

THE MERIDIAN

Newsletter of the
Quad Cities Astronomical
Society
www.qcas.org



MARCH 2017

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

Hi all!

For those 14 in attendance at the February meeting, I don't have to report how great the meeting was... a lot of good discussion about weekend observing and imaging... a great presentation by Dr. George Bailey... we welcomed 4 new members, Paul, Alan, Eric, and Sara (Sara was unable to attend)... and 6 members met after the meeting at the Village Inn on Elmore and 53rd in Davenport... great camaraderie!

Again, we wish to extend our sympathies to Dana at the passing of his mother on February 9th. Karl sent an eCard on the clubs behalf and a card was passed around at the February meeting for signing and collecting of donations to be made to the Alzheimer's Association in her memory... condolences, Dan...

A couple things worth mentioning in this greeting as well as elsewhere in this issue of the Meridian...

Don't forget to reply to the email I had sent out February 10th on attending the Messier Marathon on March 24th and 25th... even those on the committee need to reply for logistical purposes... I will be sending respondents further documentation on how to qualify for awards, the list of objects in order of appearance/disappearance to help facilitate capturing as many as possible... and information as to windows of time where folks can arrive/depart from the site.

Next, our next meeting will be held at the Bettendorf High School... Peter Bruecken, BHS Planetarium Director, has invited us to view a demo of their digitally enhanced planetarium... should be quite interesting! We will still met at 6:30...

We have a scheduled Public Open House at Jens-Wendt Observatory on February 25th. I don't think that we will be advertising this yet as access to the web site and Facebook page are not yet set up for public announcements. If the weather permits, I hope to see many of you out there even if not publicized... who knows, word of mouth may bring a few folks in, and if not, the viewing and imaging opportunities will be there anyway!

That being said, I hope to see you at the March meeting...

Clear Skies!
Jeff

Last Society Meeting Minutes

Date/Time Location

6:30 PM on Monday, February 20th
The Bettendorf Library

Attendance

Jeff Struve, George Baily, Alan Sheidler, Eric Sheidler, Robert Mitchell, Paul Levesque, Matt Neilssen, Ken Boquist, Dave Ruddy, Craig Cox, Ian Spangenberg, Mike Ombrello, Sam Snow, Mike Dannenfeldt

Presentations

The new members introduced themselves and gave a brief synopsis of their involvement in astronomy.

Ken Boquist, Mike Ombrello, Craig Cox, and Jeff Struve talked about their Friday night video astronomy and astrophotography endeavors on February 17th at Menke Observatory.

Dr. Mitchell talked about the open house held on Saturday February 20th at Menke Observatory for Boy Scout Troop 199. Mike Dannenfeldt, Ken Boquist, Craig Cox, and Jeff Struve were present to help.

Jeff Struve displayed and gave a brief overview of the 1988 Russian TAL 65mm F7.7 Reflector that he acquired via a Cloudy Nights Classifieds advertisement.

George Bailey briefed us on his acquisition of a new iOptron mount he had just purchased.

Dr. George Bailey gave the main presentation and led a discussion on his work with Titan Missiles. The presentation included a few short video clips, one showing a launch of the Gemini-Titan rocket... and quite a few pictures that he had taken including pictures of fatal accidents that had occurred on base. Very informative and interesting insight into part of our space endeavors! (You can read more about Dr. Bailey in this issue's Spotlight!)... Thanx George!

Treasurers Report

Matt provided a brief Treasurer's Report... The bank balance as of 2/20/17 was \$4,270.93. The report balance includes the \$200 Jeff was able to sell the 2 vintage cameras to a Champagne Urbana Club member for, the approximate \$7 for scrap iron collected by Mike Dannenfeldt, and the new membership dues taken that night. The report was voted on and passed.

In the next 2 weeks, Matt will be sending reminders to those that have not yet paid their membership dues.

Please check with your places of employment to see if they have grant programs that we can take advantage of... We have utilized collecting funds from MidAmerican Energy, 3M, and potentially Verizon... funds are needed to advance the direction of the club!

Review of Minutes

The January Minutes as per the February Meridian passed.

Old Business

Jeff reminded everyone of the February 25th Public Night to be held at Jens-Wendt Observatory and that it may not be publicized... Jeff also reminded everyone wanting to attend the Messier Marathon on March 24th and 25th to reply to his February attendance in order to be added to the mailing list.

Jeff took a hand count of those interested in learning PixInsight... There are about 6 showing interest in participating. This will be a slow moving step by step hands on course, each member using club supplied data (Thanx to Mike O!) using their own computer, going step by step to complete a basic final product.

Jeff announced that the red light inside of the block house was now working... when you turn on the breaker box, the red lights both inside and outside of the building now come on... the white lights inside the block house are also activated, but there is a normal light switch by the door to turn those on and off.

