



# The Night Sky

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

Volume 36 Number 6

June 2014

**SUMMER BREAK! NO MEETING AT KIWANIS THIS MONTH!**

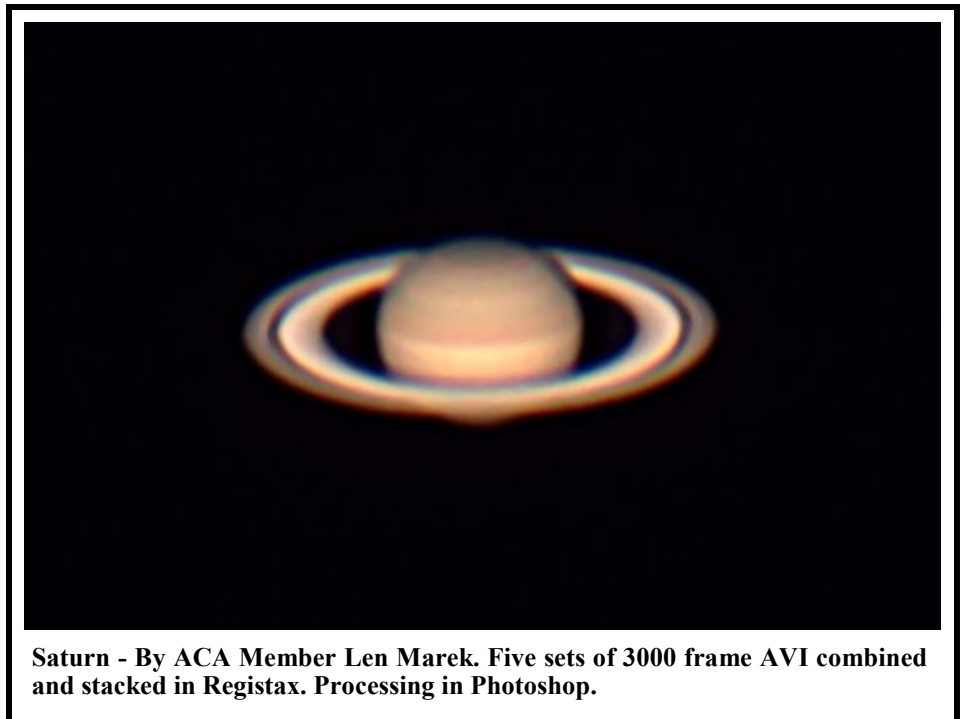
## The President's Column

By John Shulan



Let me begin by saying that I am honored to serve the Astronomy Club of Akron as it's new president. I will tell you a little bit about myself, I have loved astronomy since childhood and I am also what you might consider a "goto" telescope type astronomer. That means I'm able to push a lot of buttons rather than to have learned how to navigate the night sky manually like my fellow manual scope and binocular astronomers. What I have to offer as president of the ACA is a passion for astronomy and a lot of experience with non-profit organization. I have been on eight nonprofit boards and past president of two of them. I look forward to serving with you all.

There are a few changes I would like to implement. First of all, I want the board of directors to function as a real board. What this simply means is that any ideas the membership might have should be first presented to the board. That way the board members can do all the work of hashing out the pro and con issues at a board meeting before bringing it to a vote. All non profits I have participated in have worked that way. By hashing out ideas in a board meeting a choice can be made as to proceed or not and to



**Saturn - By ACA Member Len Marek. Five sets of 3000 frame AVI combined and stacked in Registax. Processing in Photoshop.**

decide whether it is an issue that needs to go to a vote with the membership. I want the board to be free and open to hearing any ideas any club member may have. Please feel free to call or email me or any board member with a concern or issue. Contact numbers and email addresses are always listed in our newsletter.

With this change in mind, our meetings this fall will have a slightly different format. There will be officer reports, then the presentation, and the fabulous 50/50 raffle. Meetings should not take longer than one hour. Of course, after the meeting it is a good time to chat with friends.

