



# The Night Sky

The Newsletter of  
The Astronomy Club of Akron  
www.acaoh.org

Volume 38 Number 4

April 2016

Next Meeting: Friday - April 22, 2016 - 8:00 PM - Kiwanis Center

## The Presidents Column

By Cathy Loboda

As a former high school teacher, barely a day went by without one of my students questioning, “Why are we doing this?” As our lives become busier and busier, as we fill our calendars and daily schedules to the max, often we barely take notice of much, if anything, as days roll by. So this question comes to mind and I ask, why are we doing this? Since its inception in 1949, ACA, through its dedicated membership, provides information on and experiences in astronomy. So again I ask, why are we doing this? Ultimately, I believe we do it for the experience of awe.

For 11 years now, psychologists Dacher Keltner of the University of California, Berkeley, and Jonathan Haidt, formerly of the University of Virginia, studied the emotion of awe. Results of over 20 studies conclude the state of awe has positive effects on people. The article “The Science of Awe,” published in the November/December 2014 issue of *Sierra*, reports that 75% of the time, awe is elicited by nature. Awe happens when “people encounter a vast and unexpected stimulus” that makes them feel small or insignificant. This forces them to “revise their mental models of what’s possible in the world.” Consequently, those affected feel a deeper connection to others and the world in general. Noted was an increased stewardship of nature, wildlife, and the environment. As stated in the article, “Awe prompts people to redirect concern away from the self and toward everything else.”

Keltner and a team of grad students are presently focusing on the first study that will measure the long-term, physical health benefits of awe. To conduct the study, Keltner is noting observations from an unconventional lab—the woods. Keltner states, “The science of emotion gets really exciting when you get as close to the phenomenon as possible. We want to engage with people and observe them when they’re really out there on the river or lying under the stars.”

The Astronomy Club of Akron gives the public the opportunity to learn about and witness something greater than itself. For those of you who give of yourselves in this effort, you share in the state of awe and make a difference in the lives you touch...and make our world a better place.

*Article By Cathy Loboda,  
ACA President.*



**M82, also known as the Cigar Galaxy, located in the constellation Ursa Major. This galaxy is known as a starburst galaxy. Image by ACA member Marissa Fanady via Slooh online telescope.**

## OFFICERS 2014 – 2016

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### OTAA Representative

Lou Poda

## March Treasurer's Report

By Glenn Cameron

3/1/2016 Through 3/31/2016

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Checking Beginning Balance	\$2,327.81
<b>Income</b>	
Dues	40.00
<b>Total Income</b>	<b>\$40.00</b>
<b>Expenses</b>	
Speakers Dinner	-34.51
<b>Total Expenses</b>	<b>-34.51</b>
<b>Income Less Expenses</b>	<b>-\$5.49</b>
Checking Ending Balance	\$2,333.30

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Savings Beginning Balance	\$2,095.74
Earned Interest	0.04
Monthly Maintenance Fee	-9.99
<b>Savings Ending Balance</b>	<b>\$2,085.79</b>

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Petty Cash Beginning Balance	\$50.00
	0.00
<b>Petty Cash Ending Balance</b>	<b>\$50.00</b>

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Petty Cash	50.00
Savings	2,085.79
Checking	2,333.30
<b>Grand Total</b>	<b>\$4,469.09</b>

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Article by Glenn Cameron  
ACA Treasurer.

# SWAP & SHOP



## FOR SALE:

### Orion Sirius 40mm Plossl

Asking: \$25

Contact: Glenn Cameron

Phone: 330-737-1472

Email: glenn@cameronclan.org

## FOR SALE:



### Televue Radian 12 mm Eyepiece

- Excellent condition.

Asking: \$180 (cash)

Contact: Fred Fry

Email:

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### Televue Radian 18 mm Eyepiece

- Excellent condition.

Asking: \$180 (cash)

Contact: Fred Fry

Email:

riverfry@gmail.com

## FOR SALE:

### Celestron CPC Deluxe 800 HD Telescope with tripod.

Accessories:

- Celestron 1.25" eyepiece and filter kit.
- Tele Vue nebula filter.
- Celestron UHC/LPR filter.
- Celestron 15mm 1.25" 82 degree wide field eyepiece.
- Stellarvue 1.25" Dielectric Diagonal.
- Stellarvue 1.25" erecting prism.
- Celestron power tank and dew shield.
- Astrozap sun filter.
- Celestron AC adaptor.
- JMI custom hard shell case for telescope.