Jeff finished the initial step in rewriting the Bylaws... Matt will need to review the final touches, then he and Jeff will continue by adding the current amendments into the Bylaw body... then the Board will take their turn at an overall review prior to presenting to the Society.

Jim Rutenbeck decided that since Pleasant Valley High School was not interested in the 8" Refractor, that he would be happy to be the new caretaker of that beastie... Thanx Jim!

New Business

- We gained 4 new members at tonight's meeting! Welcome to Paul, Alan, Sara, and Eric!
- The March meeting will be held at Bettendorf High School where we will be given a demonstration of the high schools new digital planetarium.
- A collection was taken as a memorial to the Alzheimer's Association for Dana's mom who passed on February 9th.

Other

- Dr.'s Bailey and Mitchell, Mike's Dannenfeldt and Ombrello, Craig Cox and Jeff Struve met at the Village Inn on Elmore and 53rd after the meeting to discuss the web site, how well the Menke 14" SCT worked last Saturday, discuss logistics of the Solar Eclipse, and various other topics.

Next Society Meeting

Date/Time Location

6:30 PM on Monday, March 20th
Bettendorf High School –

March Presentation

For our March 20th meeting, Peter Bruecken, Bettendorf High School Planetarium Director, will give us a demonstration of the their planetariums full-dome digital upgrade. This is going to be very interesting... Don't miss it!

New Business

- We need to further discuss logistics of attending the Solar Exposition in St. Louis

Last Board Meeting Minutes

Date/Time Location

6:30 PM on Thursday, February 6th
The Village Inn on Elmore and 53rd in Davenport, IA

Attendance

Jeff Struve - Present
Craig Cox - Present
Robert Mitchell - Present
Matt Neilssen – Present
Dave Ruddy – Messier Marathon
Mike Ombrello – Web Site
Mike Dannenfeldt

Agenda

Primary Topics

- Block House Inventory
 - We need to go through gear stored in the dome and in (and under) the roll off roof building.
 - We need to take an inventory of what we are keeping.
 - Jim Rutenbeck will be taking the 8" refractor... James Kloeppel, Champaign Urbana Amateur Astronomers will be purchasing the 2 vintage cameras for \$200.00. Mike Dannenfeldt volunteered to pick up the scrap iron and have it reclaimed... Matt Neilssen took possession of the mirror grinding paraphernalia.



Scrap picked up and delivered by Mike D... Thanx Mike!



The vintage cameras and Matt grinding under his red light!

- February 20th Public Open House – Weather permitting, we will be there even though we still don't have access to update the calendar on the website or update events on our Facebook page.
- Messier Marathon – Dave Ruddy
 - Jeff sent invites out and has 10 replies to date.
 - Dave will be putting together a list of rules to follow if awards are the goal... Dave will also put together the list of objects in the order that they should be observed.
- Web Site
 - Mike O and Matt are still working on the proper tools to build the new site. Mike has a good start on how it will look and what features it will have
- Jeff and Matt are nearly finished with the first pass of the Bylaws.

Things to do – Open Items

- 2017 Event calendar
 - Advertisement/Public Notification
 - QCAS Web Site, QCAS Facebook, Davenport Parks and Rec Web Site will be our primary means of advertisement.
 - Public Nights
 - Jeff spoke with Karl Adlon about creating a tour of the sky for the nights we are having public nights.
 - For public to shut off lights and park in the side lot... make 2 signs.
 - Build trifold with info, membership form, and astronomy courtesy.
 - Astronomy Day
 - Day time event – Solar viewing in downtown Davenport, pass out brochure for that evening at Sherman Park
 - Invite PAC to attend both events
 - Meteor Shower Party
 - Contact Davenport Parks and Recreation to see if we can use the Soccer Fields.
 - Radio, TV, Newspaper advertising if possible.
 - Food wagon ok.

- Slide show for back up if cloudy... music ok... advertise for public to check the web for cancellation notice
- Solar Eclipse
 - Dr. Mitchell is lead
 - Reimburse Dale Hendricks for room reservations
 - Robert sent out an application form for a Solar Eclipse Expo meeting in June to be held in St. Louis
 - Robert will ck with SAU for trip funding
 - Set up Atlas with Mallincam and 80X300 zoom lens and SplitCam for Broadcast.
 - How much memory is needed to store the whole event as video?
 - Have Solar and Interview cameras and slide show to broadcast... Dale will preside at the Putnam, SAU personnel will preside at SAU
- EISP
 - Same as 2016
 - Encourage a swap meet
 - No bunk house
 - Review surveys to further modify the event
- Dues/Membership
 - Jeff modified the application forms – Maybe instead, just use the modified trifold, info/calendar/courtesy/membership form.
 - Let's start using the membership cards as receipts
 - We will talk about fees when we review Bylaws
- Bylaws Rewrite
 - Discuss the standing committees
 - Review the Mission Statement
 - Have a single QCAS contact for all outreach endeavors. This can be the committee chair.
 - Jeff and Matt will review and edit the Bylaws. The rewrite will be reviewed and edited by the Board. The final draft will be sent to the membership for review. The Society will vote on acceptance at the Society Meeting that is at least 30 days post the sending to the Society
- Misc
 - Jeff asked Dale to send the membership card template to Matt and the business card template to Robert
 - Discuss moving our Society Meetings to SAU.
 - Discuss a High School Ambassador Program
 - Club Projects
 - Learn PixInsight
 - Build a Poncet Mount for the club dob
 - Convert the 20" scope into a truss system



