

Harford County Astronomical Society

Bel Air, Maryland
www.harfordastro.org



Volume 34 Issue 4

April 2008

**Public Star Party (Open House):
Saturday, April 12, 2008, At Sunset
At the Observatory**

**General Meeting:
Thursday, April 17, 2008
7:00pm - Business Meeting**

**8:00pm – Presentation:
"The Universe According to Einstein:
A Discussion of the Theory of Relativity."
At the Observatory**

Club Calendar for 2008:

<u>Open House/Public Star Party</u>	<u>Meeting Night</u>
May 17	May 22
June 14	June 19
July 12	July 17
August 9	August 14
September 13	September 18
October 11	October 16
November 8	November 13
December 6	December 11

Please check the website for possible schedule updates and changes:

<http://www.harfordastro.org>



<http://astroleague.org/>



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

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HCAS Business Meeting

Minutes of the March 20th Meeting

Vice President Grace Wyatt called meeting to order at 7:08 PM. Turnout was lighter than usual possibly due to the meeting being too close to Easter.

Old Business:

- 1- Minutes for the February meeting were published in the last newsletter, dated 3/15. A motion was made and passed that we accept the minutes as published.
- 2- Tim Kamel provided the Treasurer's report. There is \$5030.42 in the bank.
- 3- Tim Kamel provided the Membership Chairman's report. There are now a total of 48 paid up members.
- 4- Our lunar eclipse public session scheduled for 2/20 came off as scheduled, but not without some major anxiety. Sky was cloudy right up until 10 minutes before the main part of the event. They it cleared and we had beautiful skies. We had about 25 visitors during the event and representation by several of our members.
- 5- Our members are now receiving copies of the Reflector Magazine from the AL.
- 6- Grace gave us a demonstration of the most recent kit we received from the Night Sky Network.

New Business:

- 1- We have acquired a battery charger for the batter we use to power our sign, courtesy of Joe Manning.

- 2- We have acquired the materials that we need to provide lighting in the stairway leading to the dome level. We have a string of diode lights, an outlet and a dimmer switch. We need to do the installation.

Planned Functions and Outreach Programs:

- 1- Friday, April 11th is our outreach session for Darlington Middle School with a rain date of Friday May 2nd. The session starts at about 7:30 and end at 9:30.
- 2- Saturday, April 12th is the Second Annual Sidewalk Astronomers Night. This date coincides with our April open house and we will hold the function at the Observatory.
- 3- Thursday, April 17th is our monthly meeting and Mark Kregel will be making a presentation called *The Universe According to Einstein--A Discussion of the Theory of Relativity and Other Related Topics*.
- 4- Saturday, April 19th is Earth day this year, with a rain date of April 20th. The session will start at 11 AM and run till 4 PM at Aberdeen Park in Aberdeen. We will again be participating.
- 5- Saturday, May 17th is our open house and will be celebrating Astronomy Day (actually occurring on 5/10) with activities for the guests and a pre-taped power point presentation on moon missions. This event will be held rain or shine. If it is clear, we will have the dome open for viewing.
- 6- Thursday, May 22nd is our monthly meeting and Phil Schmitz will give us a presentation called *Astrophotography 101--The Bare Basics*
- 7- Saturday, June 7th is an outreach program at Susquehanna State Park.
- 8- Saturday, October 10th is our open house. We are investigating a session regarding the Kepler Mission of October 4th.
- 9- Swanfest is on October 12th. There is no rain date.

- Tim Kamel

From the President:

Folks,

We pay tribute to Leo Heppner who has passed away. Leo was a dear friend as well as an accomplished scientist, photographer and one of the co-founders of the Harford County Astronomical Society. We will miss Leo but we will never forget his friendship and his accomplishments as we gaze out into the universe. The constellation "Leo the Lion" will take on a new meaning for those who were graced by his presence. This past week the world has truly shed a tear. But there is one thing I am certain of and that is that when Leo walked through those pearly gates into heaven, everyone there smiled.

- Tom Rusek

Observation Reports

Observing Earth in The Great Southwest

March 3 through March 27, 2008



US Highway I-10 in Arizona. This isn't Mars, but it does resemble NASA photos of that planet. Note the huge stray rocks, which were possibly once volcanic ash boulders, but have petrified. It is also theorized that they were strewn along by tides when this area was under water, over 65 million years ago. (Just after the dinosaurs vanished.) The deep blue sky – at noon – gives you an idea of what the night skies are like.



This isn't Arizona; it's Mars, as seen by the Pathfinder rover on July 4, 1997. The peaks in the background are approximately 30-35 meters (100 feet) tall. Like the boulders in the southwest US, these rocks are possibly flood debris from a period when Mars had water. The redness of the soil was possibly caused by the same oxidation process that occurred in the southwest. The reddish sky is caused by dust storms which also occur in the US southwest – and hinder stargazing, too.



