



The Night Sky

The Newsletter of
The Astronomy Club of Akron

www.acaoh.org

Volume 38 Number 5

May 2016

Next Meeting: Friday - May 27, 2016 - 8:00 PM - Kiwanis Center

The Presidents Column

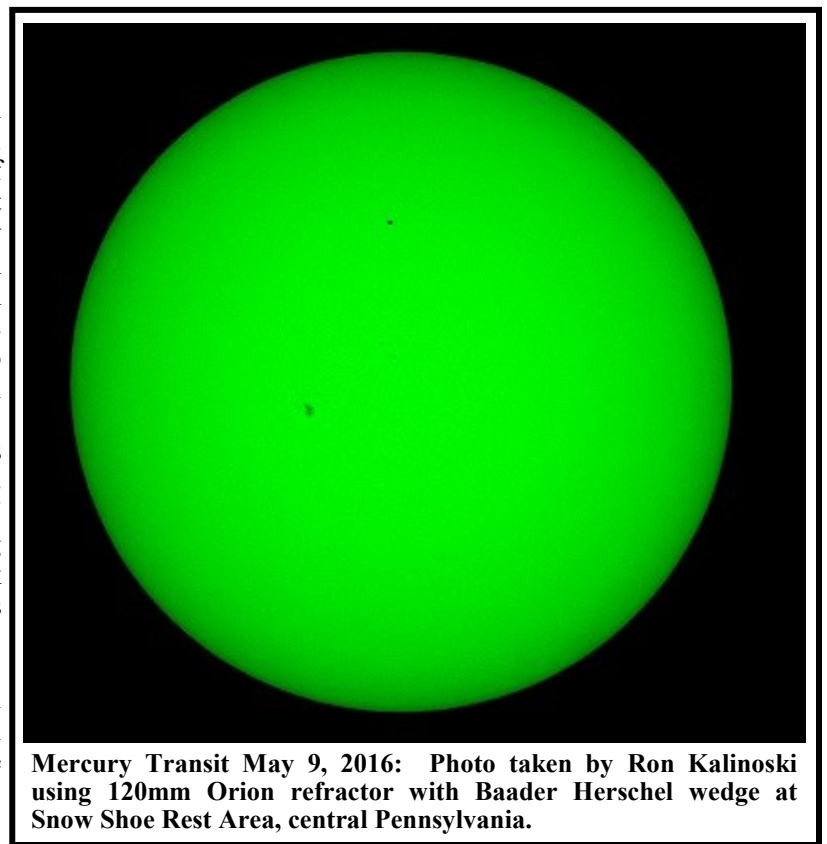
By Cathy Loboda

This year, May holds a number of wonderful opportunities for astronomy enthusiasts. On May 9, those who were able gathered to soak up the awe of Mercury transiting the Sun. Viewing was best at first contact (7:13 a.m.) as thin clouds quickly passed, leaving plenty of time to share each eyepiece made available at Silver Springs Park in Stow. Club Vice President Dave Jessie set up his two solar scopes and club member Jason Shinn also shared his telescope as event attendees kept vigil hoping for improving weather conditions. Unfortunately for those in attendance, Jason's correlation was proven true: as more observers arrived, cloud cover became greater. At the 10:57 a.m. transit midpoint, cloud cover made viewing impossible; but, attendees lingered to enjoy the park setting, lively discussion, and each other's company. A good time was had by all!

The Cleveland Museum of Natural History will host Astronomy Day on Saturday, May 14. ACA will be represented at this event with Dave Jessie leading our entourage.

NASA Glenn Research Center in Cleveland is celebrating its 75th anniversary by opening its doors to the public. The free open house is scheduled for May 21 and 22 from 10:00 a.m. to 6:00 p.m. at the Lewis Field Campus. This is an amazing opportunity and ACA members and their families are encouraged to attend.