Next Board Meeting

Date/Time Location

Unless otherwise noted, Board Meetings will be held on the 1st Monday of the month at 6:30 PM at the Village Inn Restaurant on Elmore and 53rd 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

Primary Topics

- The 2017 Biennial Report
- Discuss upcoming events
 - Messier Marathon – Dave Ruddy
 - Astronomy Day – Jeff Struve
 - Meteor Shower Party – Craig Cox
 - Solar Events – Robert Mitchell
 - We need to further discuss logistics of attending the Solar Exposition in St. Louis
- Website – Mike Ombrello
- Bylaws – Jeff Struve and Matt Neilssen
- We need to talk to the caretaker at Menke Observatory about the club's access to the facility.
- Discuss selling our heavy fiberglass step ladder and replacing it with an aluminum ladder for use in the roll off roof building.

Secondary Topics

- Society meeting relocation
- PixInsight meetings

--- FRIDAY, 2/20/17 DRY RUN PICS ---



Mike Ombrello



Craig Cox



Ken Boquist



Jeff Struve

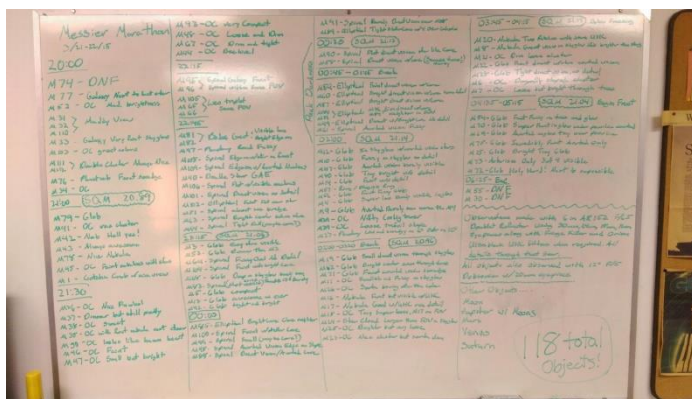
Submitted Articles

2015 Messier Marathon

On March 21, 2015, Matt Neilssen and Jeff Struve tried the Messier Marathon and observed 107 of the 110 Messier objects, plus 2 other associated objects, the Moon, Jupiter and 4 of its moons, Mars, Venus, and Saturn... 118 objects in all... Objects missed were M74, M55, and M30. If it weren't for the trees on the horizon, M74 and M55 probably would have been observed. The accomplishment is documented on the SEDS web page... Let's all give it a go this year!

<http://messier.seds.org/xtra/marathon/results.html#mm2015>

"Two members of the [Quad City Astronomy Society \(QCAS\)](#), Jeff Struve and Matt Neilssen, decided to give a marathon a shot... They were able to observe 107 of the 110 Messier Objects. They observed from a site housing Saint Ambrose University's Menke Observatory in Dixon, Iowa. Matt used an Explore Scientific F6.5 152mm Achromatic refractor on an Orion Atlas mount, Jeff a 12" Orion 12XXi Dob and a 20mm Explore Scientific 100deg eyepiece. Missed objects were M74, M55 and M30."



'The Board' in the Menke classroom where objects were documented as found.



Titan II launch at Vandenberg AFB

Member Spotlight

by Dr. George Bailey

The year 1962 was an exciting time to enter my teenage years. There was fantastic music on the radio, a holiday trip to my grandparents' home in the Smoky Mountains of North Carolina (where we could hope for a White Christmas!), and, of course, in that time period everything seemed to revolve about space.

John Glenn and Scott Carpenter had made their journeys into space earlier in the year, Telstar was beaming TV programs (and the Ventures had made a rocking song about it), and science toys were all the rage. I had gotten a Gilbert chemistry set for Christmas the previous year (starting me on my first science hobby and future profession), and THIS year I hoped for a telescope (in addition to snow, of course).

And on Christmas morning, THERE IT WAS - a real Gilbert 80X 60mm reflector telescope!!! And clouds, of course. But they DID bring SNOW, so it wasn't ALL bad. But when the clouds finally parted, I used this scope to marvel at the brightness of the moon as well as its wonderful terrain of craters, mountains and plains. And can anyone really appreciate how bright Sirius is without seeing it in a telescope?!