I have one request from all members and that is to please help your "goto" president by submitting astronomy articles and images to make our ACA Night Sky Newsletter informative and interesting. The ACA is a great organization! The exchange of ideas (with an occasional bad joke) and the sharing with the public about our interest in the universe is truly inspiring!

Clear Skies!  
John

*Article by John Shulan,  
ACA President.*

## OFFICERS 2014 – 2016

### President

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### Trustee

### Trustee

### Statutory Agent

Mark Kochheiser  
Phone: 330-882-3713 E-mail: mkochheiser@neo.rr.com

### OTAA Representative

Lou Poda

## May Treasurer's Report

By Glenn Cameron

5/1/2013 Through 5/31/2013

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Checking Beginning Balance	\$2,169.41
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### Income

Dues	350.18
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Donations	80.00
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<b>Total Income</b>	<b>\$430.18</b>
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### Expenses

Magazine Subscriptions	-34.00
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<b>Total Expenses</b>	<b>-\$34.00</b>
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<b>Income Less Expenses</b>	<b>\$396.18</b>
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Checking Ending Balance	\$2,565.59
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Savings Beginning Balance	\$2,539.29
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Earned Interest	0.11
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Dues	40.00
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<b>Savings Ending Balance</b>	<b>\$2,579.40</b>
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Petty Cash Beginning Balance	\$59.55
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Postage	-0.49
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<b>Petty Cash Ending Balance</b>	<b>\$59.06</b>
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Petty Cash	59.06
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Savings	2,579.40
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Checking	2,565.59
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<b>Grand Total</b>	<b>\$5,204.05</b>
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Article by Glenn Cameron  
ACA Treasurer.

# SWAP & SHOP



## FOR SALE:

22mm Orion Epic ED-2 ED Eyepiece  
25mm Orion Epic ED-2 ED Eyepiece

Asking: \$25 each

Contact: Glenn Cameron

Phone: 330-737-1472

Email: glenn@cameronclan.org



## 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:

Teleview Radian 12 mm Eyepiece

- Excellent condition.

Asking: \$180 (cash)

Contact: Fred Fry

Email: riverfry@gmail.com



## FOR SALE:

15mm Ultra-Wide Angle Eyepiece

Asking: \$40

Contact: Lew Snodgrass

Phone: 330-819-4886

Phone: 330-867-4800 Ask for Lew.

Email: chrply@aol.com



## FOR SALE:

Teleview Radian 18 mm Eyepiece

- Excellent condition.

Asking: \$180 (cash)

Contact: Fred Fry

Email: riverfry@gmail.com

## Advertise in the Swap n Shop!

ACA MEMBERS! Advertise your astronomy related item in the ACA's Night Sky Newsletter!

OHIO TURNPIKE ASTRONOMERS ASSOCIATION (OTAA) member clubs are also welcome to post their astronomy related items for sale in the ACA newsletter!

NOT ASSOCIATED with a club but live in NE Ohio? That's cool too!

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

[truemartian@aol.com](mailto:truemartian@aol.com)



## FOR SALE:

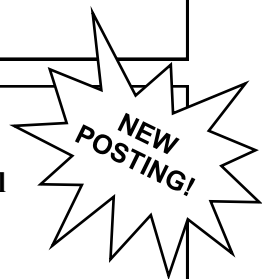
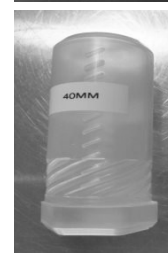
Orion Sirius 40mm Plossl

Asking: \$25

Contact: Glenn Cameron

Phone: 330-737-1472

Email: glenn@cameronclan.org



## Tours At NASA

By Marissa Fanady



The National Aeronautics and Space Administration better known as NASA works to find many ways to get the public interested and involved in science, technology, engineering, and mathematics. From FaceBook pages, Twitter, NASA TV, live feeds from outside the International Space Station, web chats with scientists and astronauts, science conventions, and even chances to see a rocket launch. But, I'm sure like most, I thought that their facilities where all the work and magic happens were off limits to the public for safety reasons. Thankfully I was wrong. Nicole Doll, a fellow ACA member, talked about how her and her son go on tours at the Glenn Research Center in Cleveland to see their many facilities and equipment used for research. So naturally I went searching on NASA's website to locate information about these tours and low and behold there they were, a set of tour dates from April through October. The tours are once a month each at a different building with the focus on a specific type of technology they are using for research and space flight.

