



THE STAR

THE NEWSLETTER OF THE
MOUNT CUBA ASTRONOMICAL GROUP
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OUR PROGRAMS ARE HELD THE SECOND TUESDAY OF EACH
MONTH AT 7:30 P.M. UNLESS INDICATED OTHERWISE
MOUNT CUBA ASTRONOMICAL OBSERVATORY
1610 HILLSIDE MILL ROAD
GREENVILLE DE.
FOR DIRECTION PLEASE VISIT
www.mountcuba.org

PLEASE SEND ALL PHOTOS AND ARTICLES TO
pestrattonmcag@gmail.com

NOVEMBERS MEETING

TUESDAY NOVEMBER 12 7:30 p.m.

The Last Frontier is closer than you think.

Our speaker will be Ms. Luisa Georgov.

Topic - Are you planning on booking a trip to space in the Further? Ms. Georgov will give a detailed account of what we will need to know for our upcoming space travel.

OCTOBER'S MEETING REVIEW

The MCAG Co-Chair, Dave Groski, gave a short talk on a Pin Hole Can. A Pin Hole Can is a rather simple and easily made project where you can track the path of the Sun during an extended period of time. All you need is a can, soda or vegetable will do, and some photographic paper. Remove the bottom of the can and punch a hole in the top center. Line the inside of the can with the photographic paper then hang the can outside in an area where it will receive sunlight for the longest period of sunlight exposure each day. Do not move the can each day. After 3 to 6 months, remove the paper. What you will see is quite surprising.

Our special guest speaker was Chris Myers. Chris is a senior at the University of Delaware as well as one very amazing Astro Photographer. Like most of you, I have seen quite a few photographs of Stars, Planets, Star Clusters and Galaxies, but I as well as those in attendance have never seen anything quite like the photos Chris has taken. Simply put, amazing. Chris combines the local landscape and sky objects into his Photos. Everyone in attendance were very impressed.

Dave has already invited Chris to once again be our guest speaker for a MCAG meeting in the Spring. We certainly hope Chris can fit us into his schedule.

OBSERVATIONS FROM THE CONFORTABLE CHAIR

Hank Bouchelle Co-Chair MCAG

I believe that there is now a perfectly good reason for MCAG members and friends to bust their buttons, no matter how unseemly it might appear.

The Mount Cuba Astronomy Group has been in existence for just over a year.

Nevertheless, there are many advances and wonderfully good news. The position of *STAR* editor has made a seamless transition, as Ralph Denlinger stepped down to become a consultant in his history group, and Paul Stratton stepped forward to take the reins.

We owe a big thank you to Ralph and Paul.

Our upcoming November 12 MCAG meeting features Ms. Luisa Georgov. Would you believe that she is a travel agent? For civilian trips into space!? I desperately hope that she arrives with a free ticket as a door prize.

Fellow MCAG Co-Chair David Groski has established a schedule of telescope-making meetings/classes to share his skill and knowledge with others to build or fine-tune telescopes. And he has also gathered a group of folks who will construct a personal sundial, accurate to within a minute or so a day.

We are partnering with various libraries in the state to host programs for the public. There have been three so far. Two more programs, on the stars and constellations of winter, are already scheduled for January. And it gets better. We are scheduled to help with a “space night” for an elementary school downstate. And we are partnering with a local high school and the University of Delaware’s Department of Physics and Astronomy and its astronomy students to extend astronomy outreach to places no one has gone. Last but not least, we have gone national! We are in the process of scheduling events for Maryland libraries that are likely to become a four-times-yearly series of programs. If this is the state of the MCAG now, its future will be an unfolding adventure.

MCAG PUBLIC OUTREACH:

SCHOOLS:

An Invitation to Get Involved!

You, too, can be an elementary student’s Carl Sagan!!

On January 8, 2014 the Appoquinimink School District is hosting a *Space Night* from 6:00 – 7:30 p.m. at Appoquinimink High School for fourth and fifth grade students and their parents. Anyone with an interest in science, especially astronomy, is invited to come and share information, ideas or materials with students and their parents. The evening’s format is a number of tables or stations around which the students and parents may circulate. This is an opportunity to share knowledge and to advance science education. Contact Hank Bouchelle at hbouchelle@live.com or 302-983-7830.

If you noticed the Nov. 12 MCAG program topic, you may want to make it a point to attend. On display will be real spacesuits! One just might come in handy.

