



The Night Sky

The Newsletter of
The Astronomy Club of Akron

www.acaoh.org

Volume 32 Number 1

January 2010

Next Meeting: Friday, January 22, 2010 8:00PM

Ramblings of the President

By Glenn R. Cameron

Hello my stargazing friends. I'm excited by the news that the newly upgraded Hubble Space Telescope has detected what cosmologists think are the oldest galaxies yet imaged. These galaxies are smiling at us from a time when the universe was only 600 million years old. We may not be able to absolutely confirm this pedigree until the James Webb Space Telescope is launched in 2014 but scientists are pretty confident in this estimate. If we're really lucky, the HST will still be working until then but either way, let's hear it for the hardest working little space telescope in orbit!

Speaking of telescopes in space, the Kepler Space Telescope this week is already finding exoplanets, five to be exact. These are "hot Jupiters" but still, within another couple of years, mission controllers expect Kepler to come through on its mission to find Earth-like planets in other solar systems. But is it a disappointment that Kepler isn't yet finding Earth-like planets? Heck no! One of the planets discovered this week has the density of packing foam. The variety of planets, stars, and galaxies in this universe promises to always give us surprise and wonder.

I hope all of you had a great holiday season and I hope to see you this



The Horsehead Nebula by ACA member Leonard Marek.

coming year at all of our star parties and club meetings. Please come out and support your club and whenever you can, reach out to others and show them the starlight.

Observatory Report

By Ron Kalinoski

The ACA held a star party on November 21st for Akron Cub Scout Pack 3008 and Akron Boy Scout Pack 308. Even though clouds refused to move out of the area we still had a productive evening. Scout Master Mullis wanted us to help the Boy

Scouts obtain their astronomy merit badge. Ed Howe, Fred Huffman, Lew Snodgrass, and I spent about two hours with the group covering information related to the merit badge. We also discussed various astronomical topics to provide the scouts with some astronomy basics. Parents and scouts attending the event numbered about twenty.

Once every six years the orbits of Jupiter's moons turn edge on to the ecliptic. This allows observers on Earth to view a series of occultations
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Lou Poda

Activities Calendar

Club

January 16 - Open House at Portage Lakes Observatory, 6:30 pm. August 14 - MVAS-OTAA meeting at the MVCO.

May 15 - OTAA Scenic Vista Stargaze.

Celestial

January 3 - Quadrantid meteor shower peaks at 19h UT. January 29 - Mars opposition at 20h UT.

January 15 - New Moon at 7:11 UT. January 30 - Full Moon at 6:18 UT.

January 27 - Mars closest to earth at 19:02 UT, 61.7 million miles.

January 27 - Mercury at greatest elongation in the morning sky.

The deadline for article submission is the 6th of each month. All word processing files should be saved in straight ASCII text files or any version of Word to minimize import problems. We will not turn away any submission, as long as the article's subject is relevant to our forum. If you do not have access to a computer a handwritten article will suffice as long as it is legible. Any images submitted should be saved in .jpg format.

— PLEASE SEND IN YOUR ARTICLES —

Send your articles, items for sale, and comments to:

Jason Shinn

1579C Treetop Trail, Akron OH 44313

truemartian@aol.com

The ACA would like to extend a warm welcome to new members:

**Ernest & Kathleen Armstrong
Clyde Simpson**

We are thrilled to have you with us and look forward to seeing you at all Club functions!

Observatory Report (Con't)

and eclipses. An occultation occurs when one moon passes in front of another as seen from Earth. Eclipses involving Jupiter's moons cast shadows not only on Jupiter's disk, but also on other moons. On the evening of December 12th, Ganymede occulted Europa as one of 23 events occurring during this cycle. A small group of members came out to the observatory to drink coffee, talk, and witness the occultation. Notwithstanding some clouds in the sky, we were able to observe the event through the 14" telescope. The occultation lasted just a few minutes. Shortly afterward, heavy clouds rolled in to close the curtain on the year's last star party.

Overall, 2009 was a good year for ACA star parties. Out of 24 scheduled events, we had good skies for 19 star parties that included seven presentations; two of which were dedicated to International Year of Astronomy 2009. Three public presentations were conducted under cloudy skies and only two programs had to be cancelled. The observatory schedule for 2010 is included in January's newsletter.

