The Night Sky

Astronomy Club of Akron
Akron, OH USA

HTTP://WWW.ACAOH.ORG

ACA ANNUAL PICNIC

The club's annual picnic will be held Sunday, August 17, at 2:00 P.M. at the Portage Lakes Observatory.

The club is providing hot dogs, hamburgers, and beverages.

Please bring a potluck dish to share and your own place settings. Also, bring lawn chairs or games.

Debbie Crenshaw is coordinating the menu, so if you cannot decide what kind of dish to bring, give her a call.

Speaker Needed

The club is still looking for a presenter for the September meeting. The date is Friday, September 26. The meeting begins at 8:00 pm and presenters have a one (1) hour time limit unless prior arrangments are made.

Please contact Jeff Hudson or Jay Svitko if you are interested in speaking or know of someone that would like to speak at the club's meeting.

Upcoming Events

August 12
Full Moon

August 13-14
Perseid Meteor Shower Peak

August 16
Astronomy on the River

August 17
ACA Picnic

August 28
The Planet Mars

August 29-30
Cherry Springs State Park

August 30
Mars reaches perihelion

September 20
The Planets Uranus & Neptune

September 26
ACA Club Meeting

NOTICE

Don't forget the club's annual picnic will be held Sunday, August 17, at 2:00 P. M. at the Portage Lakes Observatory.

Presidential Musings

By Gregg Crenshaw

The ACA held an Executive Board meeting Sunday, July 20.

The open positions of Assistant Secretary / Treasurer, Trustee, and Statutory Agent were discussed. Debbie Crenshaw had indicated her interest in the position of Assistant Secretary / Treasurer and will assume that position immediately.

Long time member Tom Mino was appointed to the position of Trustee for a three-year term.

Mark Kochheiser, another long time member, was appointed as the new Statutory Agent.

The ACA thanks Debbie, Tom, and Mark for taking on these positions.

Another month goes by and I eagerly read each new issue of the NIGHT SKY. I have been reading with some interest a continuing series of articles regarding the future direction of the ACA.

You may remember mention of beginning a discussion regarding this subject in a late 2002 President's column in this publication.

I proposed at the July 20th board meeting that the club form an "ACA of the Future" committee

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The Night Sky is publish monthly and contains information on upcoming meetings, observing sessions, and articles by members.

Submission Deadline
September 13, 2003

The Night Sky	
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	Rich Ruggles
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	Jeff Hudson

Astronomy Club of Akron	
President	Gregg Crenshaw
Vice-President	Jay Svitko
Treasurer	Gary Smith
Secretary	Lynn Laux
Observatory Director	Ray Paul
Statutory Agent	Mark Kochheiser
Trustee	Glenn Cameron
Trustee	Dave Jessie
Trustee	Tom Mino
OTAA Representative	Lou Poda

Next Club Meeting

The ACA does not hold regular monthly meetings during the summer, the next scheduled meeting is on Friday, September 26, 2003 at 8:00 pm.

Contact Jay Svitko or Jeff Hudson with leads on a speaker or ideas for a program.

We encourage club members to give presentations, so don't be shy.

Speakers are encouraged to observer the 1 hour time limit. A business meeting follows the presentation.

Welcome New Member

Erin Panaciulli

ACA Fund Raising

By Jeff Hudson

Occasionally, the club makes bulk purchases of books, equipment or other items. This type of purchasing says club members money because we can negotiate a good deal.

Currently, we have the following items for sale:

The Star Book $10.00

The Star Book $10.00

The Binocular Star Gazer $10.00

The Universe From Your Backyard $15.00

The Photographic Atlas of the Stars $25.00

Small Levy Star Wheel $10.00

Large Levy Star Wheel $16.00

Don't forget I am still taking orders for the wall calendars and handbooks, see last months issue of the Night Sky for details or contact me for information.

Portable Power

By John Crilly

Between imaging equipment, laptops, dew heaters, and computerized telescopes there's a growing demand for field power for amateur astronomers. Coincidentally there are many products being introduced these days that address this issue nicely. I'd like to help folks decide what will best fit their needs with a brief discussion of lead-acid batteries.

First we should discuss numbers. Lead-acid batteries are rated in voltage, ampere-hour capacity, and peak available current (often referred to as "cold cranking amps"). We will begin with the presumption that 12 volts DC is what is required - most dew heaters, imagers, laptops, and automated telescopes operate from a nominal 12 volts. One popular instrument that varies from this is the Classic LX200, which needs 18 volts DC. For the purposes of this discussion we'll say that the user has a converter to run it from 12 Volts; these are common and inexpensive. Laptops requiring 120 VAC may be operated from an inverter. We can safely ignore "cold cranking amps" .