LIBRARIES:

On January 19th Hank will be giving a talk on the Constellations of Winter – Ancient Myths and Colors of Stars. He will give the talk at the Newark Free Library, 750 Library Ave. at 7:30 p.m. Hank will also give the same talk on Wednesday January 29th at the Brandywine Library 1300 Foulk Rd. also at 7:30 p.m. More detail will be in the December STAR. Lets all come out and give Hank our fullest support.

WEB SITES OF INTEREST

<http://planetquest.jpl.nasa.gov>

A site dedicated to the exploration and search for another Earth.

<http://oneminuteastronomer.com>

This is a great site for each month’s observations.

TELESCOPE WORKSHOP

The MCAG is quite fortunate to have as Co-Chair, Dave Groski. Dave is the leader of the Workshop. For those who have attended, it is always a rewarding experience. Besides doing some star gazing, you can learn about the inner workings of a telescope as well as telescope repair, mirror grinding, and several other interesting tips on making your Scope perform better. If you are interested in building your own Scope, you will come away with all the correct information on how to do so.

At the October meeting, Dave and the group started the process of making the molds needed to reproduce the Schymoyer Sundial. It will take a couple of meetings to get the process perfected in making the molds and then casting the parts from them. As someone who has designed molds, this can be quite tricky but is well worth the effort when you first see the results of a well cast part. I am certain if anyone group can accomplish mold making, it is the MCAG Telescope Workshop.

OTHER MCAG ACTIVITIES:

By Lynn King

Sky's were clear to the horizon. Moon rise was absolutely spectacular!!! It rose, or should I say popped out of New Jersey. It was a pearl on blue velvet. Delaware River was as smooth as glass. A river of moon light on the river was disturbed only by a tanker silently gliding through it. Picture: The rising moon behind a red tanker as it silently passed through a river of moon light. A few minutes later we were treated to several airplanes passing in front of moon. And, in the twilight, Venus was to our west.

On October 21st, a few of our members went to Fox Point to observe a moon rising.

Look what Joe Milano captured!

We give a big thank you to Joe for sharing his photo. Awesome!!!!



NEWS FROM THE WORLD OF ASTRONOMY:

A COMET EXPLODES: Amateur astronomers are reporting a 100-fold outburst of brightness from Comet C/2012 X1 (LINEAR). Images reveal a spherical shell of gas that reminds observers of Comet 17P/Holmes, which exploded in 2007. So far the comet is too dim for naked-eye viewing, but at magnitude +8.5 it is bright enough for imaging by backyard telescopes. Visit <http://spaceweather.com> for photos and more information.

SOLAR FLARE ALERTS: Would you like a call when solar flares are underway? X-flare alerts are available from <http://spaceweathertext.com> (text) and <http://spaceweatherphone.com> (voice).

LET'S HAVE A CONTEST.

Take a look at the following photo below. MCAG Co-Chair Hank Bouchelle works with landscape and nature photography, and has worked on displays in several venues. This photograph was taken in the late fall of 2011.

The photograph shows “blue rock,” a variety of gneiss, that was quarried in what is now Alapocas Run State Park, on the banks of the Brandywine and just downstream from the DuPont Experimental Station. The blue rock was hoisted across the Brandywine and used in a variety of structures. The sheer vertical walls of stone are artifacts of quarrying, and can give rock climbers a work-out.

The photograph includes fairly precise evidence of the time of day the picture was taken. December's MCAG program will address a method for determining the time of day. Also at the December meeting, we will draw the winning name from those who answer correctly. The winner will receive this photograph mounted, matted and framed. Entries (one per person) can be mailed to Hank Bouchelle, 29D Kings Circle, Newark, DE 19702. OR e-mailed to hbouchelle@comcast.net OR handed in at the November or December MCAG meeting.

Other photographs from Alapocas Park can be found elsewhere in the *STAR*. Also see: <http://www.destateparks.com/PARK/alapocas-run/index.asp>

Please scroll down to view the photo. This is such a great photo, I decided to use an entire page.



NOVEMBERS SKY
COMET ISON



Comet ISON should be a spectacle when it passes near Mercury and Saturn in morning twilight November 24.

