



# The Night Sky

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

Volume 37 Number 2

February 2015

Next Meeting: Friday - February 27, 2015 - 8:00 PM - Kiwanis

## The President's Column

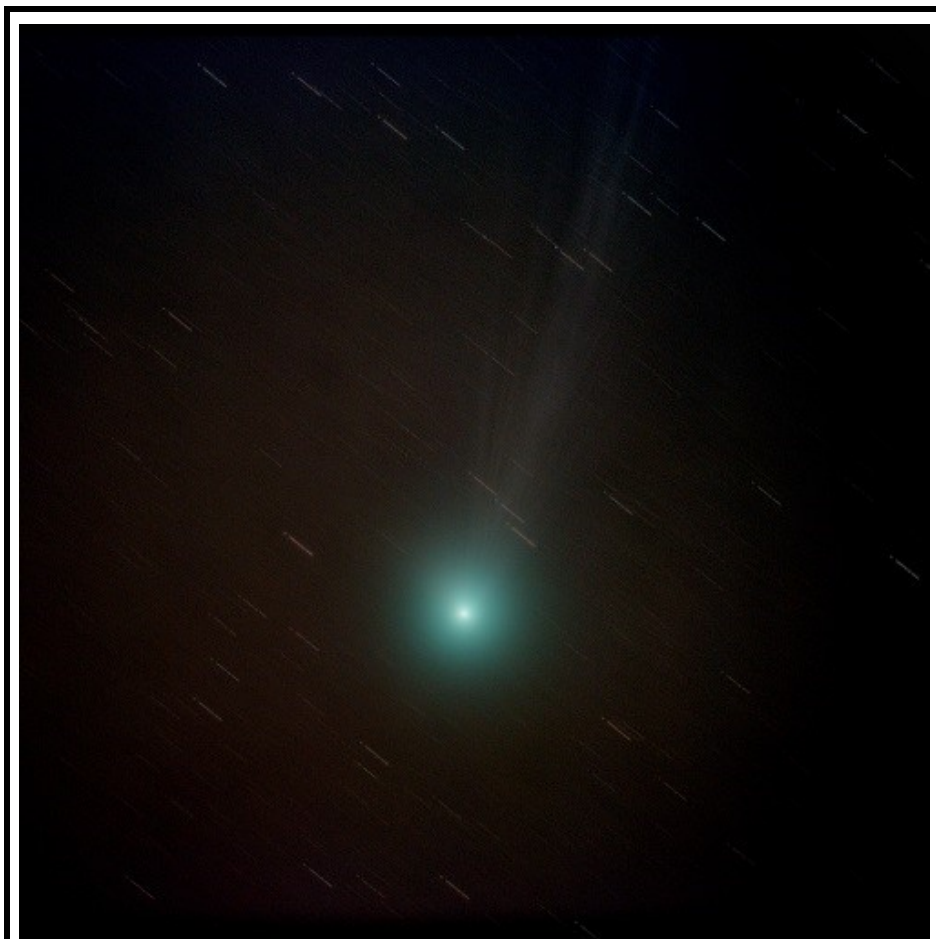
By John Shulan

### Cold days, colder nights!



I really hate seeing frost build up on my telescope tube. Good thing the ACA has great indoor programs. The NASA speakers offers insight into the complexity of the problems they are working on. One of the benefits of the NASA speakers is the increased number of people visiting our club too hear their program. Let us all be sure to welcome new visitors, it is part of our outreach. I have sent in a revised grant request to Rotary International. I am hoping to hear its outcome soon. I am also working on the Astronomy Magazine grant. There seem to be a growing number of prestigious outreach request for the ACA. I will circulate those by email and hope we can get volunteers to help out with them. The added visibility of our club is the best way we can grow it and keep it viable. In August the ACA has been asked to do a program with The Akron Metro-parks. The parks have three or four volunteers who bring out scopes for the public. There is a surprisingly large number of people in our area who have scopes and do not know of the ACA! I feel The ACA should become the premier astronomy club in the region. These outreach programs are key to keep our club from being a secret! We have the programs, we have the equipment, and we have great members. Clear skies, John

*Article by John Shulan,  
ACA President.*



**Comet C/2014 Q2 Lovejoy - Thirty-three sixty second exposures on a Canon T3i through a William Optics 80 mm ZenithStar II with an ATR8 .8x reducer carried on an iOptron iEQ45Pro. The air temperature was around 0° F for this imaging session. Image by ACA member Bob Benedict.**

