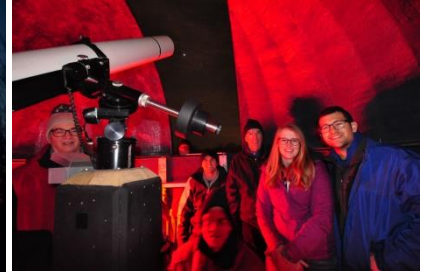




Dana's Demo's



PAC Pics



## For Sale – Wanted

### For Sale:

- A gentleman by the name of Jerry Hansen is selling his telescope, filters, and other associated equipment. If you are interested in finding out more about it, please let me know and I will send you his contact information so you can find out more and negotiate directly with him (if interested). It looks like a nice unit. Thanks. Al Sheidler. [ADSheidler@gmail.com](mailto:ADSheidler@gmail.com)

### **INSTRUCTION MANUAL 6", 8" & 10" STARFINDER REFLECTING TELESCOPES**



- An amateur astronomer by the name of Noe Vega is wanting to sell his 10" Collapsible SkyWatcher Dobsonian. He can be contacted at: <http://machlink.com/~nvega/10-DOB/>
- New 2<sup>nd</sup> Addn "Inside PixInsight" by Warren Keller. \$30.00 – 1 left! Contact Jeff Struve at [PwrHsePro@aol.com](mailto:PwrHsePro@aol.com)



- Mike Ombrello has for sale the pictured binocular boom and tripod... Contact Mike at [Ombrello@mac.com](mailto:Ombrello@mac.com)



**Editor's Note:**

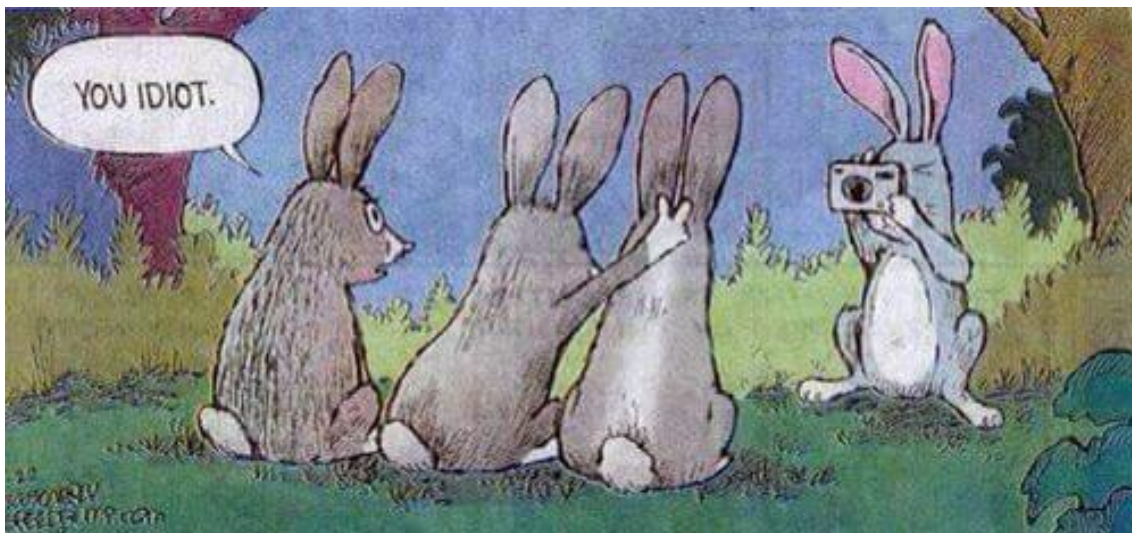
Please help improve the substance of our newsletter by submitting articles and pictures for publication. Variety is the spice of life... be spicy!

Types of articles that would really be interesting could include What's In the Sky This Month, equipment reviews, experiences you've had in astronomy, sketches you've drawn, trips you've taken to observatories or star parties, a high level overview of your favorite astronomer, movie, book or article reviews, list astronomy gear that you want to buy or sell, and of course pictures you've taken and how they were done...

If each member submitted 1 article per year we could have an incredibly varied and interesting newsletter... that is my challenge to you!