NASA's staff will guide guests on walking tours of the Aero-Acoustic Propulsion Laboratory, Low Speed Wind Tunnel, Icing Research Tunnel, Zero Gravity Facility, Simulated Lunar Operations facility, GRUVE Lab, Propulsion System Lab, Telescience Support Center, Electric Propulsion Lab, Engine Research Building, Glenn Extreme Environment Rig, Photovoltaic Lab, and COMPASS Lab. These facilities contributed to some of our nation's great innovations and attendees will see special presentations and the technologies that contribute to NASA's future and our journey to Mars. Hands-on activities are planned for the children, including making a handheld jet engine, straw rockets, and solar energy bracelets. Demonstrations on lunar robotics, soda bottle rockets, and alternative energy are among others scheduled for children....and all is absolutely free!



Mercury Transit May 9, 2016: Photo taken by Ron Kalinoski using 120mm Orion refractor with Baader Herschel wedge at Snow Shoe Rest Area, central Pennsylvania.

(con't page 4)

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Lou Poda

April Treasurer's Report

By Glenn Cameron

4/1/2016 Through 4/30/2016

Checking Beginning Balance	\$2,333.30
Income	
Dues	40.00
50/50 Raffle	13.00
Total Income	\$53.00
Expenses	
Web Hosting	-57.81
Total Expenses	-57.81
Income Less Expenses	-\$4.81
Checking Ending Balance	\$2,328.49

Savings Beginning Balance	\$2,085.79
Earned Interest	0.03
Monthly Maintenance Fee	-9.99
Savings Ending Balance	\$2,075.83

Petty Cash Beginning Balance	\$50.00
	0.00
Petty Cash Ending Balance	\$50.00

Petty Cash	50.00
Savings	2,075.83
Checking	2,328.49
Grand Total	\$4,454.32

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:

riverfry@gmail.com

FOR SALE:



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:



Pentax XW 20mm Eyepiece

- Excellent condition.
- Small mark on 1.25" barrel.
- Always used in a compression clamp.

Asking: \$220 (cash)

Contact: Fred Fry

Email: riverfry@gmail.com

FOR SALE:

Celestron NexStar 8i computerized to go 8" F/10 Schmidt-Cassegrain

Focal length 2032 mm with 406x highest useful power.

Includes:

- GPS module.
- Five multicoated Plössl eyepieces.
- 2X Barlow lense.
- Seven filters.
- A/C adaptor.
- Night vision flash.
- Celestron star pointer.

All rarely used and in new condition.

Cost \$1,689 new.

Asking: Best Offer

Contact: Nick Bade

Email: nb@tribco.com

Phone: 216-486-2000 weekdays and

440-585-8687 evenings and weekends.

Advertise in the Swap n Shop!

Send a picture of
your **ASTRONOMY
RELATED** item and
relevant information
to the newsletter
editor:

jgshinn2014@gmail.com

ACA May General Membership Meeting

May 27, 2016 General Membership Meeting, Speaker: John Harkey

Topic: Signal Processing for Image Processing in Astronomy

Images are collections of photon traces that can yield information about the stars and the universe. Those same images can be thought of as collections of signals along arbitrary axes that take the one-dimensional photon dot to a two-dimensional sequence. This allows the data to be processed by any number of the vast world of signal processing algorithms. The data can be integrated and averaged to enhance the brightness and contrast. If data is used from many images, this process can add detail that cannot normally be seen by the naked eye. In some cases, these images take a sufficiently long period of time to collect that it cannot be done in one session, in one night. This creates a new problem that different collections need to be aligned with each other because it is impossible to align equipment to the exact same orientation and still be affordable to the amateur astronomer.

John Harkey is a recently retired Electrical/Software Engineer and has been an amateur astronomer for 35 years. He recently purchased an inexpensive digital camera, a GE 1440 costing only \$60, and interfaced it to his 8" Schmidt-Cassegrain telescope using a 3D printed fixture. He saw the need to integrate images taken over a single night or more, in order to collect enough light from some objects. John used his expertise to write some image processing software to correlate, align, and integrate images of any size. This software also translates, rotates, magnifies, offsets, and amplifies images. It has an interface so that users can create their own image processing algorithms and is supported by an additional signal processing program that shares the same data format of the image processing software so that data may be copied from one program to the other with just two mouse clicks. The programs actually do lots more. John is willing to share these things with ACA members for just simply using them and offering some feedback to him. That's his motivation for speaking to us tonight. Check the acaoh.org meeting webpage for additional information.