Treasurer's Report - November 2009

By Lew Snodgrass

Checking Opening Balance	\$3,108.47
Savings Opening Balance	\$5,923.30

Income

Dues	80.00
Savings Interest	0.49
Total Income	\$80.49

Expenses

Observatory Improvements	178.20
Guest Speaker's Dinner	11.38
Total Expenses	\$189.58

Checking Closing Balance	2,998.89
Savings Closing Balance	5,923.79
Petty Cash	50.00
Total	\$8,972.68

Treasurer's Report - December 2009

By Lew Snodgrass

Checking Opening Balance	\$2,998.89
Savings Opening Balance	\$5,923.79

Income

Savings Interest	0.50
Total Income	\$0.50

Expenses

Telescope Focuser	420.00
Observatory Upkeep	74.45
Total Expenses	\$494.45

Checking Closing Balance	2,504.44
Savings Closing Balance	5,924.29
Petty Cash	50.00
Total	\$8,478.73

Treasurer's Summary - Year Ending 2009

By Lew Snodgrass

2009 Checking Beginning Balance	\$2,998.40
2009 Checking Ending Balance	\$2,501.12
Difference	-497.28
2009 Earned Interest	\$10.97
Petty Cash	\$50.00
Net 2009 Debit/Credit	-436.31

Charter One Checking Statmnt	\$2501.12
ACA Ending Balance	\$2504.44
Difference	-3.32

ACA Checking	\$2501.12
ACA Savings	\$5924.29
Petty Cash	\$50.00
ACA Net Worth	\$8425.41

Bringing the General Public into Astronomy: Perspectives from a Graduate Student at the University of Wisconsin in Madison

by Paul Sell

Astronomy can be a great hobby, pastime, or career! Or, at least, that is what astronomy enthusiasts (amateurs and professionals) try to convince others. But, why should we ask questions of the stars, since working on astronomy is not a necessity for our survival? Well, I would argue that it is of importance as it enriches the human experience and does provide innumerable indirect benefits. I am not alone in thinking this as there are thousands of astronomers all around the world working on research projects and informing the general public about the subject. However, there is always the constant struggle of finding money and support for this work. In fact, in more than the past half of a century, public support (mostly through the government but also through contributions from private citizens) has been the majority of the life-blood of astronomy. Clearly, it is then important to continually find new reasons to keep people excited about the subject. Unfortunately, the truth is that this is not a trivial undertaking and, therefore, the big question is posed: how do we get them interested and keep them engaged?

As a graduate student in astronomy at the University of Wisconsin (UW) in Madison, I have poured over this question many times. I first encountered this challenge as a young student growing up not far from the Portage Lakes. As you probably know, in the Akron area as well as nearly everywhere else, getting and keeping people interested in astronomy is no easy task as there are usually few dedicated programs and resources available. I am glad that I took the time to come to an ACA open house during my time in college to see what the Akron area had to offer.

A little about my past experiences...

Fortunately for me, I was able to take my interest in astronomy and advance it toward a career. As an undergraduate student at the University of Toledo (UT), I gained hands-on experience taking the general public up to the rooftop of both the astronomy and physics buildings at UT after a tour of the nighttime sky at the Ritter Planetarium. On each of the rooftops, respectively, they would observe with the 1-meter reflecting research telescope or a 6-inch refracting telescope.



Figure 1. Left: Combined optical (Hubble), UV (GALEX), and IR (Spitzer) image of M81, which shows mostly stars and dust in this galaxy. Right: Chandra 3-color X-ray image of M81 centered on approximately the same position as the left image. Blue represents the highest-energy X-rays, green represents medium energies, and red represents the lowest energy X-rays. The X-ray image looks very different because only objects that glow energetically enough to shine brightly in X-rays appear. This includes the supermassive black hole in the center of the galaxy and X-ray binaries (star and black hole or neutron star pair), which comprise most of the other colored points in the image.

Bringing the General Public into Astronomy (Con't)

These experiences helped me to grasp what things that the public did and did not know about astronomy, and I also became a much better public speaker in the process. At this point, I began to realize that this is really what I wanted to do, but I just scratched the surface in understanding how much work is really involved and how competitive the field really is.

After graduating with a degree in physics with a concentration in astronomy and a minor in mathematics, I was told that if I was serious about making this subject a career, I would have to attend graduate school and obtain a Ph.D. in Astronomy. Therefore, I applied to graduate schools and was accepted into UW's astronomy program. Shortly after arriving, I became immersed in research (as is the norm for this program), the most important work of a beginning astronomer. I am now finishing up work on Chandra space telescope X-ray observations of a nearby spiral galaxy not too different from our own Milky Way, M81 (see Figure 1). However, I also knew that this was not the only responsibility that I would have.

