

CONSTELLATION

An Official Publication of the Bucks-Mont Astronomical Association, Inc.

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BMAA News

BMAA has had a busy spring, despite almost all of our StarWatches being clouded out. In April we attended an open house at Montgomery County Community College's Observatory, and Dwight Dulsky and Lou Vittorio made presentations at Upper Moreland Middle School. In May we had our Astronomy Day exhibit set up in Peddler's Village in New Hope and Dwight Dulsky led the effort at the Bucks County Science Teachers Association's semi-annual meeting in Doylestown. We have a lot to look forward to this summer, including the summer triangle, summer globular clusters (see Orum Stringer's List in this Issue) including M56 as described by Alan Pasicznyk, jovial Jupiter and its parade of double shadow transits, and multiple occultations of Antares by the Moon. Happy observing BMAAers!!!

Summer Planetary Jewel: Jovial Jupiter Courtesy of Steve Olson



BMAA Gophers

Position	Name
President	Dwight Dulsky
Vice President	Bernie Kosher
Treasurer	Ed Radomski
Secretary	Herb Borteck
Star Watch Coordinator	George Reagan
Constellation Editors	Chris Sommers and Scott Petersen
Webmaster	Jim Moyer

For More Information About BMAA Go to www.bma2.org.

Alan's Collection of Excellent Deep Sky Objects Through a 4.5 Inch Newtonian. Raisins in a Pie", M56

➤ Alan Pasicznyk

When I finally located the dim glow of M56 for the first time on July 15, 1991, I was expecting to find nothing more than "just another globular cluster" to log into my list of Messier objects. After fiddling around with different eyepieces, however, I was surprised to see a coarse sprinkling of brighter stars across the face of this cluster, much like raisins in a pie!

In his recently published book "The Messier Objects", Steven James O'Meara refers to M56 as "my favorite non-comet", his reason being that he would intentionally randomly sweep the area between Alberio and Lyra in order to chance upon this deep sky object on warm summer nights. Likewise, warm clear summer nights are also part of the reason that I really enjoy viewing this star cluster. Additionally, it culminates high overhead for observers at our latitude, which means less atmosphere and haze to block it's light. But the fact that it holds an unexpected visual attribute is what keeps me coming back to this object time and time again.

Located about midway between the parallelogram of Lyra the harp, and Alberio, the head of Cygnus the swan, it is also relatively easy to find in all but heavily light polluted skies. As the nighttime sky here in Danboro Pa. continues to worsen, it has become increasingly difficult to see the "raisins" in this cluster, which are presumably supergiant stars. Moderate to high power is the necessary ingredient to observe this effect, and for my 4.5 inch F8 Newtonian, this translates into anywhere from 60X or 72X to 100X. The other ingredient is, of course, a good dark sky, which increases contrast between the brighter stars and the glow of M56 itself. On nights when transparency is low and the light pollution is high, I sometimes even have trouble seeing the field stars around M56 in my 5 X 24 finder scope that I use to star hop. This forces me to employ the ancient technique of lost novice stargazers, which is to point the scope in the general area between Alberio and Lyra and sweep with a low power wide angle eyepiece to find this not-so-elusive globular.

When skies are dark, however, I can use the asterism of what I call the "small Taurus bull head", and finding M56 is a cinch (See the accompanying finder chart below).

If you use any type of finder-scope, as opposed to a Telrad, it is probably best to start your star-hopping at Alberio, which itself is a beautiful double star. I have found that looking at the parallelogram of Lyra through an inverted or reversed finder can be confusing as to which star is really the "end" star closest to M56.

M56 DATA:

- Type: Globular Cluster
- Distance: 31,000 Light Years
- Size: 63 Light Years Across
- Angular Size: 7 Minutes of Angle
- Magnitude: 8.4

Observing Notes:

(M56 Image Courtesy of Bob Benamati)