Barringer Meteor Crater. The meteor landed in Arizona about 50,000 years ago. Vaporized on impact, the huge rock left only traces of its elements, including nickel and iridium. It is over 4,000 feet wide and 550 feet deep. Unlike the lunar impact craters, this crater has no central mountain peak. Astronomers suspect this is because the moon's surface was much softer when its craters were formed, billions of years ago. The crater site was also used as a training ground for the Apollo astronauts.



The Hoodoos of Bryce Canyon, Utah. These bizarre rock formations were caused by millions of years of erosion by wind and water. The rocks are composed of different sediments and

consequently eroded at different rates. The name derives from an African word meaning “magical”. In geological terms it means, “We can’t think of anything else to call it.”



Lone Hoodoo. Notice how it is composed of different types of rock. The flat top is a remnant of the plain that was there before the canyon began to form. The remaining flat land is up to 9,000 feet above sea level, resulting in some very dark skies. (Several star parties are held each year at Bryce.)



Inside Carlsbad Caverns, New Mexico. Over 70 stories beneath the earth’s surface, the only native life forms are microorganisms that live in and feed off the rock formations. NASA probes are currently searching for such beings on Mars.



"Live Cactus", Anza-Borrego Park, San Diego County, CA. If you brush against this cactus, it will shoot its needles into you. A very belligerent life form!

The park was very hot during the day, about 87 degrees (100 degrees inside my pup tent). At night, it went down to the 40s. The first quarter moon obscured the DSOs in the early night, but after midnight, there were some wonderful summer-sky objects visible, including the Omega Centauri globular cluster, which is not visible at Harford County's latitude.



Messier Marathon near Sierra Vista, AZ. The all-night event was sponsored by the Huachuca Astronomy Club, at the desert home of Gary Myers. The temperature was about 70 degrees in

the early evening, but by 4am it was down to the low 20s. A 50-degree drop, typical of the southwest deserts in March. Sierra Vista is located about 70 miles south of Tucson.



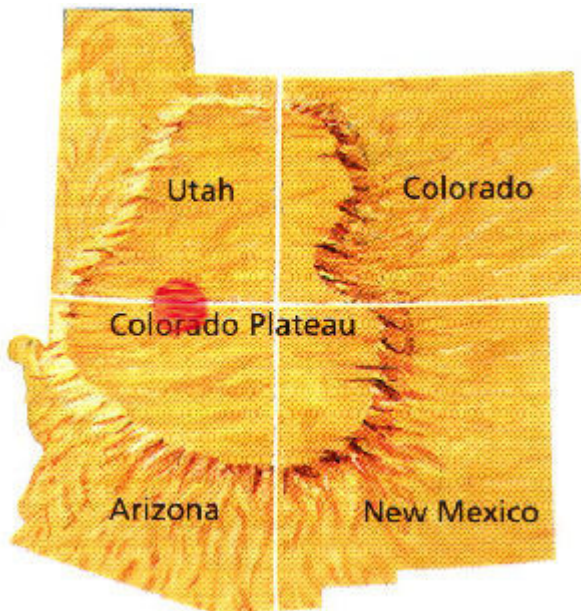
City of Rocks State Park, near Deming, in southern New Mexico. The park is filled with these large rocks, about 20 feet high, that look like buildings. They were thrown up in the air as volcanic ash from under the earth's surface during the unexplained volcanic upheavals of 30 million years ago. Wind and rain sculpted them into the hard rock formations that can be seen today. (Also, note the very dark sky. The Milky Way viewed from this location was so bright that I had difficulty finding the constellations in front of it, like Cygnus or Sagittarius.)



Observing in the Southwest: Under an average clear sky, most people can see down to the 7th magnitude. The zodiacal light appears in the west as a very long bright oval, shortly after sunset and persists for an hour or so until it finally dissolves. However, sometimes transparency is hindered by strong desert winds, carrying fine dust through the atmosphere.



The Grand Canyon, Arizona. Photos never really do this sight justice. Note the size of the tourists to the lower right in comparison with the vastness of the canyon.



Although some of the rock in the Canyon is quite old – up to 1.8 billion years – the Canyon itself is estimated to be about 7 to 8 million years old. Seventy million years ago, volcanic upheavals in the southwest forced the land upward, forming a vast plateau, up to 10,000 feet above sea level in some areas. Now known as the Colorado Plateau, it occupies four states – Colorado, Utah, Arizona and New Mexico. It is near the Utah/Arizona border that Bryce, Zion and the Grand Canyon are located. (See red spot on map.)

Over millions of years, water draining from the Rocky Mountains created the vast Colorado River and its many tributaries that dug into the

soil and rock of the plateau, eventually creating these rust-colored canyons. As a result, the canyon is almost a mile deep at its lowest point. During the same period, softer, weaker areas of land eroded faster, undermining the harder, stronger layers above them. Without adequate support, many cliffs collapsed in a slow chain reaction, resulting in the extraordinary width and length of the canyon.