All 8 months old, brand new condition.

Asking: \$2200

Contact: Jim Hall

Phone: 330-268-8695

## FOR SALE:



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- Excellent condition.
- Small mark on 1.25" barrel.
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Focal length 2032 mm with 406x highest useful power.

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editor:

jgshinn2014@gmail.com

# ACA April General Membership Meeting

By Ann Ferrell



**Ron Kalinoski the ACA Observatory Director with the astronomy clubs 16" Meade LX200ACF computerized Schmidt-Cassegrain telescope.**

The Astronomy Club of Akron is pleased to present speaker, Ron Kalinoski. If you've ever been to a public event at the ACA Observatory you have definitely met Ron, who has been our Observatory Director for the past 10 years. Ron's interest in astronomy began at age 10 when his father bought him a telescope and he has been observing the night sky ever since, including countless nights at desert locations of southwestern United States. Ron works for Firestone Polymers as a chemical engineer. Ron is passionate about the environment and leads the volunteer Wildlife Habitat Group at Firestone Polymers. The group's goal is to increase awareness of the importance of environmental stewardship.

Ron's presentation topic: Anthropic Principle

"We live in an amazing Universe. The constants of Nature in the fundamental equations that describe the Universe are finely tuned to give us the Universe we see and know. These constants cannot be predicted by theory; they can only be found by experiment. Slight variation of these constants dramatically change the Universe or eliminate its existence altogether. The Anthropic Principle which deals with this idea of fine tuning was developed in the 60's and became very popular in the 80's. While most physicists agree the constants of Nature are finely tuned, there is little agreement on why. The discovery of Dark Energy in the 1990's and the reemergence of the cosmological constant has brought the topic back into discussion today. Our talk will cover some examples of fine tuning the constants of Nature. And during our discussion, we'll explore spatial curvature, Dark Energy, and how astronomers discovered the expansion of the Universe is accelerating."

Join us April 22, 2016, 8 p.m. to discuss a topic that is often a divisive point in modern physics.

Location: Portage Lakes Kiwanis Civic Center, 725 Portage Lakes Drive, Akron 44319--8 p.m.

*Article By Ann Ferrell  
ACA Vice President*

## MERCURY TRANSITS THE SUN

On Monday, May 9<sup>th</sup>, Ohioans are among the fortunate...that in itself is a rare occasion! Somewhat rarer than that, on May 9<sup>th</sup> Mercury will transit the Sun, and Ohioans will be among those who will witness the transit in its entirety.

The transit will begin at 7:12 a.m. when Mercury first appears in silhouette against the Sun's disk. Mercury will remain silhouetted for seven and a half hours, with the halfway point marked at 10:57a.m. The transit concludes at 2:42 p.m.

Mercury's last transit of the sun occurred on November 8, 2006, and this infrequent event only occurs 14 times in the 21<sup>st</sup> century! The next transit will take place on November 11, 2019.

Weather permitting, ACA welcomes its members and the public to view the transit safely at our observatory. Mercury is a tiny fraction of the Sun's width and even with the aid of a telescope, will appear as a small, round, black disk. Since sunlight can blind a person, it is recommended one views the transit with an experienced astronomer. So come out to the observatory and share the experience of this special celestial event!

## 2016 ACA ELECTIONS SLATE OF OFFICERS

**PRESIDENT:** Catherine Loboda

**VICE PRESIDENT:** Dave Jessie

**SECRETARY:** Lew Snodgrass

**TREASURER:** Nick Mihiylov

**ASSISTANT SECRETARY-TREASURER:** Ann Ferrell

**PUBLICATION SECRETARY:** Marissa Fanady

The nominating committee presents these candidates as the slate of officers to be voted on during the April 22<sup>nd</sup> ACA meeting. There were no nominations from the floor; however, Article VIII, Section 5 of the ACA Bylaws states: *At the close of the March meeting, nominations will be closed. Write-in candidates [are] permitted on the ballot providing they meet all eligibility requirements for holding office.*

Members intending to write-in a candidate at the April election, please go over the ACA Bylaws on our website to ensure your choice is eligible to take office. Also, it is good practice to inform your candidate to confirm he or she is willing to serve.