Most astronomers take a multi-faceted approach to their careers by spending quite a bit of time teaching, which includes work in the classroom because educational components are frequently required for the grants that astronomers apply for such as those from NSF and NASA and many of the jobs available for astronomers (e.g. professor). After all, astronomers like professionals in other fields have a civic duty to inform and inspire the next generation of young people. Out of classroom work is also necessary and refers to outreach in the community, which usually involves amateur observing and/or communicating with community professionals as well as the public. UW is an excellent place to learn this as it has some programs set in place that require involvement and leadership.

Astronomy outreach in Wisconsin...

One of the hardest parts of engaging the general public in astronomy is convincing them to go out of their way to come to a talk and/or observing session. Why not bring astronomy to them and remove this obstacle? The Universe in the Park (UitP) program is one of the most successful, exciting, and far-reaching programs that does just this. Headed and originated by UW Astronomy Professor Eric Wilcots, it is primarily run by the astronomy graduate students at UW and funded by the National Science Foundation.

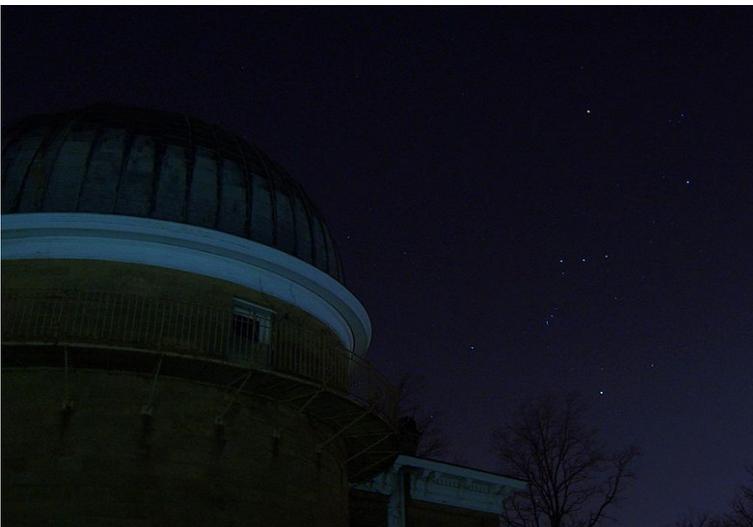


Figure 2. Washburn Observatory on a cloudless night in the winter at the University of Wisconsin-Madison

detailed explanations of the targets that are being observed (including analogies to everyday items so that they begin to get an appreciation of, for example, the size scale of the universe, which I expect is an eye-opener for most of them) and, of course, we encourage questions throughout the session. This two-pronged approach of a presentation followed by observing lures them with cool sights to see but guarantees that they leave with so much more. After all, what better way for bringing astronomy to the general public through an observing session than to go to campers who are already outdoors?

But there is so much interest in and support for astronomy in Madison that the opportunities do not end here. The Astronomy Department also holds regular observing sessions at the newly-renovated historic Washburn Observatory (Figure 2; see http://www.astro.wisc.edu/~varda/Long_Wash_Obs_Text.html for detailed historical remarks). So, for

Bringing the General Public into Astronomy (Con't)

those who do not make it out of the city, this is certainly a great opportunity to look at the nighttime sky with one of the oldest telescopes in the Midwest, and they do not have to travel very far at all, as it is conveniently located in the heart of Madison on the UW campus.

Last but certainly not least, I cannot forget to mention Space Place, the education and public outreach center of the UW-Madison Astronomy Department. This center offers professionally designed exhibits, a classroom space, lecture room, and a rooftop deck for sky viewing. It also provides hands-on activities, lively presentations, and informative lectures by UW researchers. A lot of the visitors are school children that might be introduced to astronomy for the first time. Each year Space Place offers over 100 free public programs and opens their doors to well over 10,000 visitors. These hands-on programs combined with the UitP and Washburn observing sessions are the excellent combination that fuels excitement in astronomy for the whole area.

Article by Paul Sell, <http://www.astro.wisc.edu/~sell>

Department of Astronomy, University of Wisconsin-Madison. Used by permission.

Submitted by ACA member Tom Alexander

GALACTIC WORD SEARCH

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

ANDROMEDA
BEEHIVE
BUTTERFLY
CRAB
DUMBBELL
EAGLE
ESKIMO
HERCULES
HORSESHOE
LAGOON
OMEGA
ORION
PINWHEEL
PLEIADES
PRAESEPE
RING
SOMBRERO
SWAN
TRIANGULUM
TRIFID
WHIRLPOOL