That year my Mother took my sister, brother and I to see my other grandparents in Pittsburgh, PA for New Years. I had to leave my 'scope behind in Cherokee - couldn't take it on the Trailways bus. But in Pittsburgh, my astronomy hobby journey unexpectedly continued, as my Pennsylvania grandmother, after hearing - in detail - about my new telescope suggested we go to visit the Buhl Planetarium in downtown Pittsburgh. So, with my younger sister and brother in tow, we took a city bus downtown to the Buhl. The show was WONDERFUL!!! My first planetarium visit cemented me into a love for astronomy. And of course we hit the gift shop after the show - what kid wouldn't? And there I found THE BOOK - ***The Sky Observer's Guide*** by the Mayalls, Wyckoff and Polgreen. It would become my observational astronomy bible for many years, and it still sits on my shelf today. The Mayalls told me about making star trails with a camera, and the first thing I did when I got back to Cherokee was grab my grandfather's Kodak Duaflex II camera and try it out (it had a "bulb" setting to keep the lens open). Once the negatives got back from the drug store I took them down to my chem lab in the basement (I had really added to the Gilbert set thanks to ***The Golden Book of Chemistry Experiments*** by Brent), where I rigged up a makeshift darkroom (with a contact printer made from a cardboard box, a piece of glass and a light bulb) and developed the print - and there were the star trails of Orion !!!

Like Odysseus, I had set sail into my second hobby of astronomy. As shaky and hard to focus as the Gilbert scope was (the eyepiece was a friction fit in a plastic holder), it did give me my first view of Saturn (can anyone forget that?) and of Sunspots (by projection, of course - even if it did partly melt the plastic plug that kept the eyepiece lens in!), and I enjoyed it for many years.

But like the king of Ithaca, I would have many things that would happen to delay my journey. Astronomy got pushed back as I worked on my BS degree in Chemistry at the University of Georgia (although I did take an astronomy course elective), and almost forgotten as I graduated and entered the USAF as a second lieutenant. I was given orders to become a Missile Combat Crew officer in the Titan II ICBM weapon system at McConnell AFB, Kansas - exciting news, as I knew that was the same rocket that carried the Gemini spacecraft into orbit. But between moving up the ranks to a Captain, a Combat Crew Commander, and working on a Masters in Biochemistry at Wichita State, I had little time for astronomy.

But after getting my degree and transferring to the missile maintenance side of the weapon system, I found I had some time for a hobby again - and astronomy came rushing back into my life. I bought a Celestron C8 on sale at the Cosmosphere museum in Hutchinson (an unexpectedly fantastic space museum on the Kansas plains) and joined the Kansas Astronomical Observers club in Wichita. Of course the C8 was leaps and bounds ahead of my

long lost Gilbert, and the fantastic views I had from the KAO observing site inspired me to start planetary astrophotography (with camera and FILM, of course). I had a wonderful four years in the hobby. Then I was given orders to the Minuteman II weapon system at Ellsworth AFB in the Black Hills of South Dakota. Without a club and other amateur astronomers about, the hobby began to fade away. I did take my wife and eight year old daughter out into a cold Dakota December morning to see Halley's comet with my 11x80 binoculars, but I think they really enjoyed the hot chocolate and donuts we got on the way home better. So again astronomy faded, and my journey was delayed.

Another hobby (historical reenactment of the 1840s fur trade - with muzzle loading flintlocks!) took up the slack. And the reenactment hobby persisted after I left the Air Force and returned to Wichita to work on my Doctorate. My daughter and I became voluntary reenactors at Old Cowtown Museum, which is set at the year 1876. She would later become a history major - I wonder why, LOL! The poor Celestron slept in its case except for special astronomy events.

I graduated with my Doctorate in Chemistry in 1991 and was promptly hired as an assistant professor of chemistry at St. Ambrose University. I quickly found that the Lewis Hall science group of Chemists, Biologists and Physicists were, more or less, one happy family. I met the astronomy professor, Morris Calsyn, and we became friends. Morry was excited about the new observatory he was planning at the Wapsi site. I attended the opening and dedication of the Menke Observatory in 1994, where Morry introduced me to Wayne Jens. This re-ignited my love of astronomy, and I helped Morry and Wayne with several open houses. They would be in the roll-off roof and dome, and I on a pad with an old SAU C8 (but using my better accessories - anyone remember Orion's drive corrector for the C8?) viewing the moon and planets.

But then Morry retired, and I got busy developing courses and advancing up the academic ladder to full Professor. With Chemistry Department Chair duties, as well as becoming Chair of the Illinois-Iowa Section of the American Chemical Society, I again had little time for astronomy. The hobby flared again when Robert Mitchell was hired as the new astronomy professor in 2001. I helped with a couple of open houses and an on-campus viewing of the 2006 Mercury transit of the Sun, but mostly I was viewing from home. I got back into astrophotography during this period, but now I was using a NexImage webcam to take the photos instead of film. Some of these photos are posted on the QCAS website. The hobby faded again after 2009 when I was called upon to develop some new classes and programs for the Department as well as serve on some major academic committees. I did observe the Venus transit of 2012 with my sister and daughter, and the 2015 visit by comet Lovejoy.