So why is Comet ISON so interesting? ISON was first discovered on 21 September 2012. It's near location to the Earth orbit certainly raises some interest. No, it will not impact the Earth. However, it is on a near Earth orbit path on its way to the Sun. For certain ISON will create some interesting observing. The real interest is due to ISON, or if you prefer, C/2012 S1, is a Sun Grazing Comet. As you can see from the illustration, below, ISON will pass by the Earth's orbit and continue on its way towards the Sun encounter. As the Sun's gravity pulls ISON in it will circle the Sun and continue on its way back. Or will it?

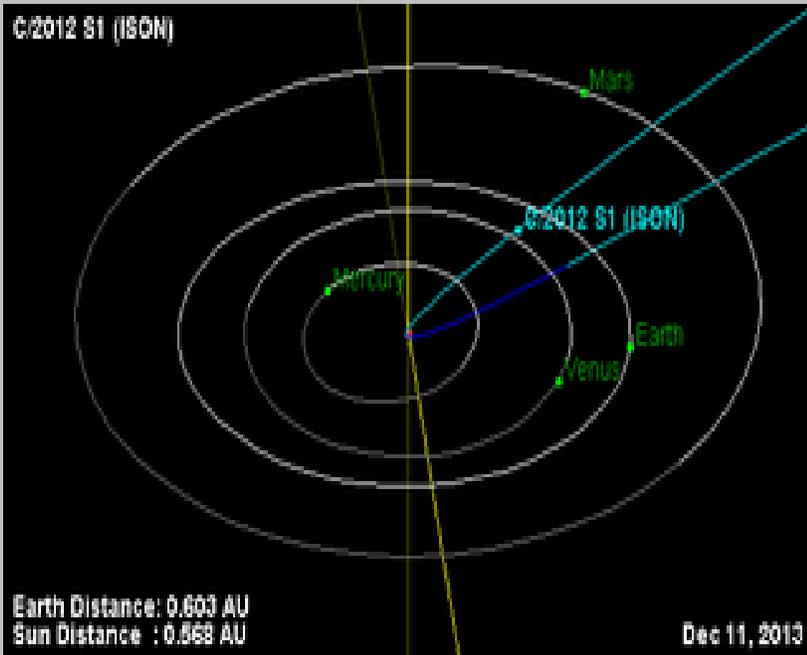
The question on most Astronomers' minds is will ISON survive as it nears and begins its trip around the Sun or will it be pulled into the Sun and destroyed? Stay tuned.

If you would like to follow the progress of ISON you can do so by visiting

[“Comet ISON Observing Campaign website.](#)

MORE ON ISON

This diagram should help understand the path ISON will take as it nears and then travels around the Sun. What we have are the 4 rocky planets. Mercury, Venus, Earth and Mars.



As on now, ISON seems to be behaving much like your typical, although somewhat smaller, Oort Cloud comet. Observers have not yet seen any fragmentation but the possibility of such can not be ruled out. Just what is an Oort Cloud comet?

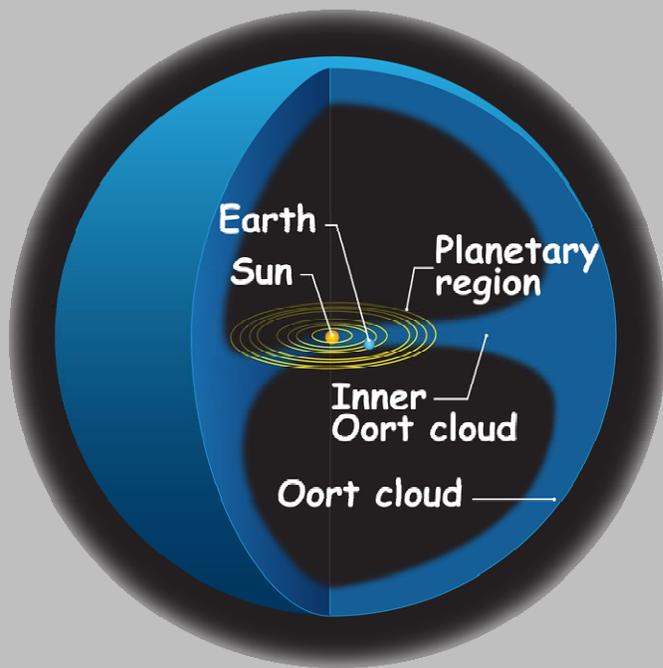
First, we need to understand the three zones of our solar system. The inner zone is composed of the four rocky planets. The next zone, or middle zone, consists of the large gas giants. Beyond them lies an enormous third zone composed of the Kuiper Belt and the Oort Cloud, both named for the astronomers who predicted their existence.