### April Astronomical Events

Day Hour(UT)

5 01 Neptune 1°.9 S. of Moon  
6 08 Venus 0°.7 S. of Moon Occn.  
7 11 NEW MOON  
7 18 Moon at perigee  
8 11 Mercury 5° N. of Moon  
9 04 Vesta 0°.02 S. of Moon Occn.  
9 21 Uranus in conjunction with Sun  
10 22 Aldebaran 0°.3 S. of Moon Occn.  
14 04 FIRST QUARTER  
17 02 Mars stationary  
18 05 Jupiter 2° N. of Moon  
18 13 Pluto stationary  
18 14 Mercury greatest elong. E. (20°)  
21 16 Moon at apogee  
22 05 FULL MOON  
25 04 Mars 5° S. of Moon  
25 19 Saturn 3° S. of Moon  
27 03 Juno at opposition  
29 04 Mercury stationary

### May Astronomical Events

Day Hour(UT)

2 11 Neptune 1°.7 S. of Moon  
5 03 Uranus 2° N. of Moon  
6 04 Moon at perigee  
6 19 NEW MOON  
8 09 Aldebaran 0°.5 S. of Moon Occn.  
9 15 Mercury in inferior conjunction, transit over Sun  
9 23 Jupiter stationary  
13 17 FIRST QUARTER  
15 10 Jupiter 2° N. of Moon  
18 22 Moon at apogee  
21 20 Mars 6° S. of Moon  
21 21 FULL MOON  
21 22 Mercury stationary  
22 11 Mars at opposition  
22 22 Saturn 3° S. of Moon  
23 19 Vesta in conjunction with Sun  
29 12 LAST QUARTER  
29 19 Neptune 1°.4 S. of Moon  
30 22 Mars closest approach

*Information Credited,  
Her Majesty's Nautical Almanac Office,  
United Kingdom Hydrographic Office,  
US Naval Observatory.*

# Meteorite of The Month

By Marissa Fanady

Welcome back to the featured meteorite of the month for the ACA newsletter!!! My sincere apologies for not keeping up on this, life has been tough these past six months and it's not over yet but I cannot let that stop the rest of my life and responsibilities. Anyway this month I decided to feature an Ohio meteorite which happens to be the first of only two witnessed falls in our state, the New Concord meteorite! During my time in Tucson a dealer and friend of mine asked me if I had obtained any Ohio meteorites in my collection yet which I hadn't...at least not at the moment. Obtaining any or all Ohio meteorites was definitely on my list of future purchases. Much to my surprise and shock I received a package weeks later from him that contained a genuine Ohio meteorite! The precious gem was from the Arizona State University's meteorite collection and it came with a beautiful binder of information about this rock. He was very kind to copy all of the information that he had on this unique fall so that I'd have not only the meteorite but also it's fall history. In the world of meteorites having the fall history, the story of its journey, is extremely rare and valuable. A meteorite with its story behind it makes this rock much more pricy and sought after by collectors in the community, especially if photos or these days videos come with the meteorite. Space rocks that happen to land in our state do not last very long with our wet, humid, and ever changing climate so there aren't too many meteorites from Ohio out and about. I don't recommend trying to go hunting for any meteorites unless a huge fireball event was seen over our area and some material was believed to have survived the fall. There is only one other witnessed fall in Ohio that occurred on 1893 in Pricetown which was after the New Concord event. All other meteorites were found after the space debris came crashing down with no witnesses which we call finds. This brings the total number of official classified meteorites found in Ohio to only twelve, so sadly space rocks in our home state are very rare. That's our climate working against us as always, we know this all too well! So allow me to share with you the knowledge that I've gained about this incredible fall that graced our skies long before we were born.

