



# The Night Sky

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

Volume 38 Number 7

July 2016

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

### A note from your President:

For the May issue of ACA's Night Sky, I shared my experience under the stars on Hawaii's Mauna Kea. The article prompted member Tom Alexander to forward the article he and Leigh wrote a number of years ago for our newsletter. I truly enjoyed reading the details of their time on the island and thought you would, too. If you recall an experience under the stars you would like to share, I invite you to submit it for publication in ACA's Night Sky. Contact Publication Secretary Marissa Fanady for more information.

*By Cathy Loboda  
ACA President*

### Mystical Mauna Kea

By Tom and Leigh Alexander

The Big Island of Hawaii—home to Mount Kilauea, an active volcano and therefore the current home of Pele, the Hawaiian goddess of Volcanoes, fire, and lightning. The island is also home to the southernmost point in the United States; famous beaches made of either green or black sand; Mauna Loa, well-known home of macadamia nuts; Mauna Kea, home of Poli'ahu, Goddess of snow and platform of 13 observatories. Wait--13 observatories? With the promise of clear skies at almost 14,000 feet above sea level? And no light pollution up there because Hawaii has legislation that all public lights must be yellowed to help prevent it! We're going!

3:30pm: Hawaii Forest and Trail picks us up at our Kona Coast hotel at sea level. We're some of the few people standing around the hotel lobby in long sleeves and pants. Throw in the fact we're carrying bags full of hats, sweatshirts, and gloves, and you can understand the many strange looks from the tourists in shorts and tank tops enjoying the Oceanside Hawaiian summertime! We join sixteen others in the P'iwi, our bus, for the adventure, heading inland. We drive on Saddle Road. This is a famous road that we have not been on in our previous trips to the Big Island of Hawaii because car rental companies insist that you stay off this road.



Canada-France-Hawaii Telescope Dome housing a 3.58 M scope. Image by ACA member Tom Alexander.

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## June Treasurer's Report

By Nick Mihiylov

6/1/2016 Through 6/30/2016

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Checking Beginning Balance	\$2,328.49
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### Income

Total Income	\$0.00
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### Expenses

Transfer To Money Market	-500.00
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Reimbursement Ck 1199 to MK Pavilion Rental	-58.00
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Service Charge	-9.99
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Total Expenses	-567.99
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Income Less Expenses	-\$567.99
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Checking Ending Balance	\$1,760.50
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Savings Beginning Balance	\$2,065.88
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Earned Interest	0.04
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Service Charge	-9.99
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Transfer From Checking Account	500.00
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Savings Ending Balance	\$2,555.93
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Petty Cash Beginning Balance	\$50.00
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	0.00
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Petty Cash Ending Balance	\$50.00
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Petty Cash	50.00
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Savings	2,555.93
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Checking	1,760.50
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Grand Total	\$4,366.43
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Article by Nick Mihiylov  
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

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

Focal length 2032 mm with 406x highest useful power.

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- 2X Barlow lense.
- Seven filters.
- A/C adaptor.
- Night vision flash.
- Celestron star pointer.

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## Mystical Mauna Kea Con't



**The 100 mile Leviathan. The shadow of Mauna Kea Looking east at sunset. Image by ACA member Tom Alexander.**

It was built as a single lane road across the island of Hawaii in the 1940s by the Army Corp of Engineers. They built it in a big hurry as they wanted a cross island route for the military in case of a Japanese invasion. Once we were on the road, it was obvious why car rental companies forbid you to travel it--we doubt that many car suspensions can take the pounding! The road is being modernized slowly but surely. The western section of the road helps chiropractors stay in business, but the eastern half is currently a modern, smooth 2-lane highway. As we drive through the Parker Ranch, the largest private cattle ranch in the United States, our guide, Greg, gives us a good historical feel for the area. Our destination, Mauna Kea, rises 13,796 feet above sea level to our north; Mauna Loa rises 13, 677 feet to our south. We are in Saddle Valley between the two monoliths. We learn that the Goddess Pele, using Mauna Loa, and the Goddess Poli'ahu on Mauna Kea

had epic battles in this valley, as the lava flowed from Mauna Loa to be stopped by the snow and ice that Poli'ahu sent from Mauna Kea. We stop at an old cowhand barracks at about 7500 feet in altitude for a dinner of beef or vegetarian stew; a great choice as the temperature has dipped into the 50s. We all piled back into the minibus for the trip up Mauna Kea Road. Before we left, however, parkas were handed out. The temperatures were supposed to be in the 30s or less once we reached our destinations.