The very first tour on the schedule was taking a look at Glenn's Electric Propulsion Laboratory vacuum chambers where scientists simulate space environment. These chambers are used to test electric propulsion systems for future spacecraft and deep space travel. The Electric Propulsion Laboratory holds six vacuum chambers, the smallest being one meter in diameter by three meters long while the largest is about eight meters in diameter by twenty-one meters long. Up to four different types of pumps can be used to remove and eliminate the large volume of air inside the tanks. A mechanic starts removing the air by activating four mechanical roughing pumps which rotates an eccentric piston inside a



**(left) The back of the Flight Research Building. This is the first building you see when you pull up at Cleveland's Glenn Research Center. (right) Our tour guide shows us the largest vacuum chamber at Glenn Research Center. Photos by ACA club member Marissa Fanady**

chamber to draw out air molecules. After the roughing pumps have decreased the air pressure another set of pumps, called roots pumps, activate. These pumps remove air by two symmetrical objects rotating in the opposite directions until the air pressure in the tank approaches that of fifty miles above the earth. At this point, oil diffusion pumps directly under the tank begin to operate. When these pumps are activated, a boiler electrically heats oil until it vaporizes and rises through chimneys. The gas then emerges from nozzles at supersonic speeds and moves downward, capturing air molecules and carrying them down. The air then travels through pipes to the roots pumps. With all three of these pumps the environment in the tank is equivalent to that of being one hundred and ten miles above the earth. The last pump used to reach a higher vacuum for thruster testing is called a cryopump. This pump condenses molecules which then stick to the cryopanel inside the tank and freezes them. Some of the chambers are even outfitted to simulate other natural phenomenon encountered in space such as sunlight, cold, and electrical charges.

Having the opportunity to go to a NASA facility to see all the



technology and learn about the research being conducted to better ourselves and our future is an amazing experience. The workers, scientists, and tour guides make everyone feel welcome and make it feel as though science is closer to you than most think, like everyone has access and the right to be there. To attend a tour visit <http://www.nasa.gov/centers/glenn/events/tours.html> to see a list of the upcoming tours and a phone number to call to reserve a spot for you or your group. Indeed groups of people can make reservations to tour together. When I attended a group of scouts had reserved the spot before my scheduled tour. From a scientific point of view the future looks bright, the research being done at the Glenn Research Center will help man fly to, land on, and mine an asteroid and establish a base on the moon and Mars. Our future lies in the stars...so let's boldly go!

### More Information

<http://www.nasa.gov/centers/glenn/events/tours.html>  
[facilities.grc.nasa.gov/epl/capabilities](http://facilities.grc.nasa.gov/epl/capabilities)  
[facilities.grc.nasa.gov/epl/gallery](http://facilities.grc.nasa.gov/epl/gallery)