The number we need to look at when choosing batteries is the ampere-hour rating. This defines the actual energy available from the battery. We can readily see that a given battery will supply a small amount of power for a longer time than it can supply a large quantity. The amount of power consumed at a given voltage varies with the current drawn by the device. A device that draws one ampere for one hour has used one amp-hour of capacity. Imaging cameras usually draw an ampere or two. Dew heaters and automatic telescopes draw varying amounts of current at different times; I usually figure on an average of .7 ampere for a telescope and one ampere for large (8" & up) heaters.

It's easy to begin with the notion that "bigger is better" - after all, a battery with 100 amp-hours of capacity will run a telescope and heaters for days, right? For a number of reasons, it's not quite that simple. Remember (or discover for the first time) that a lead-acid cell generates a voltage of 2.2 volts DC. Cells in series add their voltage - thus to get to a nominal 12 volts DC we need six cells in series. We can't get to each cell; the only external connections are to the string as a whole. This means that we can charge the battery only as a complete unit and can't control the relative charge in each cell (battery terminology lesson #1: a battery is a group of cells).

When batteries are gently charged and discharged over a period of time, the state of charge begins to vary among the cells. Since the actual usable capacity of the battery is limited by the weakest cell, this results in degraded battery performance. In automobiles, the very high starting current serves to equalize the cells. In the field we don't have anything to fulfill that role. A battery that is never discharged or charged at a rate exceeding 10% of its capacity will deteriorate fairly rapidly. There are ways to equalize the cells in a battery, but let's just say they are expensive and dangerous and let it go at that. This gives us a rule of thumb to begin sizing our requirements.

We need a battery that can supply the expected current demand for the time period we require - but one with an amp-hour capacity not more than 10 times the expected maximum current demand. At the other extreme, for maximum battery life it's best not to discharge the battery much below 50% capacity any more often than we must. Thus, we have two outside limits.

For a modern computerized telescope and no other load, this limits us to less than 20 amp-hours capacity (as the maximum current drawn by common instruments while slewing in both axes is less than 2 amperes). Thus, car batteries (usually in the 50 to 60 amp-hour range) and deep-discharge marine batteries (usually even bigger) are inappropriate for this class of load. The minimum capacity we require is the average current drawn by the load multiplied by the duration we want. For a typical automatic telescope, we can figure on .7 amp average. A five hour observing session would use approximately 3.5 ampere-hours. We now have a target range: at least 7 amp-hours

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August 16 Astronomy on the River Canoe Trip

This proved to be a big hit last year, so let's do it again.

Spend a quiet Saturday afternoon leisurely drifting down the Tuscarawas. Being ever watchful for that pesky Bazooka Ball splashin' down by your canoe.

This river trip is open to all so bring your family and friends.

We will meet at Indian River Canoe Livery in Massillon, OH. We will the board vans that will take up 6 miles up river to our launch point. Halfway down we will stop and have a picnic at the Crystal Springs. There will be a privy and grill and tables for us to use.

The final 3 miles are when we play river ball. No one gets very wet unless you really want to. It's a fun day for all.

No experience necessary. The river depth is 2-3 feet deep. Life jackets and paddles are provided.

Cost per person is $12.00 based on 2 per canoe. Children in the middle are discounted.

What to bring: Cooler with food/drink. The kind that latch are best .To keep things dry use zip lock bags or Tupperware. Bring snacks and drinks to have on the river. Wear tennis shoes at all times. A sharp rock could end your fun real quick. Wear your bathing suit if you want. There are a few spots you can stop and play in the water if you like.

Canal Fulton is about 12 miles south of Akron.

Directions to this most excellent adventure are as follows: Find Rt. 93; Follow 93 in to and through Canal Fulton. (Do not stop at the canoe livery in Canal Fulton, that is not us). Follow Rt. 93 out of town to the top of the hill where you will find Rt. 21. Go south to Massillon on Rt. 21. When you come to the first traffic light, turn right and the canoe livery is right there.

Please be there by 1:00pm .

Hope you can make it.

Observatory Report

By Ray Paul

OBSERVATORY KEY HOLDERS please take note that as of Jul 22, the locks for the observatory and privy were changed. This has been done periodically in the past as a security measure and as the simplest way to take stock of everyone with keys.

The new locks are all keyed alike (only one key does all) and are of the "Do Not Duplicate" variety.