6:00pm: We arrived at the Mauna Kea Visitor's Center which also houses the Onizuka Center for International Astronomy at 9,500 feet above sea level; the last rest stop before the trek to the summit. The observatories were about half an hour away on a path that made Saddle Road look like the smoothest patch of cement on earth. This summit road is gravel and dirt for the first seven miles, and paved for the last seven in order to keep road dust away from the telescopes. A little ways behind the visitor center sit the dorms that visiting scientists and maintenance workers live in during their tour on the summit. Living at this altitude conditions them to function for 12 hour shifts at the summit which is close to 14,000 feet high. Most of the research astronomers, however, choose to sit in their offices or at home and monitor the scopes on their computers. A night of observing on the biggest scopes can cost over \$50,000 a night! Once on the path to the summit, the bus switches to four-wheel drive. The path has no guard rails, even though some of the drop-offs are quite impressive! We stop at about 10,000 feet for a picture session. Looking out over the mountains, ocean, clouds and Maui, the views were literally breathtaking (although the lack of oxygen might have had some part in that). There is currently no snow on Mauna Kea, even though the name translates to "White Mountain". This name is based on the 6-8 inch snowfalls that are common in the winter, so it is no misnomer. We pass a garage that has the only snow removal equipment in all of Hawaii—two tired looking snowplows enjoying their summer vacation.

6:30pm: The Summit--wow! we wish we could utter a more acute word to describe the awe and insignificance we felt, but it left us quite speechless. The observatories glistened in the setting sun, casting fantastic glares and shadows upon the surroundings. There are thirteen telescopes, including a radio telescope array, at three different levels. The naked eye view as twilight approaches is awesome. 75 miles to our north, Maui Island's 10,000-foot peak Haleakala poked through the clouds below us. The active volcano Kilauea and inactive Mauna Loa sit to our southeast and south, and to the southwest rises the somewhat shorter inactive Hualalai volcano. Although Mauna Loa has not erupted for over 4500 years, geologists do believe it will become active at some point. Hopefully not tonight! Looking off toward the east side of the peak past where the observatories are perched, a cinder cone and a giant black behemoth await. This cinder cone is a sacred place for Hawaiians. The black leviathan seems to go on for miles, but though it looks solid, the way it flows across the landscape is too ethereal to be as compact as the mountains around it. Greg informs the group that the black goliath is, in fact, the shadow of Mauna Kea, which stretches for over 100 miles! We are not alone on top of the mountain. Many Jeeps, tour busses, and people milling about the observatories distract from the otherwise beautiful view. The treacherous path to the summit is public, so many of the locals with 4 wheel drives have made the trek up here to watch the sunset. The peak will seem calm compared with the frenzied, yet still careful dash down the mountain soon after sunset. Hawaii mandates that there are to be no headlights on the top of the mountain more than thirty minutes after sunset to ensure dark skies for the scopes. Most people want to make the thrillingly dangerous ride down the half-paved path with as much light as possible, thus one can encounter a mini-rush hour right after sunset. If only Portage Lakes State Park could institute that rule, maybe there wouldn't be the chorus of groans and angry yells we've all come to know and love every time a non-astronomer drives past.

7:00pm: As the sun set, all eyes turned toward the west, hoping for the elusive green flash, which occurs when the sun goes down over a distinctly flat horizon, like an ocean. According to Greg, one occurs about once a month, and none had happened so far this month. Although the sky along the western horizon had a distinctly greenish tinge, no flash was seen that night. The moment the sun dropped beyond the horizon, the temperature dropped quickly. True to astronomical form, we immediately began to scan the sky for stars, remembering our latitude. The altitude was playing with us, though. The group could not see much from the peak, due to our oxygen starved eyes not functioning as well as they do at lower altitudes. The first two stars Tom sees are due south, about 10-15 degrees up from the horizon. His excitement builds as he observes what he believes to be Alpha and Beta Centauri, the pointer stars for the famous Southern Cross. The last time he saw these stars was July of 2007, when he was at about 30 degrees south in latitude in Lesotho, and they were almost directly overhead. But to be sure, he asked Greg to confirm his suspicions, which Greg did with a look that implied he had underestimated Tom's knowledge of the night sky. As the observatory shields began to open, we piled into the bus with a bit more difficulty due to the fact most of us were wearing parkas that Hawaii Forest and Trail had provided, for the ride back to the visitor center for a rest stop and our observing session. On the way down, we are able to see the Southern Cross just above Kilauea to our south. Greg is busy ensuring we make it down the hill on the road, so we take on the job of introducing the night sky to our fellow passengers on the way down since our companions are unfamiliar with the stars.