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### OTAA Representative

Lou Poda

## January Treasurer's Report

By Glenn Cameron

1/1/2015 Through 1/31/2015

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Checking Beginning Balance	\$2,904.08
<b>Income</b>	
50/50 Raffle	20.00
<b>Total Income</b>	<b>\$20.00</b>
<b>Expenses</b>	
Speaker's Dinner	-43.00
Metisentry Web Hosting	-57.81
<b>Total Expenses</b>	<b>-\$100.81</b>
<b>Income Less Expenses</b>	<b>-\$80.80</b>
Checking Ending Balance	\$2,823.27

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Savings Beginning Balance	\$2,580.00
Earned Interest	0.07
Savings Ending Balance	\$2,580.07

---

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

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Petty Cash	50.00
Savings	2,580.07
Checking	2,823.27
<b>Grand Total</b>	<b>\$5,453.34</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:

**Orion Sirius 40mm Plossl**

Asking: \$25  
Contact: Glenn Cameron  
Phone: 330-737-1472  
Email: glenn@cameronclan.org

## FOR SALE:

**Meade LX80 Mount**

- Tripod.
- One counterweight.
- Autostar and battery box power supply.
- Cigarette lighter power cable.
- Selling because of upgrade to LX80 mount.
- LOCAL PICKUP is necessary.

Asking: \$325 OBO  
Contact: Glenn Cameron  
Phone: 330-737-1472  
Email: glenn@cameronclan.org

## 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 adapter.
- 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:



**Televue Radian 12mm Eyepiece**

- Excellent condition.

Asking: \$180 (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.

## FOR SALE:



**Televue Radian 18mm 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

## Advertise in the Swap n Shop!

Send a picture of your ASTRONOMY RELATED item and relevant information to the newsletter editor: jgshinn2014@gmail.com

## NASA's Larry Liou to Speak at Next Meeting

By Ann Ferrell



Larry Liou, Project Manager at NASA Glenn Research Center in Cleveland , Ohio, will give a talk on "NASA and NASA Earth Science." NASA has studied Earth from Space for decades and we have found it to be fascinating and beautiful, yet Earth continues to change, and we wonder what the future holds.....

### Forwarded from Larry Liou:

In a photograph taken 25 years ago by the spacecraft Voyager 1, a speck of light, hardly discernable, was identified to be the home where it came from --- Planet Earth at some 3.7 billion miles away. This photo makes Earth feel both insignificant and magnificent. Yet this speck of mass offers a magnificently delicate balance of conditions not yet found anywhere else where the human species thrives.

To understand the mystery of Earth the United States' National Aeronautics and Space Administration (NASA) has been studying the planet from space via satellites in combination with data collected from the aircraft and ground. The NASA Earth Science Program attempts to answer questions such as "How does Earth work as a system?" "How is the global Earth system changing?" and "How will the Earth system change in the future?"

**Larry Liou, Project Manager at NASA Glenn Research Center in Cleveland , Ohio**

-----Larry Liou, NASA Glenn Research Center

Mr. Liou's talk seeks to inspire and excite ourselves again to learn the wondrous facts about Earth and to appreciate the intricate and marvelous technological efforts and products that enable us to understand. NASA satellites, the "A-Train" reveal discoveries related to climate, global energy balance, magnetic portals and monitoring the harmful algal blooms in Lake Erie.

*Article By Ann Ferrell,  
ACA Vice President.*

## Free Planetarium Shows at Kent State University

### The Search for Extraterrestrial Intelligence:

This presentation showcases humanity's search for intelligent life on other worlds. After a tour of the lovely Ohio night sky; we will explore celestial objects that may harbor life millions to trillions of miles away. We will then describe ongoing attempts to communicate with whomever may be listening and the huge, difficult, worldwide effort to find the needle of an intelligent message within the haystack of cosmic radio noise.

This hour-long show is free and open to the public, but it is not recommended for children under age six. Because seating capacity is limited, we recommend making reservations by calling (330) 672-2246. Reservations will be accepted beginning February 4, 2015. Persons having special needs are requested to call in advance of the desired presentation night, so that accommodations can be arranged.

Information credited Kent State University.

All shows begin promptly at 8:00pm, but it is suggested that arrival be before 7:45pm:

Thursday, Feb. 19, 2015

Friday, Feb. 20, 2015

Saturday, Feb. 21, 2015

Reservations are recommended by calling 330-672-2246. The planetarium is in Smith Hall, KSU Planetarium 108 Smith Hall KSU Campus 1225 E Summit St. Kent, OH. Free parking is available in the R-5 lot.

*Article By ACA Member  
Dave Jessie.*

# Akron Physics Club Meeting

**Our next meeting will be Monday, February 23, 2014**

**At The Tangier, 532 West Market**

**6:00pm Socializing --- 6:30pm Dinner ---Program about 7:30**

**The charge for each dinner will be \$20**

**Dinner reservations must be made by THURSDAY February 19th**

**Email the names of people in your party to:**

**[akron.physics.club@gmail.com](mailto:akron.physics.club@gmail.com)**

Please use this email for reservations, for updates on email addresses,  
or to discontinue receiving these announcements.