Anyone presently in possession of observatory keys please contact me to obtain a new one, either by phone or by e-mail (raymonpaul@aol.com)

Anyone interested in attending a training session on the operation of the club scope, please also contact me. I'll then schedule some appropriate date and time.

I am planning on using the recently donated C11 telescope during observatory programs with a video camera and monitor in the observatory, at the very least during planetary programs.

I would like several people to become familiar with its operation. Jeff Hudson has expressed an interest and I would like to recruit at least one other person.

It would involve somewhat of a commitment to attend the observatory programs and, most likely, some training.

If you have some interest and, perhaps, would like to learn some skills with a scope, get in touch with me.

Know of an upcoming astronomy event that you think the rest of the club would like to hear about? Send the date, time and relevant information to Jeff Hudson to be published in the Night Sky.

On The Road

By Rich Ruggles

August 23 Mahoning Valley OTAA Star party

This starts around 5:00 with a pot luck dinner at 6:15 so bring a dish to share and your own place setting and beverage. The location is in Braceville OH. On RT 534 about 8/10 mile north of RT 82. From Akron take I-76 east to RT 534 and go north through Newton Falls. You will then cross RT 5, go over the Turnpike and cross RT 82. About 8/10 of a mile from this point you will see the MVAS Cortese Observatory sign on the right marking the driveway

August 29-31 Black Forest Star party and convention

SOLD OUT better luck next year

September 19-21 Astro-Tour Tiffin OH

This is the Sandusky Valleys annual star party convention held at the Ballreich Observatory outside Tiffin Oh. For all the info. Go to there web site: http://www.friendlynet.com/astronomy/starparty/index.htm

Click on ABOUT US then at the bottom of that page click on MAPS

September 23-28 Astro-Blast Oil City PA

This is the Oil Region Astronomical Society annual convention and Star party. Located in north east Pa. this gathering offers excellent dark skies and a most unusual observatory. For all the info and maps go to www.oras.org

September 27 Black Rivers OTAA Star Party

The Black River Astronomical Society will once again hold there OTAA star party and pot luck dinner at the Strawberry Mountain Convention Center in Birmingham Oh. Directions--Take the Ohio Turnpike and exit at 7A (Baumhart Road). Go south on Baumhart to Route 113, then head west to Birmingham. Turn left(south) at the first street over the bridge as you enter Birmingham. Continue on South Street as it curves to the right, and the meeting hall will be on the left. For more info go to http://apk.net/~arstar50/BlackRiver.index.html

October 4 Scope Out 2003 Cincinnati OH

Great speakers, great deals, great observatories. This was the birth place of Astronomy in the US, and has the oldest daily used telescope in the world. Go to www.cincinnatiobservatory.org for maps and info on Scope-out

October 25 Fall Dark Sky Star Party

This Star Party will be held in Kilgore Ohio. This is located about half way between New Philadelphia and Steubenville. A great dark sky site about 1 ½ hours from Akron. Details will follow next month.

Editors Notes

By Jeff Hudson

Due to the canoe trip and the picnic, this months issue was put together and printed earlier than normal. That means everyone had the wrong deadline for submitting articles. If you sent me something or were thinking of sending me something, please do! I will just incorporate the material into next month's issue.

This is the main reason why there is no Constellation of the Month this time around.

Lets see … by this point in the newsletter you know about the picnic, the canoe trip and some other events. I hope to see you at these events.

Also, you have read or glanced over a great article on "Portable Power". The next couple of pages hold a good essay about Mars and an announcement from the Hoover-Price Planetarium.

Until next month ...

Portable Power

(Continued from page 3)

(double the 3.5 amp-hour required), but less than 20 amp-hours. Similar calculations may be used to size a battery for whatever load you anticipate.

For whatever reasons, small "jump start" batteries are becoming available at a rapidly increasing rate and at decreasing costs. Coincidentally, the two most common sizes are 7 amp-hours and 17 amp-hours. They must have gotten hold of an early copy of this article! The 7 amp-hour units sell for $40-$50 (unless you buy the one Celestron is now marketing for $100) and the 17 amp-hour jobs sell for $50-$80. They are available in the automotive department of stores such as K-Mart, Walmart, Sam's Club, and Target. The ones I like best of all are available at our local harbor Freight store.

All the jump start batteries have internal gel cells. This is good because they are sealed; they can't leak unless something happens to them. They are enclosed in a plastic housing and have cigarette lighter sockets already installed (and usually a light). Some also include an air compressor or an inverter. They come with a charger sized for safe operation. The Harbor Freight units even have a "smart" charger which can be left connected indefinitely without overcharging the battery.