9:00pm: We unloaded from of the bus just below the visitor center at 9,000 feet, everyone except Leigh wearing a parka now that the chill had set in. Greg served us some hot chocolate and chocolate chip cookies (no John Shulan Chili, however!) and started to set up a Celestron C-11. Since Tom can't eat chocolate, he began to try to get his bearings in the unfamiliar sky. The Big Dipper was quite visible now, and as was Polaris, low in the North. We tried to find Vega, which would really help us figure out where we were in the sky. With all the stars, however, it took quite a while to find it! Vega too, was low in the northern sky, just rising above the observatories behind us. Leo is standing on his head in the west. Then, as we found Deneb and Cygnus, we started to follow the Milky Way south into Sagittarius which was almost directly overhead. Tom frowned at this point, because there seemed to be clouds in our view! How frustrating it was, to have come all this way, only to... Wait a moment... Those were no vapor clouds; they were the starry clouds of the Milky Way! Tom had been in some dark sky sites and seen the Milky Way clearly before, but never like this! He then started to point out some sights to our fellow tour group members, giving them a precursor to the mini-lesson then given by Greg.

9:15pm: Once Greg had the scope set up, he began his star tour/party. Through the scope we saw Alpha Centauri, Omega Centauri, Saturn, and M8 (Lagoon Nebula). Using his (unfortunately dying) green laser, he pointed out virtually all of the visible constellations and gave a somewhat humorous folklore history of how each constellation was named. Often, his story revolved around a Hawaiian native named Bob sitting around a campfire drinking hot chocolate. I'll leave to your imagination how he said Virgo was named! Now, that is not the way it's taught anywhere I've learned about before, but after all, we were in Hawaii! After about an hour and a half, the hot chocolate had run out, Greg was out of constellations to point out and comments to make, and it was getting truly cold (less than 30°F). After a quick trip back to the visitor center to use the facilities and grab a last cup of hot cocoa, and we were off down the mountain back to our hotels.



**Sunset over the Subaru and Keck 1 and 2 domes. Haleakala, a 10,000 foot peak on the island of Maui, 75 miles away, is visible above the clouds on the right side of the picture. The greenish tinge above the sun is not a green flash, but is the actual sky color. Image by ACA member Tom Alexander.**

Tom's Epilogue- This tour was a highlight of the Hawaii trip. Positives included the trip up the mountain, actually seeing the observatories, watching the sunset and seeing the Southern Cross and the sky from a dark, pristine, low latitude-high altitude site. Greg's narration during the trip to from sea level up the mountain was instructive and fun. I was a little less enamored with his narration at the observing site. This is likely because I was familiar with what he was discussing and I really wanted to observe more through the C-11. That hour and a half at 9500 feet under a pristine dark



**The Subaru Telescope observatory housing an 8.2 M optical scope. The Keck 1 dome is visible to the right of the Subaru observatory. Image by ACA member Tom Alexander.**

sky was about 75 minutes of talk and 15 minutes of observing, spread among all of us. It's not that his talk wasn't interesting and humorous; it's just that I would have preferred to be observing. I used the time for much naked eye scans of the sky, however, taking in all I could. My recommendation to ACA members who visit the islands and are debating taking this tour (list price for the tour was \$186 with some discounts available) are to contact the tour agencies to see if any has a tour specifically for amateur astronomers. While it's nice to hear some of the stories, you will likely want more observing time than this tour provided. Of course, there is nothing to stop you from carefully packing your own scope or big binoculars (a pair of 70-100 mm would be great for the Milky Way!), renting a 4 wheel drive and driving up to the visitor center area on your own for an evening's observing. This is a public facility, and although it is

crowded, the crowds thin as the evening rolls on. If you're headed to the Big Island of Hawaii, I strongly urge you to take advantage of the island's astronomical opportunities!

Further information on visiting Mauna Kea, including hours to tour the Keck 1 and University of Hawaii telescope observatories can be found at <http://www.ifa.hawaii.edu/mko/visiting.htm>.

*Article By ACA Member,  
Tom and Leigh Alexander*

## July Astronomical Events

- Day Hour(UT)
- 1 07 Moon at perigee
- 2 04 Aldebaran 0°.4 S. of Moon Occn.
- 4 11 NEW MOON
- 4 16 Earth at aphelion
- 7 03 Mercury in superior conjunction
- 7 22 Pluto at opposition
- 9 10 Jupiter 0°.9 N. of Moon Occn.
- 12 01 FIRST QUARTER
- 13 05 Moon at apogee
- 14 18 Mars 8° S. of Moon
- 16 05 Saturn 3° S. of Moon
- 16 18 Mercury 0°.5 N. of Venus
- 19 23 FULL MOON
- 23 06 Neptune 1°.1 S. of Moon Occn.
- 26 04 Uranus 3° N. of Moon
- 26 23 LAST QUARTER
- 27 12 Moon at perigee
- 29 11 Aldebaran 0°.3 S. of Moon Occn.
- 30 02 Uranus stationary
- 30 17 Mercury 0°.3 N. of Regulus