*Article by ACA Member  
Marissa Fanady*

# LUNAR CRATERS

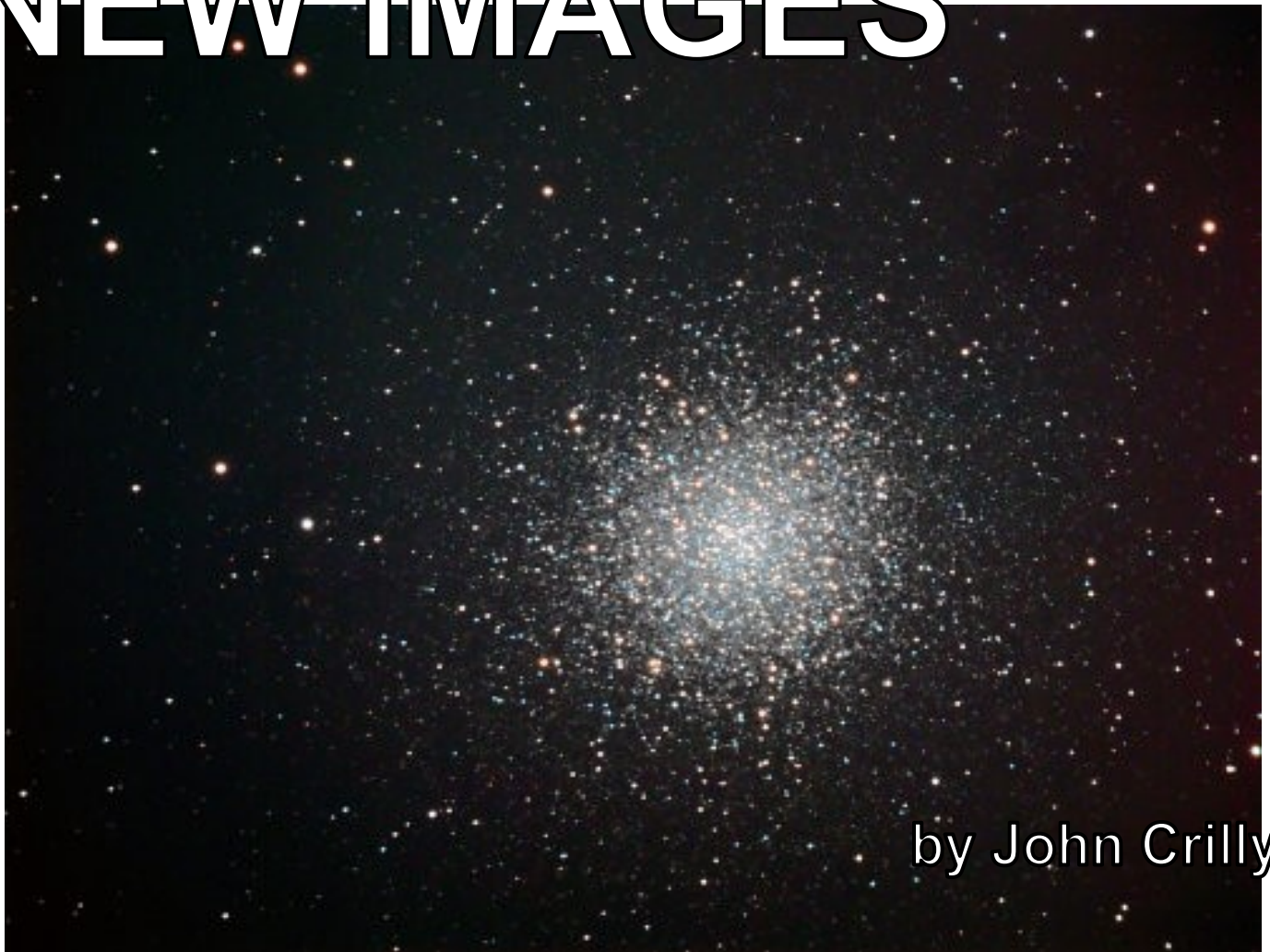
S D E F L M M M P I D Y D H R D S S M S  
F U J S O O A H L I R T X I L P U F A U  
C P I K B K N D A S G O R D W I I E N I  
P K E V E D M G T V D Y B E V C N G I N  
W Y L J A P C O O S L V B A R L O F L I  
T C V J N T L H C M E X L I T F D W I L  
C O O P Z B E E B M O C M D C A I J U P  
O M X D Z D G P R I Z N R T R Y S A S W  
U I M O B S A F M R Q A T I Z N O R R R  
S E D E M I H C R A K Y S A M D P I N K  
S M G W B Y M I O C C T Y E N E G S Z G  
T U K R C N S P I H A O N H W U R T U K  
O D C O I G Y H O R M E D S Y J S O T E  
C R X I R M C R C U L M Q F I P I T G B  
B D F Z N S A H L A N G R E N U S E Y U  
S T J R U R U L U H P R O C L U S L O Y  
X S G D Q S E S D M F W C S B X F E W L  
I L S G H Z I P D I S U N I V E T S J N  
Q Q B D W X P S O Q G Y B Z P S A L T A  
Z X T L D Q I V B C T I S T Z B N R K O