Also.... Drop an email, text, or make a phone call or two... members want to get together outside of normal club events to discuss and work on our hobby!

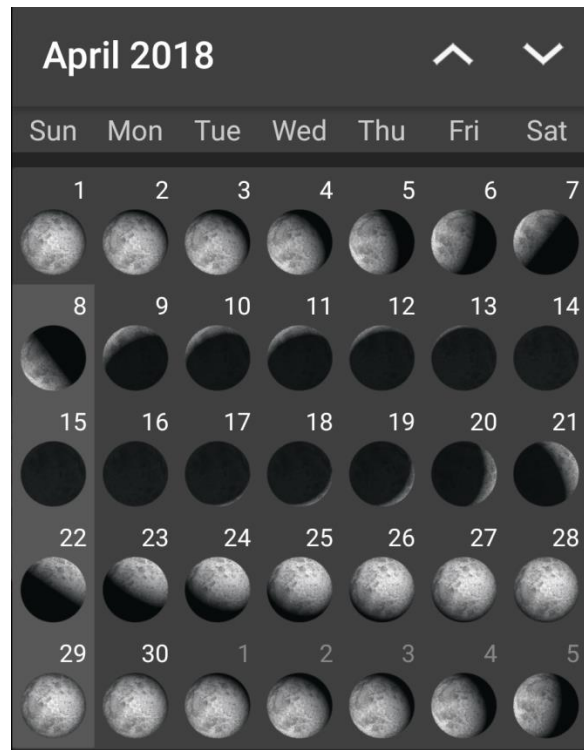
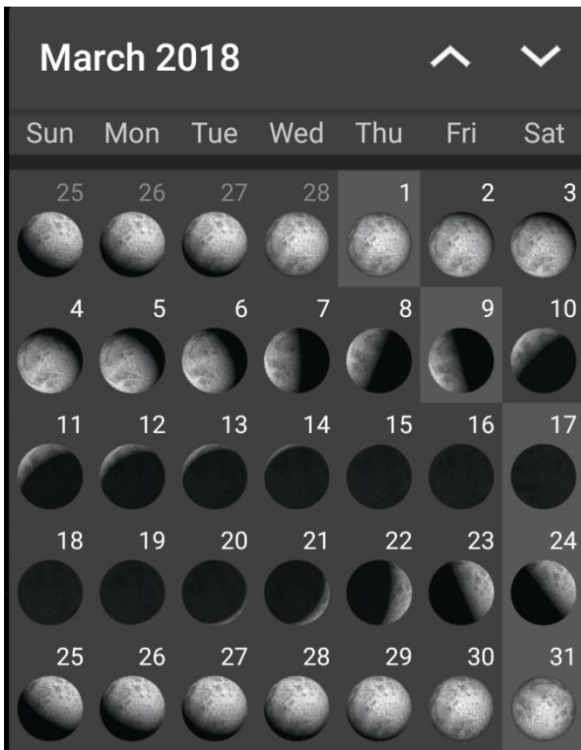
Jeff