After Lovejoy, I started to take stock of what I wanted to do to occupy my upcoming retirement years. My chemistry "hobby" was ending, but now was a chance to get back into astronomy with (hopefully) less things to get in the way. So I uncased the old orange C8. Both the fork drive and the Orion drive corrector electronics were failing, so I deforked it, put on a modern Vixen-style dovetail bar, and mounted it on a new Celestron AVX goto mount. And then got a new ZWO camera for it. Much better! But it was heavy to lug around. So I then got an Orion 127mm Mak with a lighter mount for "grab and go" sessions on my deck. But then I needed ... well, you know how this story goes! Oh yes, I also joined this certain astronomy club

So now I have set sail on the final leg of my astronomy odyssey (you may be thinking "Space Oddity" by now) aboard the good ship QCAS. Here's wishing that we all have smooth sailing and lots of clear skies ahead on our journey!

Stunning space discovery: 7 Earth-size planets found orbiting dwarf star

<http://www.cbsnews.com/news/7-planets-discovered-orbiting-dwarf-star-trappist-1/>

By William Harwood CBS News February 22, 2017, 1:49 PM

Astronomers have discovered seven roughly [Earth-size planets](#) very close to a cool dwarf star some 39 light-years from Earth, including three orbiting in the star's habitable zone where liquid water, a key ingredient for life as it's known on Earth, could be present, researchers announced Wednesday.

The record-setting star system is the first to feature three [Earth analogues](#) in the so-called "Goldilocks" zone of their parent star and the first to include seven such worlds overall. The discovery was announced Wednesday in the journal *Nature*.

"Finding a second Earth is not just a matter of if, but when," said Thomas Zurbuchen, associate administrator of science at NASA Headquarters. "Just imagine how many worlds are out there that have a shot at becoming a habitable system that we could explore."

The intriguing star system was first studied by Belgium's Transiting Planets and Planetesimals Small Telescope, or TRAPPIST, observatory in Chile where observations in 2016 indicated the presence of two and possibly three planets.

NASA's infrared-sensitive [Spitzer Space Telescope](#), working with the European Southern Observatory's Very Large Telescope, then spent 500 hours studying the star, confirming the existence of two planets and discovering five more, boosting the total to seven.

"Not one, not two, but seven Earth-size planets," marveled Michael Gillon, an astronomer at the University of Liege in Belgium who led the study. "This is the first time that so many Earth-size planets were found around the same star. Furthermore, with three of them in the habitable zone.

"The star itself is what is called an ultra-cool dwarf, which is the least massive kind of star that exists," he told reporters. "These stars are much smaller, much cooler than our sun and still, they are very frequent at the scale of our galaxy, more frequent than solar-type stars."

Some 229 trillion miles from Earth in the constellation Aquarius, the TRAPPIST-1 star is "so cool that liquid water could survive on planets orbiting very close to it, closer than is possible on planets in our solar system," NASA said in a statement. "All seven of the TRAPPIST-1 planetary orbits are closer to their host star than Mercury is to our sun."

The innermost habitable zone planet is roughly the size of Earth and receives about the same amount of light, possibly resulting in surface temperatures very similar to our planets. The middle planet in the habitable zone receives about the same amount of light that Mars does, orbiting TRAPPIST-1 every nine days. The outermost planet receives the level of sunlight one would experience somewhere between Mars and the asteroid belt.

The planets may be "tidally locked" to their star, gravitationally held in place so only one side of the worlds face their sun. If so, the planets could host truly alien weather patterns, with strong winds and extreme changes in temperature.

The planets also are very close together. Researchers said an observer standing on one world likely could discern clouds and other features on neighboring worlds, which could appear larger in the sky than Earth's moon.

But it is not yet known whether any of the planets host an atmosphere or liquid water and additional observations are planned, along with expanded studies to look for planets around other dwarf stars.

Spitzer detected the planets indirectly by studying how light from TRAPPIST-1 periodically dimmed as the worlds repeatedly passed in front of the star.

Using that data and others, astronomers were able to measure the sizes of the planets, allowing them to roughly calculate their masses, densities and orbital periods. It appears they likely are rocky planets, but additional observations are needed to determine if any have detectable atmospheres or liquid water.

"We've made a giant, accelerated leap forward in a search for habitable worlds and life on other worlds, potentially speaking," said Sara Seager, professor of planetary science and physics at Massachusetts Institute of

Technology. "With this amazing system, we know there must be many more potentially life-bearing worlds out there just waiting to be found."

Additional observations are planned by Spitzer and the Hubble Space Telescope, which will focus on four of the seven planets, including the three now known to orbit within the habitable zone of TRAPPIST-1. Hubble observed the two innermost planets earlier, but found no evidence of the sort of hydrogen-dominated atmospheres that define worlds like Jupiter, Saturn, Uranus and Neptune in Earth's solar system.