<http://puzzlemaker.discoveryeducation.com/>



Astronomy Club of Akron

2010 Observatory Schedule

Portage Lakes State Park, 5031 Manchester Road, Akron, OH 44319

www.acao.org

- Our star parties are free and open to the public. Please join us for stargazing and educational activities. Star parties will begin promptly.
- Events may be cancelled if the skies are cloudy. If the skies are questionable, please call for the latest information: 330-837-5848
- This is an outdoor activity in an unheated environment. Nighttime temperatures drop rapidly, even in the summer. A general rule of thumb is dress for 20 degrees colder than the predicted nighttime low temperature.
- Please be considerate of those who bring their own telescopes. Children should be supervised at all times. Pets should be left at home.
- Smoke and expensive optics don't mix. Please, **no smoking** in or near the observatory or on the surrounding grounds where club members have set up their telescopes. If you must smoke, walk to the down-wind side of the observing site. Be considerate of your fellow observers.
- Come As You Are, Learn As You Go!

January 16 – 6:30pm

Observe Herschel's Double Cluster, the Pleiades, and the Beehive in a wide field of view eyepiece.

February 13 – 6:30pm

See Mars at its best 2010 appearance.

March 13 – 7:00pm

Special Event: Messier Marathon, stay all night to observe all 110 Messier objects with ACA club members.

March 20 – 8:00pm

View a five-day old Moon and globular cluster NGC 2419, an intergalactic wanderer at a distance of 304,000 light years.

April 10 – 8:00pm

Planet Parade: View Mercury, Venus, Mars, & Saturn.

April 17 – 8:30pm

Observe galaxies in the Virgo Cluster and the most distant object within reach of the observatory telescope: Quasar 3C273 at a distance of 2.4 billion light-years.

May 8 – 9:00pm

An ACA member will take you on a sky tour of the Summer Constellations.

May 22 – 8:00pm

Annual ACA Telescope Seminar! Our members will describe the advantages and disadvantages of each type of telescope.

June 5 – 9:00pm

Program: Astrophotography

Learn how astronomers photograph the heavens.

June 12 – 9:00pm

*Program: A Beginner's Guide to Finding Celestial Objects**
We'll show you how to follow a map to the stars!

June 19 – 6:00pm

Solar & Lunar Event / Hotdog Roast! View sunspots, solar flares, and prominences on the sun and craters, mountains, and maria on the Moon. Enjoy a hotdog for a small fee.

Program 1: The Sun Program 2: The Moon

* listed program or make-up program

July 10 – 9:00pm

*Program: Extrasolar planets**

Find out what techniques astronomers use to detect planets orbiting other stars.

July 31 – 9:00pm

*Program: Naked Eye and Binocular Objects**

Many celestial objects can be observed without a telescope. Find out which ones.

August 7 – 8:30pm

*Program: Double Stars**

View the finest double stars in the night sky!

August 28 – 8:00pm

*Program: Globular Clusters**

See a few hundred thousand stars packed together!

September 4 – 8:30pm

An ACA member will take you on a sky tour of the Autumn Constellations.

September 11 – 8:00pm

A thin crescent Moon, Venus, and Mars form a pretty trio in the southwest just after sunset.

October 2 – 7:30pm

Can you see ET in the open cluster NGC457? Come see if you can find him in the ET Cluster.

October 9 – 7:30pm

View Comet 103P/Hartley! The comet will be just out of reach of the naked eye, but an easy target for binoculars & telescopes.

November 6 – 6:30pm

Jupiter is well placed in the sky for evening viewing.

November 13 – 6:30pm

The Moon is at first quarter. This is an excellent time to view the Straight Wall!

December 4 – 6:30pm

Come out to observe the season's most beautiful celestial objects while enjoying a cup of Akron's best free coffee!

The Night Sky

Newsletter of the Astronomy Club of Akron

c/o Jason Shinn, Editor
1579C Treetop Trail
Akron, OH 44313

For Club information, please visit our website: www.acaoh.org. **Astronomy Club of Akron** annual memberships renew in the month of May.

To join the ACA, **or to renew your membership**, please fill out the form below, place in an envelope and mail to:

Lew Snodgrass, Treasurer, Astronomy Club of Akron
1865 Stabler Rd
Akron, OH 44313-6124

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

(PLEASE PRINT)

NAME: _____ PHONE: _____

ADDRESS: _____

CITY: _____ STATE: _____ ZIP: _____

EMAIL ADDRESS: _____

Please be sure to enclose payment for the membership level desired.

ADULT (ages 18 and older)\$30.00 JUNIOR (ages 12 to 17)\$15.00
ADDITIONAL ADULT member..... \$15.00 FAMILY MEMBERSHIP.....\$40.00

I realize that the full color edition of *The Night Sky* newsletter is automatically sent via email, but I would rather have the B&W print version mailed to my address via USPS.