## **Calendar of Events – 2018**

01/04/18 – Board Meeting  
01/15/18 – Society Meeting  
01/20/18 – Public Night at Jens Wendt (Waxing Crescent 5:00 PM Intro to Spectroscopy and Double Stars Presentation)  
02/13/18 – Board Meeting  
02/17/18 – Public Night at Jens Wendt (Waxing Crescent 5:30 PM Intro to Imaging Presentation)  
02/19/18 – Society Meeting  
03/02/18 – PVHS Astronomy Club to Menke Observatory  
03/05/18 – Board Meeting  
03/14/18 – Sherman Park requested event for the Iowa Association of Naturalists Statewide Workshop  
03/16-18/18 – Messier Marathon  
03/19/18 – Society Meeting  
03/24/18 – Public Night at Jens Wendt (First Quarter 7:00 PM Orion and Other Nebulae Presentation)  
04/02/18 – Board Meeting  
04/16/18 – Society Meeting  
04/21/18 – Bettendorf High School Astronomy Day w/evening Public Night at Jens Wendt (Waxing Crescent 8:00 PM EAA Presentation)  
05/05/18 – Menke Public Open  
05/07/18 – Board Meeting  
05/19/18 – Public Night at Jens Wendt (Waxing Crescent 8:30 PM Presentation???)  
05/21/18 – Society Meeting  
06/04/18 – Board Meeting  
06/09/18 – Menke Public Open  
06/16/18 – Public Night at Jens Wendt (Waxing Crescent 8:30 PM Star Cluster Presentation)  
06/18/18 – Society Meeting  
06/21/18 – Wayne Jens Memorial Solar Observing Day  
07/02/18 – Board Meeting  
07/07/18 – Menke Public Open  
07/14/18 – Public Night at Jens Wendt (Waxing Crescent 8:30 PM Presentation???)  
07/16/18 – Society Meeting  
07/21/18 – Niabi Zoo w/PAC  
08/04/18 – Public Night at Jens Wendt (Last Quarter – 8:00 PM Planets Presentation)  
08/06/18 – Board Meeting  
08/11/18 – Pleasant Valley High School – Meteor Shower Party w/Constellations and Mars  
08/18/18 – Menke Public Open  
08/20/18 – Society Meeting  
09/06/18 – Board Meeting  
09/07-09/18 – Eastern Iowa Star Party  
09/15/18 – Menke Public Open  
09/17/18 – Society Meeting  
09/29/18 – Public Night at Jens Wendt (Waning Gibbous – 7:00 PM Moon Presentation)  
10/01/18 – Board Meeting  
10/13/18 – Public Night at Jens Wendt (Waxing Crescent 6:30 PM Andromeda and other Galaxies Presentation)  
10/15/18 – Society Meeting  
10/20/18 – Niabi Zoo w/PAC  
11/05/18 – Board Meeting  
11/10/18 – Public Night at Jens Wendt (Waxing Crescent 5:00 PM Presentation???)  
11/17/18 – Niabi Zoo w/PAC  
11/19/18 – Society Annual Dinner Meeting and Elections  
12/03/18 – Board Meeting  
12/15/18 – Public Night at Jens Wendt (1<sup>st</sup> Quarter 4:30 PM ISS, Satellites, Iridium Flares Presentation)  
12/17/18 – Society Meeting





<p><b>QCAS Correspondence:</b></p> <p>Please contact the society at: P.O. Box 3706, Davenport, IA, 52808.</p> <p>Members are welcome and encouraged to submit articles for The Meridian. Submit any and all interesting items (via e-mail) to: <a href="mailto:PwrHsePro@aol.com">PwrHsePro@aol.com</a> and/or <a href="mailto:MitchellRobertC@sau.edu">MitchellRobertC@sau.edu</a></p>	
<p><b>QCAS Officers and Contacts:</b></p>	
<p><u>Officers</u></p> <p>President: Jeff Struve  Vice-Pres: Craig Cox  Secretary: Dr. Robert Mitchell  Treasurer: Matt Neilssen  Director: Dana Taylor</p> <p><u>Chairpersons</u></p> <p>Facilities: Dana Taylor  Meridian Editor: Jeff Struve  Outreach: Matt Neilssen  Programming: Jim Rutenbeck  Web Master: Dana Taylor, Matt Neilssen  Publicity: Paul Levesque</p>	<p><a href="mailto:PwrHsePro@aol.com">PwrHsePro@aol.com</a>  <a href="mailto:AdmiralCox2000@yahoo.com">AdmiralCox2000@yahoo.com</a>  <a href="mailto:MitchellRobertC@sau.edu">MitchellRobertC@sau.edu</a>  <a href="mailto:Matt.Neilssen@gmail.com">Matt.Neilssen@gmail.com</a>  <a href="mailto:Dana@NelsonTaylor.com">Dana@NelsonTaylor.com</a>    <a href="mailto:Dana@NelsonTaylor.com">Dana@NelsonTaylor.com</a>  <a href="mailto:PwrHsePro@aol.com">PwrHsePro@aol.com</a>  <a href="mailto:Matt.Neilssen@gmail.com">Matt.Neilssen@gmail.com</a>  <a href="mailto:JRutenbeck@frontier.com">JRutenbeck@frontier.com</a>  <a href="mailto:Dana@NelsonTaylor.com">Dana@NelsonTaylor.com</a>  <a href="mailto:Levesque5562@att.net">Levesque5562@att.net</a></p>