The Kuiper Belt, discovered in the 1990s, consists of a ring of dwarf planets, including Pluto, (did I just create a debate for our next meeting?) and small icy objects. This area is from 3 billion to 5 billion miles beyond the sun.

Astronomers have identified at least 1,000 Kuiper Belt objects. Most are small, but some rival Pluto in size. Some have atmospheres and moons of their own, and some might have warm, wet interiors.

Beyond the Kuiper Belt is the Oort Cloud. A gigantic sphere with an outer edge almost 5 trillion miles from the sun. This is the region of space ISON came from.

And finally, the illustration below may help in understanding the location of the Oort Cloud. As you can see, the illustration is not to scale. Remember, this area is from 3 to 5 billion miles from the Sun.



Not to scale

BOOKS OF INTEREST:

The Mount Cuba Astronomical Observatory maintains a Lending Library for the use of those who are members of the Mount Cuba Astronomical Group as well as the Delaware Astronomical Society. The Lending Library is located immediately to the right of the double doors as you enter the Main Library.

In each monthly Newsletter, I will recommend one or two books with subject matter that may help better understand topics we have had at previous MCAG meetings.

Please remember that all books, with the exception of the area mark as DAS, in the Main Library are for the use of MCAO staff members only.

For this Newsletter, I have chosen:

Astrophotography for the Amateur

By Michael Covington

and

The Amateur Astronomer.

By Jack Newton

All books are shelved by Author in alphabetical order. Well, at least we try to keep them that way. Please be sure to sign the book out. The lending period is three months.

Thank you.

PUBLIC NIGHTS AT MCAO

<u>Date</u>	<u>Host</u>	<u>Topic</u>
11 Nov 2013	Bill Hanagan	I want a Telescope - How do I pick one?
2 Dec 2013	Scott Jackson	In search of Exoplanets
16 Dec 2013	Stan Owocki	When Giant Stars Collide.

Please refer to mountcuba.org for additional information. Due to limited space, reservations are required.

EDITOR'S NOTE:

As most of you are aware, the September/October STAR was my first attempt to undertake a Newsletter. What a challenge it offered. Putting a Newsletter together was certainly an enjoyable learning experience. Sending it was an out of this world experience. When received, opening it took some real courage. Hopefully the problem is fixed for it is now in a PDF format.

MCAG MISSION STATEMENT

The Mission of the Mt. Cuba Astronomy Group is to increase knowledge and expand awareness of the science of astronomy and related technologies.

To provide MCAG members and the general public with monthly educational programs in astronomy and astronomy-related topics

To engage in outreach to the public as well as MCAG members to provide engaging and informational activities of astronomical interest, including public lectures and observing.

To support a responsive, informative, and useful newsletter for its members and the general public.

To support educational institutions, including schools and their teachers, in their efforts to engage and inform their stakeholders in the area of astronomy, formally and informally, and as appropriate its relationship to mathematics.

To hold formal and informal courses, work-shops, and retreats that support its members' interests, and engage and inform the general public.

To offer publications and materials of astronomical interest to its members at a discount as they may be available, and to the general public when possible.

To develop and support affiliations with like-minded institutions.

If you know of anyone who is interested in Astronomy or someone who would like to learn more, please do not hesitate to extend and invitation to them to attend our meetings. If they have an interest in joining, our application is below.

Mt. Cuba Astronomy Group

Membership Form

The Mt. Cuba Astronomy Group is a tax-exempt organization dedicated to astronomy education and public outreach. Benefits of membership include:

- Monthly newsletter that includes details about the Group's activities and much astronomical information
- Monthly programs on subjects and topics of astronomical interest
- Free or discounted subscriptions to astronomy-related publications
- Free registration for MCAG workshops and classes
- Mention Mt. Cuba Astronomy Group and receive a 5% discount at Manor Books in New Castle (<http://www.yelp.com/biz/manor-used-books-New Castle>)



Mail to:

Ms. Carolyn Stankiewicz
1001 Woodstream Dr.
Wilmington, DE 19810

Name _____

Name(s) (children, if any, and age): _____

E-mail address: _____

Home address: _____

Phone (optional): _____