During the 19th century, astronomers such as Percival Lowell began to speculate whether such processes might have occurred on Mars. (His observatory is open to the public at Flagstaff, about 100 miles south of the Grand Canyon.)

- Roy Troxel



Grand Canyon at Sunset.

Observatory Operations

March 2008

Not much to report on this month. We replaced the wireless router that we tried out last month with a modern one that has proper security on it. We had a little bit of fun with at the open house. From the classroom, we could make the scope move and see it move using a web cam that was connected to a laptop in the dome.

Currently, we are experimenting with logging on from an outside location to be able to see what the scope is looking at. To date, we have not been successful.

I have located suitable batteries for the finder-scope cross-hair illuminator, and it is now on the finder and is working.

Our next small project is to install a string of light, red diodes, along the stairs leading up to the dome. This should provide some additional illumination and reduce the risk for falls down the stairs. We already have the lights, the outlet and the dimmer. We just need to schedule the work to be done.

During the open house, we did some cleaning, most notably the bird poop in the dome. It seems that a bird has found a way in and is using the dome. None of us has seen the bird. We also swept out the dead flies again. Much less than at previous times but still surprising in the amount.

Lastly, with increased use of the scope, we have started noticing that the mount is some times wet. Possibly it is condensation on caused by warmer days following days that are very cold.

Some rust is noted and some times there are issues getting the mount to respond. We are exploring solutions.

- Tim Kamel

New Members – March 2008

Please welcome three new members this month:

Michael Varley, who hails from Baltimore and has been interested in astronomy for 15 years.

James Hajek, also from Baltimore, has a 103 mm Maksutov-Cassegrain and joined us on our lunar eclipse event on February 20th.

Tony Mullen, from Elkton, has been interested in Astronomy since the 1st grade.

Open House **March 15, 2008**

Saturday, March 15th was one of our open house functions. It was completely overcast but several of us (Grace, Mark, Mike, Gary, Jim and Tom) went anyway, expecting to do some work at the observatory and possibly some cleaning.

We were pleasantly surprised with about 25 visitors that night. About half were from Mr. McCloud's science class and they came to get extra credit. We gave them a tour of the observatory, including the dome, before signing their papers.

The rest came because they were interested. Mark had his laptop with an astronomy program and he gave a presentation using the overhead projector that we now have. We also provided these visitors with a tour.

- Tim Kamel

Upcoming Outreach Events

April 11--Darlington Elementary Science Club Astronomy Night 7:30 to 9:30 PM
Club members with telescopes and binoculars for participants to view the sky.

April 19--Earth Day, Aberdeen Park 11 AM to 4 PM (Rain date April 20)
Club members with solar viewing equipment needed and members help distribute handouts.

May 17--Astronomy Day celebration at the observatory starts at 5 PM. Club members are needed to give out information, help with teaching projects, use telescopes and binoculars for viewing.

The following presentations are planned for the April and May meetings:

April 17 -- "The Universe According to Einstein--A Discussion of the Theory of Relativity and Other Related Topics." Presented by Mark Kregel.

May 22 -- "Astrophotography 101--The Bare Basics." Presented by Phil Schmitz.

Club meetings will be at 7pm and presentations will follow at 8pm.

Astronomy Day 2008

May 17th, 2008

Celebrate with the Harford County Astronomical Society on May 17, 2008 at the Harford Community College observatory!

(Please park at Harford Technical High School and walk to observatory)

If you bring a telescope or cannot walk 1000 feet, please let the assistant in the parking lot know and they will direct you to the observatory.

Activities for the Day:

Assist the public in learning about:

- Telescopes and binoculars
- The size and distance in our solar system
- How to read star charts
- How to make a planisphere
- What makes a planet or why Pluto is no longer a planet
- Moon phases, lunar eclipses and solar eclipses

Also, Learn about the Phoenix Mars Mission-

A taped PowerPoint teleconference will be presented at 5 PM, 6 PM and 7 PM for participants to learn about this new program from NASA.

The Phoenix Mars Mission was launched in August 2007 and is the first of NASA's Scout Program. It is scheduled to land on Mars on May 25, 2008. Dr. Chris McKay, a planetary scientist with the Space Science Division of NASA Ames Research Center, speaks about NASA's Phoenix Mission and his research on the Polar Regions of Mars and Earth. Hear about the Phoenix Mission's plans to study the water, habitability potential of the Martian surface and how the Earth's poles are giving us clues to follow when studying Mars.

Event is rain or shine. Weather permitting, both solar and nighttime viewing will be included.

Please call 410-836-7285 for more information.

Miscellaneous

Community College of Baltimore, Dundalk

<http://www.cbcmd.edu/catonsvilleplanetarium/starparties.html>

Schedule for Friday Star Parties:

April 11, 2008, 8 - 10 p.m.

April 25, 2008, 8 - 10 p.m.

May 9, 2008, 8 - 10 p.m.

This newsletter is the official publication of:

Harford County Astronomical Society

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