[NASA's Kepler space telescope](#), which was built to look for transiting exoplanets, also is studying the TRAPPIST-1 system, collecting high-precision data that will help researchers refine their knowledge of the worlds discovered so far while being on the lookout for additional planets.

And NASA's James Webb Space Telescope, the \$8.6 billion follow-on to Hubble that is scheduled for launch in 2018, also will study the TRAPPIST-1 system, spectroscopically studying atmospheric constituents and looking for telltale signs of biological indicators such as oxygen, methane and other chemicals.

How far is 40 light-years away?

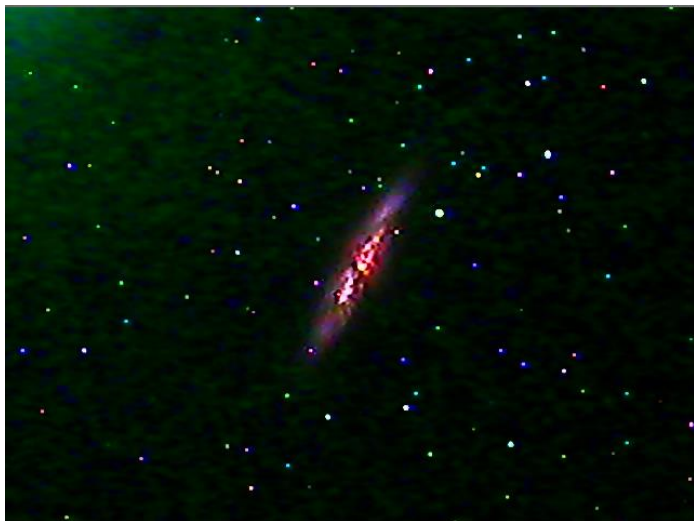
Retired NASA astronaut [Scott Kelley](#), who set a U.S. endurance record with a nearly [year-long stay in space](#), greeted the discovery with enthusiasm. "This is awesome! Send me!" he tweeted. And he offered some idea of just how far away the TRAPPIST-1 system is — a distance of almost 40 light-years — when he added, "Be there in 800,000 years w our current propulsion technology. More work to do. Let's get on it!"

2017 Calendar of Events

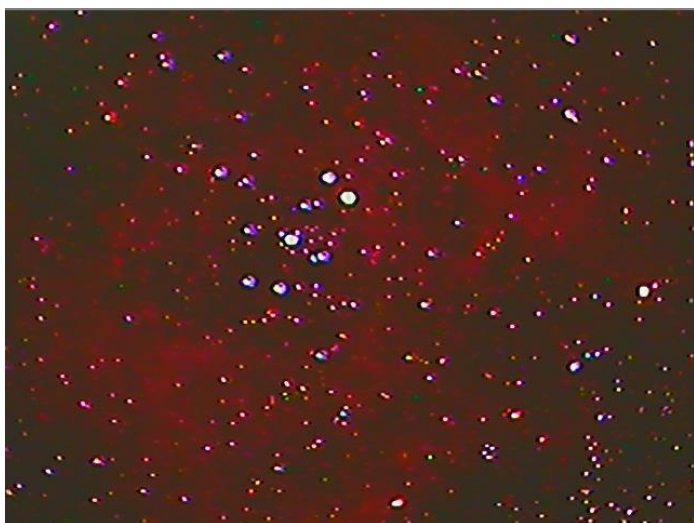
01/16/17 – Society Meeting
01/28/17 – Open House at the Jens-Wendt Observatory
02/18/17 – Menke Observatory Scouts Tour
02/20/17 – Society Meeting
02/25/17 – Open House at the Jens-Wendt Observatory
03/20/17 – Society Meeting
03/24-25/17 – Messier Marathon at Menke Observatory
03/18/17 – Open House at the Jens-Wendt Observatory
04/17/17 – Society Meeting
04/29/17 – Astronomy Day
04/29/17 – Open House at the Jens-Wendt Observatory
05/13/17 – Menke Observatory Public Open House
05/15/17 – Society Meeting
05/27/17 – Open House at the Jens-Wendt Observatory
06/03/17 – Menke Observatory Public Open House
06/19/17 – Society Meeting
06/24/17 – Open House at the Jens-Wendt Observatory
07/15/17 – Menke Observatory Public Open House
07/17/17 – Society Meeting
07/29/17 – Open House at the Jens-Wendt Observatory
08/12/17 – SAU/QCAS Public viewing of the Perseid Meteor Shower
08/21/17 – Solar Eclipse
08/21/17 – Society Meeting
08/26/17 – Open House at the Jens-Wendt Observatory
09/18/17 – Society Meeting
09/22-24/17 – Eastern Iowa Star Party
09/23/17 – Menke Observatory Public Open House
09/30/17 – Open House at the Jens-Wendt Observatory
10/16/17 – Society Meeting
10/28/17 – Open House at the Jens-Wendt Observatory
11/18/17 – Open House at the Jens-Wendt Observatory
11/20/17 – Society Meeting – Annual Dinner
12/16/17 – Open House at the Jens-Wendt Observatory
12/18/17 – Society Meeting

Gallery

The below pics are live image screen scrapes taken by Craig Cox using his Mallincam...