**ARCHIMEDES**  
**ARISTARCHUS**  
**ARISTOTELES**  
**ATLAS**  
**CLAVIUS**  
**COPERNICUS**  
**GRIMALDI**  
**KEPLER**  
**LANGRENUS**

**LONGOMONTANUS**  
**MANILIUS**  
**MENELAUS**  
**PETAVIUS**  
**PLATO**  
**PLINIUS**  
**POSIDONIUS**  
**PROCLUS**  
**SCHICKARD**

**STEVINUS**  
**TYCHO**

# NEW IMAGES



by John Crilly

**NEW IMAGES** (Above)  
By John Crilly

**M13 The Great Hercules Cluster**  
Captured May 2014

40 minutes L unbinned, 10 minutes  
each R,G,B binned 2X2.

QSI683WSG-8 on Meade 12" F/8  
ACF/LX850 mount

**NEW IMAGES** (Page 7)  
By John Crilly

**M20 The Trifid Nebula (top)**

40 minutes L, 8 minutes each RGB

QSI683WSG-8, LX850 GEM, 12" F/8  
LX850 OTA

**Galaxy M106 (bottom)**

First time shooting this object. Too  
much sky glow to really get the outer  
arms.

50 minutes L, 8 minutes each R,G,B  
binned.

**NEW IMAGES** (Page 8)  
By Bob Benedict

**Comet C/2012 K1 PanSTARRS**  
Captured May 25.

21X120 second images stacked in  
ImagesPlus.

Shooting star frame separately  
processed and recombined.

ES127 refractor, Canon T3i, iOptron  
iEQ45 mount.

# NEW IMAGES



by John Crilly

# NEW IMAGES



by Bob Benedict



# THE ASTRONOMY CLUB OF AKRON JULY 2014 ACTIVITIES CALENDAR

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
					4 Pluto at opposition. Earth at aphelion (farthest) 00h UT. STOW ASTRONOMY PUBLIC EVENT (www.stowastronomy.org)	5 First Quarter 11:59UT 
	6	7	8	9	11 STOW ASTRONOMY PUBLIC EVENT (www.stowastronomy.org)	12 Full Moon 11:25UT Mercury at greatest elongation morning sky at 18h UT. (21°) 
13 Moon at perigee (closest) at 08h UT.		14	15	16	18 STOW ASTRONOMY PUBLIC EVENT (www.stowastronomy.org)	19 Last Quarter 02:08UT ACA OBSERVATORY PUBLIC EVENT 9:00p 
20		21	22	23	25 STOW ASTRONOMY PUBLIC EVENT (www.stowastronomy.org)	26 New Moon 22:42UT ACA OBSERVATORY PUBLIC EVENT 9:00p 
27 THE DELTA AQUARIID METEOR SHOWER PEAKS	28 THE ALPHA CAPRICORNID METEOR SHOWER PEAKS Moon at apogee (farthest) 03h UT.					AKRON, OH <u>SUNRISE</u> JUL 1 4:58AM EDT JUL 30 5:21AM EDT <u>SUNSET</u> JUL 1 8:02PM EDT JUL 30 7:43PM EDT
				30		
				31		

# *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  
8019 Glendevan St. NW  
Massillon, OH 44646-9018

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

[www.acaoh.org](http://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](http://www.acaoh.org),