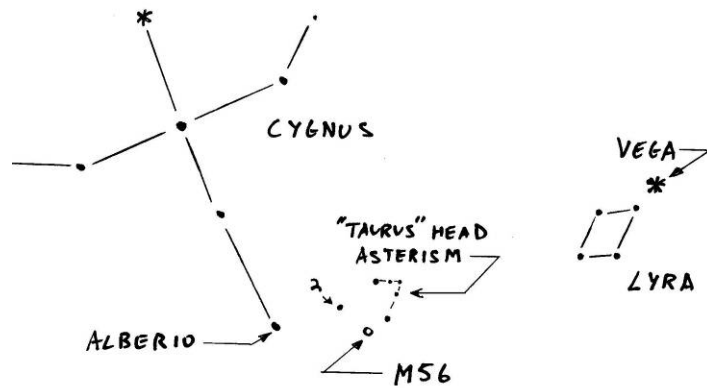
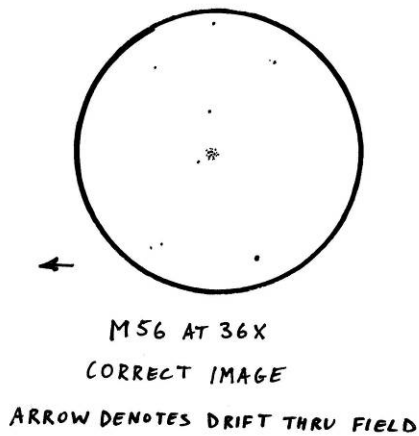
This fine, relatively bright, medium-sized globular cluster differs from most others that I have observed in that it has virtually no central condensation, or in other words, does not gradually brighten toward the center. Also, and possibly because of this, a coarse sprinkling of brighter stars can be seen across the face of the cluster. This is a low contrast effect, which requires good transparency, low light pollution, steady skies, and good optics. I have seen this only on rare occasions through a 4.5 inch reflector, more consistently and easily




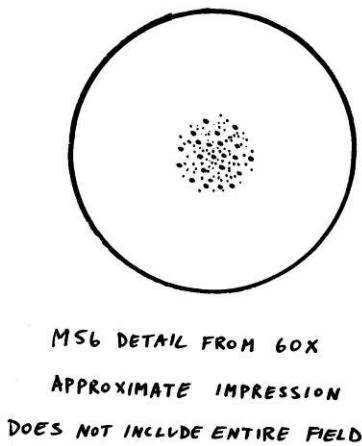
through a 10 inch Dobsonian, and virtually not at all through an 8 inch Schmidt-Cassegrain. Presumably a high quality 4 inch refractor should easily show this effect in dark skies, as it is a high contrast instrument.

Averted vision and moderate to high power are also required to see the brighter stars scattered across the face of M56. Also moving the telescope slightly back and forth will help your eye in picking up the brighter members of the cluster; sometimes they appear to blink on and off like fireflies! Although it is somewhat of a challenge to see this, it is well worth the effort in my opinion.

M56 is also visible through my straight-through 5 X 24 Finder scope, but only on nights of high transparency and low light pollution.



STAR HOP THRU 5x24 FINDERSCOPE
APPROX. FIELD OF VIEW = 



The Legend of LithSquatch-The Martian Rock Beast

➤ By Chris Sommers, BMAA

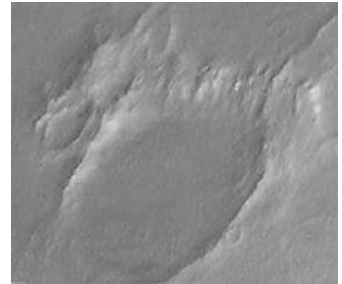
In the last couple of months the scientific community has been abuzz with the possibility of complex life on Mars. This speculation started following a series of NASA rover images that may have actually captured pictures of both a hominid life form and potential food sources on the Martian Surface. The first of these images (Upper Right) clearly show a figure similar to the mythical Sasquatch of the North American pacific-northwest, or the Yeti of Asia's Himalayas. I have dubbed this alien "LithSquatch", as the beast seems to live among the rocks in the barren Martian landscape. There are other reasons for this name, as will be discussed later in this article.



Further evidence of LithSquatch is evidenced in the polygonal shaped Martian mushrooms or toadstools as seen on the next rover image. NASA has clearly tried to deceive the public by attributing these rock formations to natural processes such as crystallization of minerals, but given the close proximity of the LithSquatch to a potential food source is not a coincidence.