M82 – A starburst galaxy aka Bode's Nebula via ES 8" SCT



NGC2239 – Rosette Nebula via ES 80mm triplet



M42 – Orion Nebula via ES 80mm triplet

The below pic of M42, the Orion Nebula is a single, uncalibrated, unguided 60 second exposure take by Mike Ombrello on the evening of Tuesday, February 21st, 2017... we will be using this data for our PixInsight training... he did very minor processing of the raw image so you could see what we will be wanting to head toward when we use calibration frames, stack, and do a bit of real processing...



This is another Mike Ombrello shot... this time a few PixInsight tricks!



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!

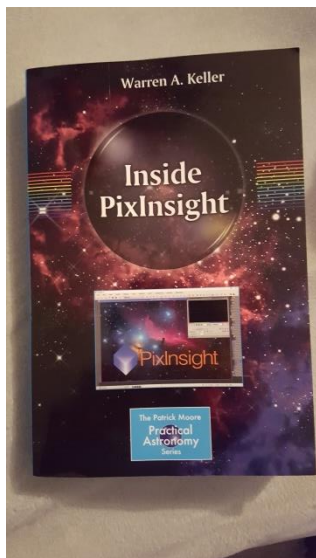
Also.... Drop an email, text, or make a phone call or two... members want to get together outside of normal club events to discuss and work on our hobby!

Jeff

PS... A special thank you to Dr. George Bailey for his great presentation and being in the Spotlight, Craig Cox and Mike Ombrello for the pics, and Karl Adlon for his notes and what's In the Sky!

For Sale – Wanted

For Sale



– 2 new “Inside PixInsight” books by Warren Keller are available. Contact Jeff Struve at PwrHsePro@aol.com



– Baader Planetarium Hyperion 8-24mm Mark III Zoom Eyepiece with original box, great shape, needs cleaning (I'm afraid to clean my eyepieces as I don't want to risk damaging the glass). Great for quality outreach as you don't have to change eyepieces and it is easy to view through. Price \$175.00 Contact Jeff Struve at PwrHsePro@aol.com



– Vixen SLV 6mm eyepiece. Price \$75.00 Contact Jeff Struve at PwrHsePro@aol.com

– Vixen NLV 20mm eyepiece. Price \$65.00 Contact Jeff Struve at PwrHsePro@aol.com

– Orion 90mm short tube refractor. 500 mm focal length. Equipped with 1.25 inch focuser, 45 degree diagonal, 26mm Sirius Plossl ep, 6x30mm finder and tube rings that are larger than the tube. There is a plate on the bottom of the tube assembly with 1/4 inch x 20 threaded hole for mounting to a camera tripod. Excellent condition. Price \$100.00 Contact Jim Rutenbeck at JRutenbeck@frontier.com

Wanted

– Televue Paracorr 2
– Televue or AP 99% Dielectric 2" Diagonal
– Orion or similar 6 space filter slide for 2" filters
Contact Jeff Struve at PwrHsePro@aol.com

Ever go out to the Observatory and then try to think of things to look at; especially after you have seen the usual suspects?

*These are suggestions of objects to try.
Sky conditions will dictate what you can see.
Generally, double stars are not included.
Nor are bright satellites / Iridium flares.*

By Karl Adlon

2017 February 25 – 115 days 'til Summer!

Sunset	5:49 PM
Civil Twilight Ends:	6:17 PM
Astronomical Twilight ends	7:22 PM
Moon	New; not visible

Twilight

- Venus is a thin crescent - try taking a picture ; [dist = 35 million miles]
- Mars + Uranus are only a little over 1 degree apart; [dist = 187 million + 1.9 billion miles {10X further}, respectively]

Early Evening (7 PM or later)