On May 1, 1860 at about 12:30 in the afternoon this space invader made its debut over Washington County, OH and traveled Northwest towards Muskingum County where fragments rained down upon the town and the surrounding areas of New Concord Ohio. As usual the weather was partly to mostly cloudy but plenty of people could still spot the fireball between the clouds and when the meteor punched through the cloud layers. During this fiery entry through our atmosphere the heat and pressure caused the rock to explode and fragment. The point of origin of the explosion was determined to have occurred over Noble County by eyewitness accounts. People from up to 150 miles away could hear this explosion as well as up to twenty-three distinct separate explosions each weaker than the last until just a rumble was heard. Most described this rumble as a train passing through or a squad of awkward soldiers firing their weapons. The loud bangs that pierced the sky on this May day lasted for about two minutes. Folks near the epicenter of the main explosion were startled with the ground shaking causing their homes to shake as well, which made most believe that this event was an earthquake. One of the things that I find truly remarkable about this fall is that towards the end of the meteors flight people could actually see the stones falling to the ground. At least that is what people have claimed. Those who saw the stones descending described them as "black specks" and "black birds" which I'm sure, if this was truly witnessed, occurred in the large end of the strewnfield where the larger stones would fall. After the meteors harsh fire filled decent, atmospheric friction slows down the stone(s) enough to where they are no longer heated and they enter what we call dark flight. The strewnfield was found to be about ten miles long and two to three miles wide extending from Pleasant city up to New Concord. The strewnfield is the area in which meteorites are known to have been found and vary in size. Sometimes a strewnfield is extended or becomes larger because a meteorite hunter has made a new find of the same meteorite outside of the known boundaries. The large end of this strewnfield is in New Concord, matching the direction of the fireball that people reported. The small end, where the smaller fragments are found, was near Pleasant city. The largest meteorite recovered was 103 pounds with fresh black fusion crust covering the rock from burning up through the atmosphere due to friction.



**A 2.24 gram slice of the New Concord Ohio meteorite from the meteorite collection at Arizona State University. Image by ACA member Marissa Fanady.**

(con't page 7)

## Meteorite of The Month Con't

With this fall being witnessed by so many people, the meteorites that landed were picked up immediately after the event. Those who saw some of the stones crashing to the ground decided to rush to the site where they stumbled upon black rocks embedded into the ground. One gentleman was out in his field when he heard a loud sound much like thunder that continued for about thirty seconds until the noise finally ceased. Upon looking up in an attempt to locate the cause of this sound he saw an object hurtling towards earth at an angle and marked the point where he believed the object touched down. He found a stone that punched into the ground about two feet deep and it was a bit warm like it had been laying in the sun all day. This meteorite weighed fifty-three pounds and in a circumference of a few miles three more large stones were recovered. The main mass of the meteor, before the explosion, was estimated to be about three-eighths of a mile and the amount of material that fell was around 500 pounds. The speed that the meteor was traveling at was thought to be about four miles per second. Many many people heard this event and when they looked up they saw black objects falling towards earth. Another unusual fact about this event is that the folks who saw the stones raining down were also able to go in search of them and actually find the stones. One individual who was plowing a field saw one land about 200 yards away from him, once he located the meteorite he found that the rock had struck a corner of the fence on the property. Three lower rails were broken off of the fence, making this fall and meteorite a hammer stone event which is extremely rare! Anytime a meteorite strikes a man made object, animal, or human it is called a hammer stone and this makes the meteorite even more valuable. The meteorite was analyzed very quickly which to scientists is invaluable because the rock is extremely fresh and unchanged by our climate. One gram of the meteorite was found to contain silica, protoxyd iron, magnesia, alumina, lime, iron, nickel, sulphur, trace amounts of chromium and phosphorus, and even water! Classification of the meteorite came out to be an ordinary chondrite, an L-6 meaning that it is low in iron. Twenty-four meteorites were recovered and documented totaling only 460.5 pounds. Marietta College has the 103 pound main mass while Amherst College obtained the fifty-one and thirty-four pound meteorites. Harvard University was given 29.361 grams and London was given only 19.519 grams. Later Arizona State University purchased the New Concord meteorite from Amherst and J. Lawrence Smith for research. I'm sure that not much of the meteorite made its way into the meteorite collectors market, yes I had heard of this meteorite but the only place that I have seen this rock is up at the Cleveland Museum of Natural History. They have housed for display a nice huge slice of New Concord, it's a beautiful thick slice! Someday I'll have to ask if the curator of the meteorites and minerals knows how they obtained that specimen. Years after the fall it was reported that one of the rocks hit and killed a colt, but this was not mentioned on the day of the event or even the days after so this information is not official. Well there you have it, a wealth of information about an extremely rare meteor fall that luckily occurred over our home state. How I became fortunate enough to be the proud temporary owner of a piece of this meteorite is beyond me but I'm sure as heck thankful for this gem. Just goes to show that you never know what joys in life will happen to you when you follow your passions. If you have any questions regarding this meteorite or meteorites in general please feel free to email me at [speedymissy@yahoo.com](mailto:speedymissy@yahoo.com). Until next time...remember to watch the skies!!!