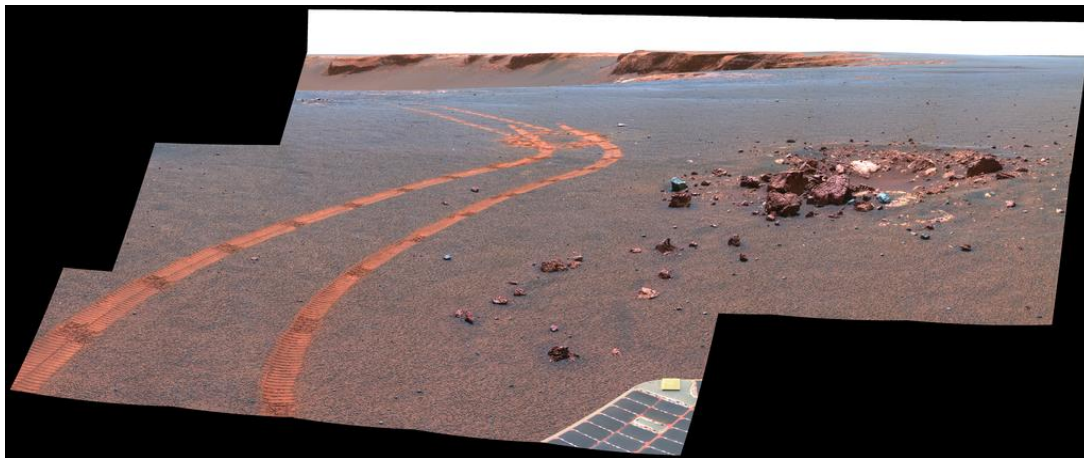


As additional proof of LithSquatch's existence is the feature called "the giant's footprint" as photographed by the Mariner 7 in 1969 on the slope of a Martian sand dune. Measuring over one meter in length, this footprint is larger in size to our own Sasquatch or Yeti. The equivalent to our own right foot, the print of the large toe, and six to seven smaller toes, are clearly visible in the print.



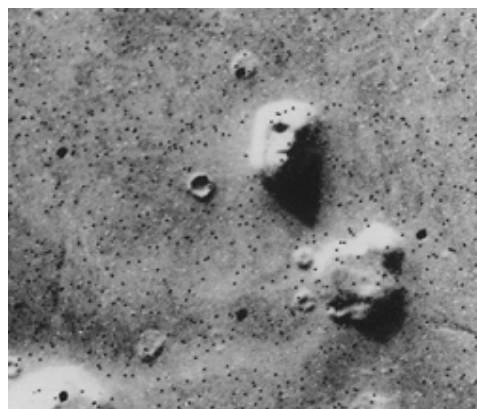
To the left is a NASA image of morning dew, a source of water for our beast.

Other compelling evidence of the LithSquatch inhabitation of Mars are the circular ruins of primitive shelter as seen in the Opportunity Rover image below, which are remarkably similar to ruins of primitive dwellings in the southwestern United States.



While some may find this last bit of evidence over reaching and scientific hand-waving, I would like to remind all of you readers that we evolved from primitive microbes, then slimy worms, into primitive primates, and subsequently into cultures that built the pyramids and sent astronauts to the moon. This primitive LithSquatch culture I offer as evidence the Face on Mars (*Courtesy of NASA*). Clearly the equivalent of Meso-American or Egyptian Pyramids as can be seen by our own terrestrial satellites.

The last couple of years I have given a couple of talks about exobiology at the Franklin Institute, Stella-Della Valley, and our BMAA General Meetings. These have mainly focused on life in water rich extraterrestrial environments such as the Jovian and Saturnian moons of Europa and Titan. I presented information on bacteria resistant to UV and ionizing radiation, extreme heat such as those in geothermal vents and psychrotrophic bacteria that could live in ice and under the north and south poles.



Mars is not exactly the planet of teeming oceans and flopping fish. We can leave the idea of Percival Lowell's canals to the pages of the hallucinatory scientific journal aptly named "*The Journal of Amusingly Irreproducible Results*". It is the same journal where articles on cold fusion have been published.

Temperatures on Mars range from approximately 80°F at the warmest to -225°F depending on season and planetary location as determined by the various planetary landers. The atmosphere of Mars is approximately 95% carbon dioxide with traces of nitrogen, carbon monoxide, nitric oxide, argon, neon, xenon, krypton, methane, formaldehyde, and ozone. Atmospheric water vapor has been calculated to be less than 0.05%. The Martian soil contains various elements including silicon, aluminum, magnesium, iron, chlorine, and potassium, calcium, sulfur that can form minerals including quartz, feldspar, and orthopyroxene to name a few. Ah, that beautiful red rusty soil. Heat, radiation, and pressure generate the building blocks of life such as polycyclic aromatic hydrocarbons that have been identified in Martian rocks and meteorites, and elsewhere in the solar system. The Martian surface is weathered by wind erosion, possibly by water in the past, and the rocks are cracked and layered. In other words, a perfect place for LITHOTROPHS to grow.

What are these lithotrophs you ask? Why they are hardy little bacteria that live inside and between layers of rock, and digest that rock as a source of food. They are ubiquitous little buggers and various species of lithotrophs can be found in fresh and salt water, volcanoes, atmosphere, and mines. It is known that they can live under kilometers of rock, as they have been found in drill core samples taken from the extreme depths of the earth. Toxic metals released into the environment by digestion of mine-tailings is often due to the action of lithotrophic bacteria. They can live in the rock of black smokers, geothermal vents at the bottom of the ocean.