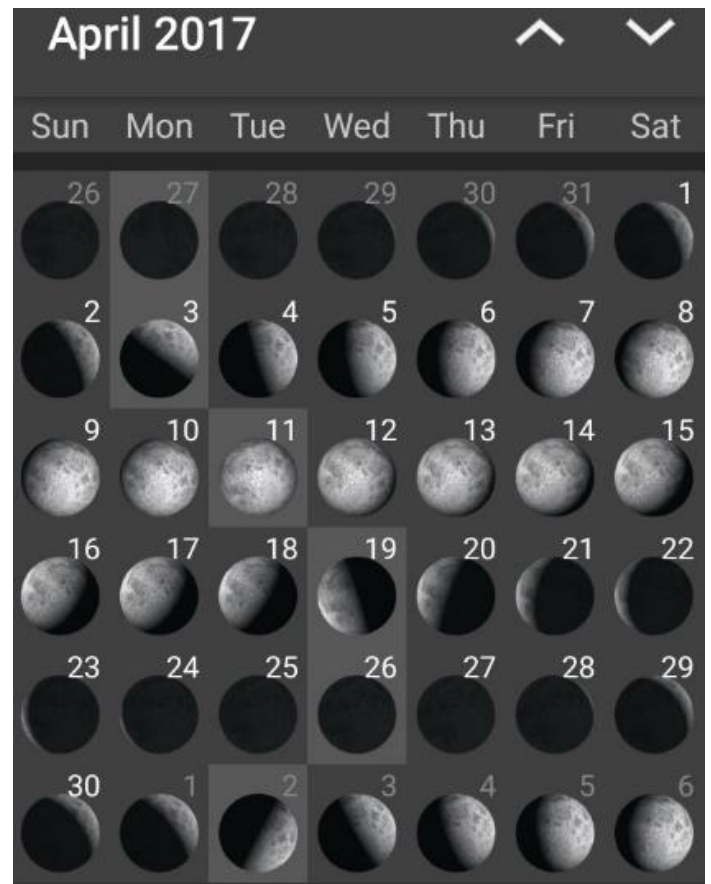
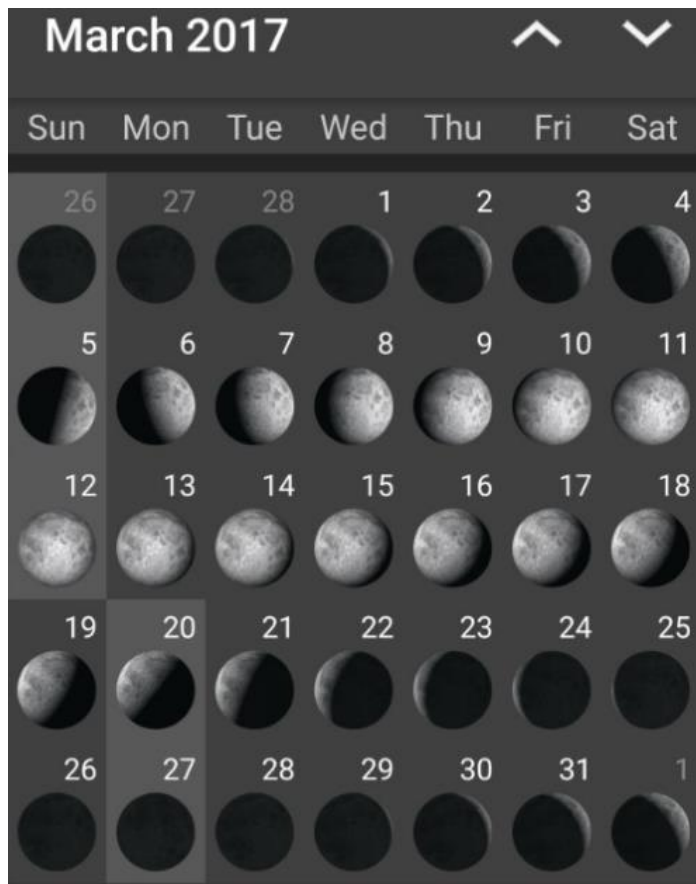
- Pleiades – low power (Open Cluster) ; [dist = 444 light-years]
- Hyades – binoculars or very low power (Open Cluster) ; [dist = 150 light-years]
- Orion Nebula; [dist = 1344 light-years]
- Betelgeuse and Rigel – compare their colors; [dist = 500 + 863 light-years, respectively]

When Dark – More Open Clusters

- M41 (Open Cluster) ; [dist = 2316 light-years]
- M44 – Praesepe – best a low power (Open Cluster) ; [dist = 577 light-years]
- M37 (Open Cluster) ; [dist = 4511 light-years]
- M38 (Open Cluster) ; [dist = 5241 light-years]
- M36 (Open Cluster) ; [dist = 4241 light-years]
- M35 (Open Cluster) ; [dist = 2773 light-years]
- Double Cluster (Open Clusters) ; [dist = 7500 light-years]

Later, if it's a Great Night – Galaxies

- M82/81 (Galaxies) ; [dist = 11.42 + 11.74 million light-years, respectively]
- Leo Triplet (M65, M66 + NGC 3628) (Galaxies) ; [dist = 35 million light-years]
- Virgo Galaxies (M84, M86 and others) ; [dist = 60 + 52 million light-years]
- M51 – Whirlpool Galaxy ; [dist = 23.16 million light-years]
- NGC 3115 – Spindle Galaxy – C53 ; [dist = 31.6 million light-years]



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Members are welcome and encouraged to submit articles for The Meridian. Submit any and all interesting items (via e-mail) to: PwrHsePro@aol.com and/or MitchellRobertC@sau.edu

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