*Article By ACA Member,  
Marissa Fanady*

## General Meeting Minutes March 25, 2016

8:05 pm, Call to order, V.P. Ann Ferrell presiding. 25 Attendees.

Reading of the minutes from February 28, 2016, Lew Snodgrass Sec.

**Meeting itinerary:** sign-up sheets are available for volunteers for the Social Committee, PR committee and membership committees.

### Official Reports

**Webmasters report:** Mercury transit (May 9<sup>th</sup>) info is on our website.

Dave reminded us that Camp Ed Bayer formerly (Camp CHOPS) will be held at Camp Carl June 3<sup>rd</sup>.

RE: Mercury transit, discussion was had on, weather permitting; will our observatory be open for this event? RE: Fishcreek location, Dave Jessie says, "We'll play it by ear."

**Observers report:** Messier marathon will be April 2, 2016

**Old Business:** A vote was taken a change in the by-laws was passed. New membership rules, Sept. 1st.-Aug. 31st.

**New Business:** New officers were nominated and accepted by vote.  
President: Cathy Labota (Absent), Vice President: Dave Jessie,  
Treasurer: Nick...? Secretary: Lew Snodgrass,  
Assistant Secretary/Treasurer: Ann Ferrell, Publication Secretary: Marissa Fanady.

Meeting adjourned 9:55 PM.

**Guest speaker:** Dr. J. Reynolds, Cleveland Astronomical Society; his presentation of the DAWN and New Horizons missions, with data and photos from Ceres and Pluto respectively.

## **ACA NEWS AND NOTES**

### **THANK YOU!**

ACA extends a sincere thank you to Ann Ferrell, Greg Crenshaw, and Ron Kalinoski for their time and efforts as they served on this year's nominating committee. The members who graciously stepped up to serve ACA are noted in the slate of officers. A heartfelt thank you to each of you!

### **ACA ELECTION OF OFFICERS**

A reminder to all members: we will be electing club officers during the April 22<sup>nd</sup> meeting. Please plan on attending and casting your vote. ACA's future is in your hands!

### **MARK YOUR CALENDARS**

Just a reminder that Observatory Director Ron Kalinoski will have the observatory open May 9<sup>th</sup> when Mercury transits the sun, weather permitting. Check the ACA website for the updates as the date nears.

Astronomy Day will be celebrated May 14<sup>th</sup> from 10:00 a.m. to 4:00 p.m. at the Cleveland Museum of Natural History. Traditionally, ACA participates in this well-attended event. If you are interested in representing the club, contact an executive board member as soon as possible.

## **A Letter From the Editor**

By Jason Shinn

My how time flies when you're having fun! Seven years ago I became the newsletter editor for one of north-east Ohio's best astronomy clubs, the Astronomy Club of Akron! What a privilege it has been to serve you folks up a monthly pallet of news, information, pictures, and fun stuff! I can't think of anything else I would love to be doing except for star gazing. I thank each and every one of you for your interest, your articles, and of course those spectacular images of deep space views that we all know and love. Remember it is YOU who have submitted articles and images that have made this newsletter what it is. All I did was just put it together, package it up, and send it out.

April will be the last month for me as ACA Publications Secretary. There are two factors in the decision for me to move on from the positions at this time. First and foremost the bylaws say, "times up!" Secondly my work load, since I changed careers two years ago come July, has also increased and squeezed my spare time to a bare minimum. In preparation for this I have been training your new publications secretary nominee, Marissa Fanady to follow in my footsteps. I do hope to see an unanimous vote for this young lady as I certainly do feel she is ready to take on the responsibility and I am definitely ready to pass on the torch. She will need your continued support with articles and images. Don't be afraid to share with us your joy of astronomy!

In closing I want to thank you all for your support of the newsletter and the club. I pledge to you all that I will continue my own support of our great club, the Astronomy Club of Akron!

Clear Skies!  
Jason Shinn,  
ACA Publications Secretary 2009-2016

*Article by Jason Shinn,  
ACA Publications Secretary.*



# The Night Sky

Newsletter of the Astronomy Club of Akron

c/o Jason Shinn, Editor  
1026C Rocky Brook Dr.  
Akron, OH 44313

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**The Astronomy Club of Akron**  
c/o Glenn Cameron  
169 Hillside Dr.  
Wadsworth, OH 44281

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**Astronomy Club of Akron** annual memberships renew in the month of May.

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JUNIOR (ages 12 to 17) \_\_\_\_\_\$15.00

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