John Harkey a recently retired Electrical/Software Engineer and an amateur astronomer.

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

Presidents Column Con't

For more information on directions, parking, and security policies, see the link below. Adults are required to provide a current, valid, government issued photo ID, such as a driver's license. Lawful permanent residents are required to bring two forms of ID, including their green card.

<http://www.nasa.gov/feature/open-the-gates-nasa-glenn-invites-the-public-for-a-weekend-visit#.VxeaV6hbSsE.gmail>

Finally, May closes with ACA members and the public invited to attend the final club meeting before our summer break and a scheduled star party. The meeting is scheduled for Friday, May 27. John Harkey is our speaker at 8:00 p.m. The monthly meeting will follow after refreshments. Club dues will be collected any time before our September meeting by ACA treasurer Nick Mihiylov. Checks should be made payable to ACA.

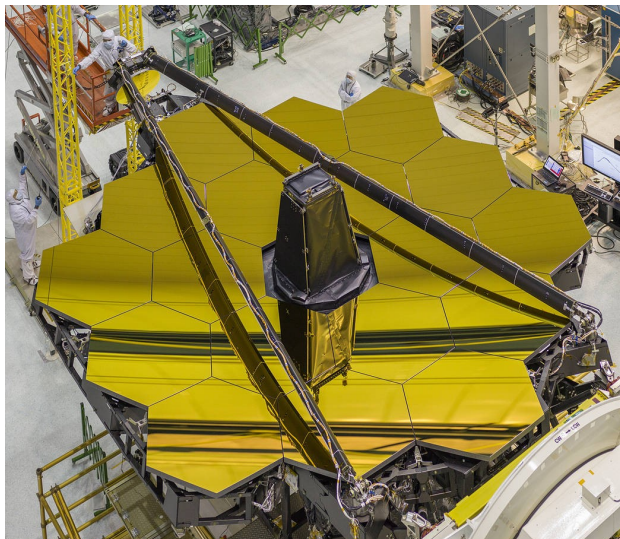
The star party is scheduled on Saturday, May 28, weather permitting. Always check the ACA website for details.

Looking forward to seeing you,

*Article By Cathy Loboda,
ACA President*

Astronomy Picture of The Month

By Marissa Fanady



The James Webb Space Telescope inside the clean room at NASA's Goddard Space Flight Center.

This month I'm featuring the continued construction of the James Webb Space Telescope, the successor to the Hubble Space Telescope. The launch of this observatory is scheduled for October 2018 on an Ariane 5 rocket from French Guiana. Webb will be the largest space based telescope that we have ever launched, due to its large size some of the mirrors are designed to fold up so that the instrument can fit onto the rocket. Once in space and in its stable orbit around earth the telescope will unfold it's mirrors to capture first light! The primary mirror is a combination of 18 smaller mirrors, each about the size of a coffee table weighing 46 pounds, making this mirror a nice big 6.5 meters. Each mirror is made out of beryllium and is coated with a very fine layer of vaporized gold, giving it this soon to be famous gold look. The reason scientists gave each mirror a gold coating...well gold best reflects infrared, which is the primary wavelength that the telescope will be using to observe and study our universe. The observatory will study every phase in the history of our universe; from the first luminous glows after the Big Bang, to the formation of solar systems, to the evolution of our own solar system. Four instruments will be used to make these observations and they have detectors that can pick up

extremely faint objects. When this baby goes up it will be a very exciting time for astronomers and the public with new discoveries just waiting to be known!!!

Information credited: http://www.nasa.gov/mission_pages/webb/about/index.html. <http://www.nasa.gov/image-feature/james-webb-space-telescopes-golden-mirror>.