## August Astronomical Events

- Day Hour(UT)
- 2 21 NEW MOON
- 4 06 Venus 3° N. of Moon
- 4 22 Mercury 0°.6 N. of Moon Occn.
- 5 09 Venus 1°.1 N. of Regulus
- 6 04 Jupiter 0°.2 N. of Moon Occn.
- 10 00 Moon at apogee
- 10 18 FIRST QUARTER
- 11 22 Mars 8° S. of Moon
- 12 12 Saturn 4° S. of Moon
- 13 18 Saturn stationary
- 16 21 Mercury greatest elong. E. (27°)
- 18 09 FULL MOON Penumbral Eclipse
- 19 12 Neptune 1°.1 S. of Moon Occn.
- 20 12 Pallas at opposition
- 22 01 Moon at perigee
- 22 10 Uranus 3° N. of Moon
- 24 04 Mars 1°.8 N. of Antares
- 25 04 LAST QUARTER
- 25 17 Aldebaran 0°.2 S. of Moon Occn.
- 25 18 Mars 4° S. of Saturn
- 27 05 Mercury 5° S. of Venus
- 27 22 Venus 0°.07 N. of Jupiter
- 30 01 Mercury stationary

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

## ACA Outreach Event

By Marissa Fanady

On June 22nd the Astronomy Club of Akron put on a solar observing event at a very special camp called MDA Summer Camp that's for children from ages six to seventeen who suffer from neuromuscular diseases. Most of the kids are already in wheelchairs with some who are still able to walk with braces until their muscles fade away as well. This camp lasts for a week and unfortunately always occurs on the week of the summer solstice; a few years ago we put on a star party for the campers but unfortunately not many of the children could attend, there are set bedtimes that must be obeyed. Even though not many could attend the few who could were treated to at least one view of an object, I believe that Saturn was the crown jewel that night. Every camper that came out to observe was successful in seeing at least one object regardless of their condition, in my book that was a huge win and I shed some tears over how you, my club members, were able to make that happen. The same still held true for this solar observing event and boy did we get lucky!!! I knew that showing the campers and everyone else at the camp our beautiful star would be a much better event, that way everyone could participate.



**Campers and counselors form a line at both solar telescopes to catch a glimpse of the sun. The mess hall is pictured in the background along with the beautiful break in the sky that we were hoping to enjoy. Image by ACA members Ann and Russ Ferrell.**



**David Jessie assisting a camper and his counselor with solar observing. Both a white light and an H-alpha telescope are set up for viewing. Image by ACA members Ann and Russ Ferrell.**

views of the sun but I couldn't make out much details if any at all, I was very worried that we would be clouded out and that the event would be a bust. What's worse is that the day before we had nice clear skies, so the Ohio weather did what it always likes to do to us...tease us and try to ruin an event; sometimes succeeding in that mission! John and myself chatted for a bit until it was almost noon and I told him "I'll be right back I'm going to go look for Ann, Russ and Dave" and right on time I saw them pull into the camp. They decided to try to set up on a back patio behind the mess hall, John's telescope was easily portable so he made his way over too. While we were waiting for the others John and myself noticed an actual clearing to our North! For those of you who were at the Venus transit in 2012 the clearing was extremely similar to this, moving in our way very slowly as if the clouds were teasing us with what we desperately wanted. I just couldn't help but be taken right back to that incredible event; a day that I'll never forget. Everyone finally finished setting up their equipment and we were patiently waiting for that nice break in the sky to position itself right over the camp site. After a little while we started questioning our spot, we were not visible to any of the campers or

My home life was a bit busy that day so I arrived at Camp Cheerful quite early, at about 9:15am, which did not bother me at all because I could talk to Jackie, the coordinator of the camp, and make sure everything was set. Plus this was my old camp, I used to attend this wonderful place and I loved the opportunity to walk around reminiscing on old memories and talking to old counselors who made this camp so much fun. Dave, Ann, and Russ were going to arrive at noon to set up and John Shulan emailed me with interest of attending to help with the event since he was there for our very first observing session. Yes I understand that he left the astronomy club, I am aware that he started his own astronomy club, but this was about the children and I welcomed more help and another solar telescope to help take on the load of observers. John arrived at 11:30 and I had him set up in the back of the camp where a nice big field was located that had plenty of room and open skies. At first the skies looked pretty bad, we had a pretty nice thick cloud layer over us with very few areas of thin layers. There were even fewer holes and those holes were still not totally clear. I did see some