Now you know why the jump start batteries make perfect sense. Not only are they much safer, handier, and lighter than car batteries - they are actually better and will last longer. If your calculations reveal a need for more than 17 amp-hours of capacity, just divide the load and get two.

I never discussed using the battery in your nearby car. That does address all the issues in this article - it's already sized for its primary job, equalization is no problem, and there should be plenty of reserve capacity for this "side" job. On the other hand, if something goes wrong, you'll need a "jump start" battery to get home, so you may as well have one along anyway. The portable battery also eliminates long cables, which present both electrical losses and tripping hazards.

Trivia for the day - The one-letter abbreviation for a unit of measure named after a person should always be capitalized - this includes both V (volt) and A (ampere). This explains why you may see some crazy-looking mixtures of upper and lower case - such as mAh (milli-amp-hours).

Have something to say about amateur astronomy? Share your views with the rest of the club by writing an article for the Night Sky. Send your submissions to Jeff Hudson.

Astro Photos

The Hoover-Price Planetarium has put together a presentation called Telescopes and Amateur Astronomers, to run from Sept. 7th thru Nov. 30th. The presentation includes 4 photos from taken from our club's web site - a photo of the club's observatory, a photo of the scope, Gregg Crenshaw's photo of a solar prominence, and Rich Ruggles great photo of an auroral display.

Most of the program is about the development and design of the telescope.

The planetarium puts this presentation on every year just before the holidays because of all the questions they get about 'buying a telescope'.

The presentation will run from September 7 thru November 30th, on Saturdays at 1:00 and 2:00, and Sundays at 2:00. Admission to the Planetarium is free with General admission to the Museum of $7 for Adults, $6 for seniors, $5 for children 3-18. Children must be at least 5 to attend the Planetarium.

In addition, there will be a glass wall cabinet for displaying the photographic work of local amateurs.

Contact Dave Richards at the Hoover-Price Planetarium for more information

MARS

Never again in your (or my) lifetime will the Red Planet be so spectacular.

This month and next Earth is catching up with Mars, an encounter that will culminate in the closest approach between the two planets in recorded history. The next time Mars may come this close is in 2287. Due to the way Jupiter's gravity tugs on Mars and perturbs its orbit, astronomers can only be certain that Mars has not come this close to Earth in the last 5,000 years but it may be as long as 60,000 years.

The encounter will culminate on August 27th when Mars comes to within 34,649,589 miles and will be (next to the moon) the brightest object in the night sky. It will attain a magnitude of -2.9 and will appear 25.11 arc seconds wide.? At a modest 75-power magnification Mars will look as large as the full moon to he naked eye.

Mars will be easy to spot. At the beginning of August Mars will rise in the east at 10 p.m. and reach its azimuth at about 3 a.m. But by the end of August when the two planets are closest, Mars will rise at nightfall and reach its highest point in the sky at 12:30 a.m. That's pretty convenient when it comes to seeing something that no human has seen in recorded history.

So, mark your calendar at the beginning of August to see Mars grow progressively brighter and brighter throughout the month.?

Share this!

No one alive today will ever see this again.

Norm Schmidt Associate Director, Center for Mathematics & Science Education, Teaching &Technology John Carroll University

Presidential Musings

(Continued from page 1)

to begin meeting sometime after the September membership meeting. I propose that this committee look at all aspects of the club and come up with some ideas of realistic projects the club might pursue and the general direction the ACA should take in the coming two to five years. This committee will hopefully give persons writing articles and other members a forum to effect change in the club.

Writing articles is one thing, but getting out, speaking up, and working with other members in a constructive manner is what will bring about change that all members can be proud of. There will be more discussion on this subject at the September Membership meeting. To begin a discussion regarding the forming of this committee email me at starsforall@core.com

A few months ago a couple of sad events happened within the local astronomical community.

Long time member Ernie Mayer past away. You may have read in last month's NIGHT SKY (Observatory Report) that Ernie's loving wife Lee has donated his C-11 to the ACA. A huge debt of thanks to Lee for her generous donation. The club will certainly put the scope to good use.

The other unfortunate happening was the sudden passing of long time Chagrin Valley Astronomical Society member Denny Jefferson. Denny's optical expertise will be missed. All will miss both of these people's brotherhood.

The August 23 Mars program is shaping up to be memorable. Ray Paul has secured a speaker from NASA for the evening and we will have Mars on TV, weather permitting.

I hope to see you at the observatory.

Even if you have never written an article before, write something about your observations of Mars. Send your submissions to Jeff Hudson.