*Article by Marissa Fanady,
ACA Publications Secretary*

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

June Astronomical Events

Day Hour(UT)

1 14 Uranus 2° N. of Moon
3 07 Saturn at opposition
3 10 Mercury 0° 7' N. of Moon Occn.
3 11 Moon at perigee
5 03 NEW MOON
5 09 Mercury greatest elong. W. (24°)
6 22 Venus in superior conjunction
11 20 Jupiter 1° 5' N. of Moon
12 08 FIRST QUARTER
14 08 Neptune stationary
15 12 Moon at apogee
17 10 Mars 7° S. of Moon
18 15 Pallas stationary
19 00 Saturn 3° S. of Moon
19 21 Mercury 4° N. of Aldebaran
20 11 FULL MOON
20 23 Solstice
25 17 Juno stationary
26 01 Neptune 1° 2' S. of Moon Occn.
27 18 LAST QUARTER
28 23 Uranus 3° N. of Moon
30 08 Mars stationary

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

ACA General Meeting Minutes April 22, 2016

Presentation begins: Ron Kalinoski presents “Fine Tuning of the Universe”.

9:45pm, Pres. Cathy Loboda Calls to order, presiding 25 Attendees. Lew Snodgrass- Secretary’s report, Glenn Cameron, Treasurers report, on–line. Call to accept reports, passed by majority vote.

Old Business: Membership rotation.

New Business: Casting of ballots for new officers, read by Ron, all passed. (13 votes).

50/50 raffle: Won by Lou Poda “2nd time in a row”.

Official Reports

V.P Dave Jesse: A reminder about Astronomy Day at the Cleveland Museum of Natural History Saturday May 14, 2016.

Observatory Director’s Report: Ron says, Messier Marathon to be rescheduled, impromptu star parties have been successful. More fence work later in May, stay tuned.

MERCURY TRANSIT: May 9th, Silver Springs Park in Stow. Check the ACA website for transit times and directions. Ann: motion to go to Silver Springs Park, Motion passes by show of hands.

Gregg mentioned NASA Glenn’s 50th anniversary open house May 21 & 22.

Meeting adjourned @ 10:09.

ACA NEWS AND NOTES

THANK YOU!

ACA would like to thank Dave Jessie and Jason Shinn for setting up their telescopes for the Mercury Transit of the Sun observation event at Silver Springs Park. Your time, effort, and knowledge shared was truly appreciated by all in attendance.

ACA would also like to give a heartfelt thank you to Jason Shinn for his tireless efforts as ACA Publication Secretary. The dedication shown during his long tenure was apparent and much appreciated!

MEMBERSHIP DUES

Please consider paying your club dues before our new September membership rush. Treasurer Nick Mihiylov is ready to accept your dues at the May meeting. Make checks payable to ACA.

Annual memberships are:
Adult (ages 18 and older)...\$30
Additional Adult Member....\$15
Junior (ages 12-17)...\$15
Family...\$40

FIELD TRIP!

Cleveland’s NASA Glenn Research Center is celebrating its 75th anniversary with a public open house on May 21 and 22 from 10 a.m. to 6 p.m. The open house is free, so grab family and friends and make a day of it. Take advantage of this amazing opportunity!