counselors with the mess hall between us and all of the activities going on that day. Dave and Ann wondered off to see if there were any hotdogs left, which sadly there weren't, and they found a much better spot where we'd be seen and there was some shade to hide under during any down times. So, we relocated to this new spot and Dave and John were able to set up their telescopes just in time for those clear skies! We also had a table set up in the shade for water bottles and some meteorites that I brought with me to show off to the kids. Yes I always bring some meteorites with me, I love the idea of letting people not only see space but also to get the opportunity to touch space in their own hands. Not long after we set up the campers and counselors started pouring in, we were all kept pretty busy throughout the whole event. Of course during any breaks with no attendees I would sneak a look through those beautiful telescopes, I have to take in as much observing as I possibly can. This time I could see details of small flares, granules, and a sunspot or two. Again every child that came to look at the sun was fully able to catch a glimpse with some needing assistance because the very young ones were a little too short to reach the eyepiece with the sun starting to set. Nothing too major that the counselors couldn't handle and fix with a simple lift, this is exactly why the counselors are there. Dave's telescope was the most popular probably due to the fact of the sheer size of his equipment, we all know that bigger is more impressive and draws more attention; gentlemen...puns are not intended!

Well the day went on and before we knew it time had flown by and it was 3:15 or so and everyone was getting tired. John had left a little earlier than we did because he had a job to still attend. Dave was pretty much non stop the whole time, spending most of the event on his knees helping the children and talking about our nearest star. Looking over at him occasionally, when I wasn't educating people about meteorites, I could see how tired he was getting but he kept on going and fought through the fatigue. We finally called it quits at about 3:30 and began packing everything up, plus the clouds were rearing their ugly faces again telling us to pack up and go home! The weather surprised me with the very nice clearing and that it granted us mercy for a very successful wonderful event. I'm sure that the universe did not want to disappoint the kids just as much as me so the weather worked out in our favor. Dave was exhausted and I really wish that I could've and could do more to help out...but all I have to give and offer is my sincere gratitude and thanks. Dave...you are one amazing man and a great friend, thank you so much for your help! Ann and Russ...thanks so much for dragging Dave out there and for helping set up everything as well as my meteorites, you guys are the best! The event turned out even better than I imagined, everyone had a wonderful time and I seriously cannot thank Dave, Ann, Russ and John enough for their help. Maybe we'll return next year and if we do I hope to see more club members attend to help educate the campers about astronomy; it's a life changing place, you won't regret it I promise.

*Article by Marissa Fanady  
ACA Publications Secretary*

## **ACA NEWS AND NOTES**

### **MARK YOUR CALENDARS**

Observatory Director Ron Kalinoski will have the observatory open at 9:00 p.m. on July 30 for our scheduled star party, weather permitting. Check the ACA website for the updates as the date nears. We will be observing double stars: optical doubles, visual doubles, and multiple star systems. Get ready for a Sky Tour of Summer Constellations! Come out in support of the event and enjoy fellowship with the public and each other!

The ACA Annual Members' Summer Picnic and Swap & Shop is scheduled for Sunday, August 21st at 4:00 p.m. The event will be held at Big Oaks Pavilion, Portage Lakes State Park. Please RSVP the number attending and note the food item you intend to share to President Cathy Loboda at [cnloboda@aol.com](mailto:cnloboda@aol.com). ACA will provide burgers, dogs, buns, condiments, and paper products. Families must bring their own drinks. Last year's picnic was enjoyed by all in attendance....good friends + good food = good times! Hope to see you there!

### **MEMBERSHIP**

The ACA Board and Treasurer Nick Mihiylov want to remind you that ACA's calendar year begins in September when our monthly meetings resume. Please turn in your membership dues by the September meeting to ensure ACA has the financial support needed to continue serving Akron and its neighboring communities.



# Member Photos



# The Night Sky

Newsletter of the Astronomy Club of Akron

c/o Marissa Fanady, Editor

443 Fernwood Ave.

Tallmadge OH, 44278

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## The Astronomy Club of Akron

c/o Nick Mihiylov

13495 Mogadore Avenue NW

Uniontown, Ohio 44685-9347

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

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

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EMAIL ADDRESS: \_\_\_\_\_

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

ADULT (ages 18 and older) \_\_\_\$30.00

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

ADDITIONAL ADULT member \_\_\_\$15.00

FAMILY MEMBERSHIP \_\_\_\_\_\$40.00

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