**VISITORS ARE WELCOME --- COLLEGE STUDENTS ARE FREE**

[College students having dinner: Please identify yourself as a student.]

Anyone is welcome to attend the free presentation starting at about 7:30 pm.

But if you would like to have dinner, you will need a reservation.

**The Speaker at this meeting will be:**

**Dr. Professor Jeffrey Dyck, John Carroll University**

**He will be speaking on:**

**Thermoelectric materials and  
nanostructuring approaches to their optimization**

**Abstract:** Thermoelectric materials are the building blocks of solid state devices that convert heat energy into electrical energy or vice versa. The advantages of using solid state devices in refrigeration or power generation applications include a lack of moving parts, the possibility of miniaturization, a long maintenance-free lifetime, and no harmful gases. Because of the poor efficiency of present thermoelectric devices, their use today is mostly limited to niche applications. Over the last decade, increased activity in thermoelectrics research that takes advantage of recent advancements in materials science has resulted in dramatically improved thermoelectric performance. Through introducing nanometer-sized features into a bulk material, it has been demonstrated that thermoelectric efficiency can be increased. In this talk, I will introduce the physics of thermoelectric materials and discuss experiments aimed at optimization of the thermoelectric properties of materials in a variety of ways, including some nanostructuring approaches.

**The Speaker:** Professor Dyck received his Ph.D. from Case Western Reserve University in 2000 where he studied the low pressure plasma synthesis and optical characterization of wide-band-gap III-nitride semiconductors. After his doctoral work, Dr. Dyck was a postdoctoral fellow at the University of Michigan where he worked on the transport and magnetic properties of novel thermoelectric and diluted magnetic semiconductor materials. He joined the faculty of John Carroll University [JCU] in August 2003. At JCU, Prof. Dyck's experimental condensed matter research lab is centered on measurements of low temperature electrical and thermal transport properties of materials, with an aim to reveal underlying electron and phonon conduction mechanisms in order to optimize their properties for potential applications. Prof. Dyck has received funding for his research from Research Corporation and NSF. In addition, he is currently serving as Vice-Chair of the Ohio-Region Section of the American Physical Society.

**Join us for this interesting evening.**

## An Inexpensive Light Box For Taking Flats

By Bob Benedict

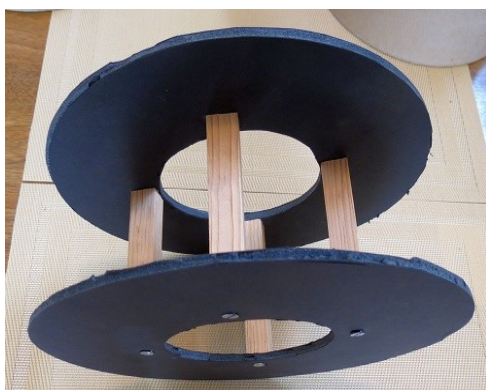
I tried taking sky flats and flats from a computer monitor but neither approach produced flats without gradients. I finally decided to make a light box to take better flats. I started with a 9" electroluminescent panel with power supply that I bought off Etsy for thirty-five dollars. Next I made a trip to the craft store to buy a 10" hat box, foam core sheets and a circle cutter.

I attached the luminescent panel centered in the bottom of the box with double sided picture mounting tape and brought the cord out the side. I next attached some 3/4" wide self adhesive insulating foam tape around the periphery as a spacer. On top of the foam spacer I placed a disc made of four layers of heavy paper glued on their periphery to cut down the brightness of the luminescent panel.

I then made a cage to hold the light box on the scope and excluded outside light. I used the circle cutter to make foam core rings whose OD just fit into the box. One ring had its ID just large enough to fit over my scope dew shield. The other ring had an ID a bit smaller to rest on the dew shield but not vignette the scope. I assembled the cage using four light wood spacers with wood screws through the rings into the ends of the wood spacers. I intend to make cages for each of my scopes.



The luminescent panel in the hat box.



Spacer cage to center light box on scope.



Light box on scope.

In use I point the scope up, put the cage in the light box and place the assembly over the scope's dew shield. I turn the panel on and take my flats. Analysis of the flats shows no gradients and images processed using the flats turned out very well.