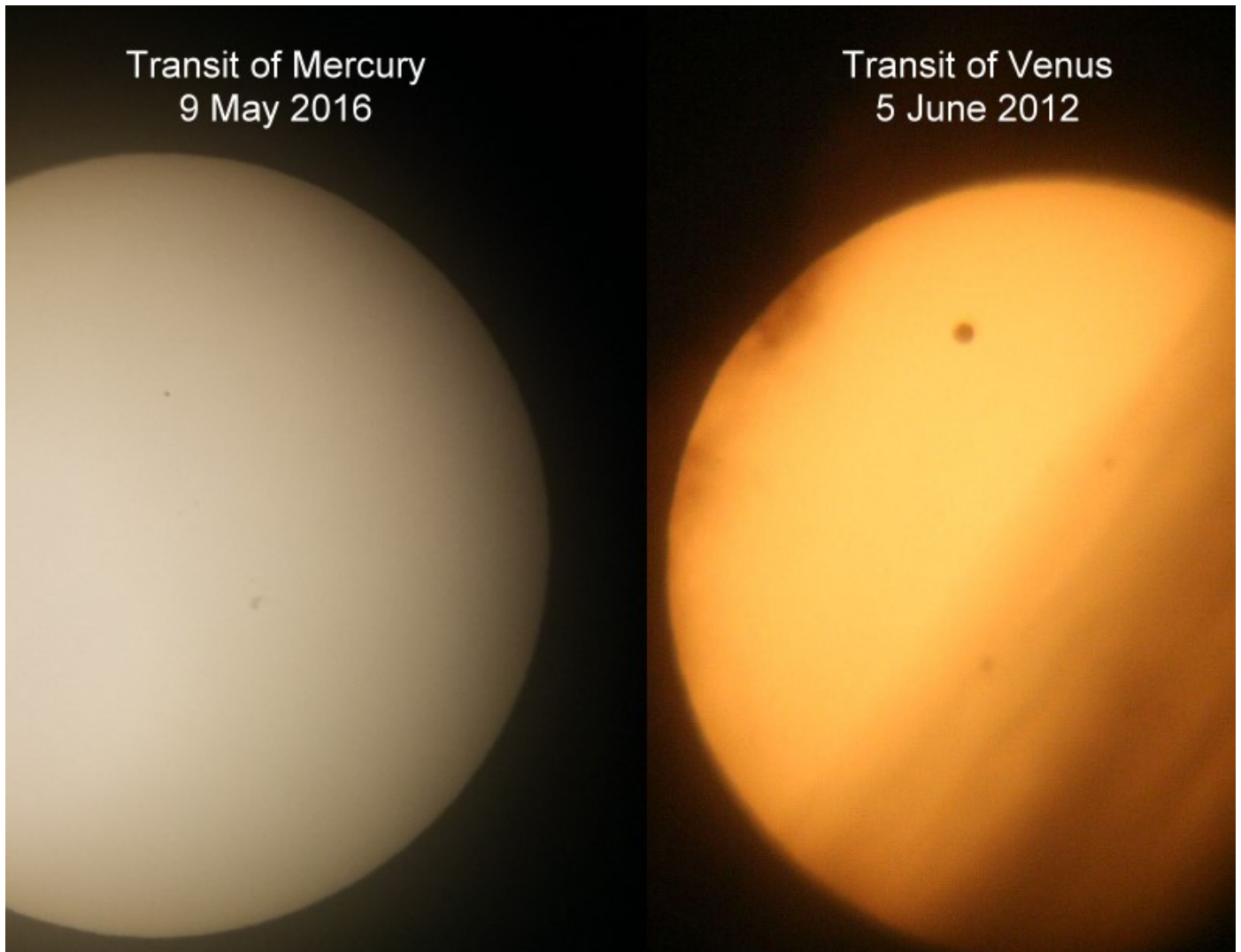
ANNUAL PICNIC

The annual ACA Member Picnic is in its planning stages. Expect a date in late August. Actual date and time will be announced soon.

Mercury Transit Image Collage 2016!



Mercury Transit Image Collage 2016!



Photos by ACA member Jason Shinn
For kicks I compared images I took of the 2012 Venus transit to images I took of the 2016 Mercury transit. Some things to keep in mind here are that Mercury is much smaller than Venus and relative to us its farther away as well. All this combines to make Venus appear giant compared to tiny Mercury. (page 7 top and bottom) (above)

Photo by ACA member Len Marek
Televue 102 and Coronado 90mm filter
SBIG ST2000XM camera 5/9/16
(page 7 center)

The Night Sky

Newsletter of the Astronomy Club of Akron

c/o Marissa Fanady, Editor

443 Fernwood Ave.

Tallmadge OH, 44278

The Astronomy Club of Akron

c/o Glenn Cameron

169 Hillside Dr.

Wadsworth, OH 44281

Yes! I want to become a member of the Astronomy Club of Akron

www.acaoh.org

(PLEASE PRINT)

NAME: _____ PHONE: _____

ADDRESS: _____

CITY: _____ STATE: _____ ZIP: _____

EMAIL ADDRESS: _____

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

ADULT (ages 18 and older) ___\$30.00

JUNIOR (ages 12 to 17) _____\$15.00

ADDITIONAL ADULT member ___\$15.00

FAMILY MEMBERSHIP _____\$40.00

Visit us on the Web at www.acaoh.org,