*Article By ACA Member  
Bob Benedict*

## Why are you here?

By Martin Mullet

One evening last year, I was sitting on my deck absent-mindedly scanning the stars when my eye caught the Great Square of Pegasus rising in the east. I'd seen the Great Square countless times before, but for some reason on this occasion my mind went back to 1980 and the first time I'd noticed it. That's when it hit me: These four stars that looked like a baseball diamond first lit the spark that got me interested in astronomy so long ago. I remembered wondering if it was a constellation and why I hadn't noticed it before. It piqued my interest enough to send me to the library for a book on constellations. The following year gave me a trip to a planetarium and a 50mm Tasco refractor. I was hooked! I was out with my little scope as often as possible trying to learn the night sky. As time went by, however, raising a family and paying a mortgage supplanted my astronomy time and the spark lay dormant. My Tasco came out of the closet only once or twice a year. Eventually, as children grew and life became more stable, I again had time and resources to devote to stargazing. My spark started to glow. Saturn's edge-on rings in 1995 and Comets Hyakutake and Hale-Bopp in the following years gave me opportunities to share the wonder with my children and introduce them to astronomy. Over the years, my telescopes got bigger (as did my waistline), and my observing skills improved. I discovered CVAS and my spark became a blaze.

I found myself enjoying outreach and public events, and I began sharing the eyepiece with others, explaining what little I know and learning from those who know more. I dabbled in beginner astrophotography and learned to estimate magnitudes.

My astronomy skills have come a long way since I started but I'm still a visual observer at heart. I enjoy the beauty of astronomy and the science behind it. That's why sometimes when I'm out observing, I'll see the Great Square and smile, remembering that first night.

And that brings me back to my original question: Why are you here? What lit your spark and started you in amateur astronomy? A planet? Comet? Was it an astronomical event, or an especially starry night? Share your story with us at [Skywatcher.Reply@gmail.com](mailto:Skywatcher.Reply@gmail.com) and we'll run a follow-up article in a future Valley Skywatcher issue.

Martin Mullet  
CVAS

*Article By Martin Mullet,  
The Chagrin Valley Astronomical Society  
<http://cvas.cvas-north.com/>*

## Happy Birthday Chelyabinsk!

By Marissa Fanady

Two years ago on February 15th a large asteroid surprised the city of Chelyabinsk, Russia at 9:26am local time. The fireball became brighter than the sun, forcing witnesses to look away. The asteroid had exploded during entry due to atmospheric pressure, intense heat from friction and from stress fractures from a collision in space. Approximately three minutes later the city was hit by the sonic boom from the explosion causing windows to shatter, car alarms to go off, and even a building roof to be knocked down. Thousands were injured by flying glass. The last recorded event of this magnitude was the Tunguska explosion back in 1908 that leveled trees. An event like this will not likely occur again in our lifetime.

Collecting as much Chelyabinsk meteorites as I can is a new goal of mine ever since that day when I heard meteorites survived the fiery violent explosion down to the earth. Owning a significant size and quality of that meteorite was always going to be out of my reach since these meteorites were being sold at twenty to thirty-five dollars a gram. Even just a ten gram piece would cost two hundred to three hundred and fifty dollars! But the meteorite community has been extremely generous to me and one person bought me an amazing 72.1 gram Chelyabinsk! Not only is the size very impressive and sought after but it's features are highly valuable as well increasing its worth. I'm deeply grateful for the kindness that the scientific community has shown and given me. Someday I will return the favor and contribute to science and keep the generosity alive.

*Article By ACA Member  
Marissa Fanady*



**Chelyabinsk meteorite 72.1 gram individual with slickenslides, fusion crust, a chip revealing the interior and a rollover lip.**







**Chelyabinsk meteorite 72.1 gram individual with slickenslides, fusion crust, a chip revealing the interior and a rollover lip under a microscope.**



**Chelyabinsk meteorite 72.1 gram individual with slickenslides, fusion crust, a chip revealing the interior and a rollover lip.**

# THE ASTRONOMY CLUB OF AKRON FEBRUARY 2015 ACTIVITIES CALENDAR

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
1	2	3 Full Moon 23:09UT 	4	5	6 Moon at apogee (farthest) at 6h UT. Jupiter at opposition at 18h UT.	7
8	9	10	11	12 Last Quarter 3:50UT 	13	14
15	16	17	18 New Moon 23:47UT 	19 Moon at perigee (closest) at 7h UT.	20	21
22	23	24 Mercury at greatest elongation morning sky at 16h UT. (27°)	25 First Quarter 17:14UT 	26	27 ACA General Membership Meeting at Kiwanis 8p EST.	28

**AKRON, OH**

**SUNRISE**

FEB 1 7:37AM EST

FEB 28 7:02AM EST

**SUNSET**

FEB 1 5:43PM EST

FEB 28 6:16PM EST



# *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.acao.org](http://www.acao.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.acao.org](http://www.acao.org),