We, and most other animals and plants are a little different than lithotrophs. We catabolize things like carbohydrates and proteins, etc. to generate ATP and we use oxygen to transfer electrons that can be used to drive these metabolic reactions in our bodies. Lithotrophs obtain their energy, or drive the Electron Transfer System (ETS), from reduced inorganic molecules, and molecules that can be used for energy generation include, gaseous hydrogen, methane, carbon monoxide, sulfur, hydrogen sulfide, ammonia, nitric and nitrous oxide, and reduced iron and magnesium. Sound familiar from a previous paragraph? What is there plenty of on Mars?

Lithotrophs often obtain their elemental carbon from carbon dioxide, which again, is abundant on Mars, through the Calvin Cycle most likely associated with energy generation in plants. Oxygen is used as the molecule for the electron transfer reaction when it is available, but it is not necessary. These little buggers are not exactly quick growing in comparison to other bacteria as the energy generated through digestion of the minerals in rock is fairly low. They digest rock to obtain minerals literally by secreting acids into their surrounding environment. (*Mars smiley face courtesy of NASA*)



In the last couple of decades we have found a tremendous diversity of life in hard to imagine places on our little blue ball. Is it so hard to imagine that hardy little bacteria exist under the Martian surface in its rusty red rocks? Can our own terrestrial lithotrophs be used to begin the terraforming of our red neighbor. Would doing so be ethical if it would mean extinguishing native Martian microbes?

At some point in time we might have to ponder those questions. So go out, throw a lithotroph filled rock at Mars, and make a wish. Just try not to damage your neighbor's home. Here on Earth, or on Mars.

Hope you had fun reading the article. LOL:). Be sure to wave at LithSquatch the next time you observe Mars.

Summer Celestial Events

June 1 st	Double shadow transit on Jupiter.
June 11 th	Moon 0.4°S of the Beehive Cluster (M44).
June 8 th	Double shadow transit on Jupiter. Mars 1.1°N of the Moon, Occultation
June 15 th	Double shadow transit on Jupiter.
June 17 th	Antares 0.2°N of the Moon-Occultation.
June 23 rd	Double shadow transit on Jupiter. Neptune 0.8°S of Moon, Occultation
June 27 th	Uranus stationary.
July 1 st	Mars 0.7° N of Regulus. Mercury at greatest elongation (W).
July 4 th	Moon 0.5°S of the Beehive Cluster (M44).
July 9 th	Jupiter at Opposition.
July 11 th	Mars 0.7°S of Saturn.
July 14 th	Antares 0.3°N of the Moon-Occultation.
July 20 th	Neptune 0.9°S of the Moon-Occultation.
July 28 th	Aquarid meteors peak.
August 1 st	Solar Eclipse.
August 5 th	Double shadow transit on Jupiter.
August 10 th	Antares 0.4°N of the Moon-Occultation.
August 12 th	Perseid meteors peak.
August 13 th	Venus 0.2°S of Saturn.
August 16 th	Mercury 0.7°S of Saturn. Neptune 0.8°S of the Moon-Occultation. Partial Lunar Eclipse.
August 19 th	Double shadow transit on Jupiter.
August 26 th	Double shadow transit on Jupiter.
August 28 th	Moon 0.6°S of the Beehive Cluster (M44).
September 2 nd	Double Shadow Transit on Jupiter.
September 7 th	Antares 0.3°N of the Moon-Occultation.
September 8 th	Double Shadow Transit on Jupiter.
September 11 th	Venus 0.3°N of Mars.
September 13 th	Neptune 0.8°S of the Moon-Occultation.
September 20 th	Moon 1°N of the Pleiades (M45).
September 24 th	Moon 0.7°S of the Beehive Cluster (M44).

Astronomy Day 2008 at Peddler's Village

➤ By Dwight Dulsky

The Astronomical League designated May 10th this year as "Astronomy Day". Each year amateur astronomy clubs all over the world celebrate this day by bringing astronomy to the masses. This year BMAA returned to Peddler's Village after about a 10 year absence. We had a very centrally located spot on the "green" which was perfect for attracting the attention of passersby's. Unfortunately the day was quite overcast and we really didn't get much of a chance to use the PST. With



what few breaks in the clouds we did get, there wasn't much doing on our nearest star that day anyway. With the "iffy" weather, the crowds were not what they could have been. Had the day been sunny, we would have had a lot of visitors. As it was, there was a nice stream of folks who stopped by to chat. We entertained the kids with some Night Sky Network activities. George Reagan, Herb Bortek and Chris Sommers gave out lots of handouts and freebies. We also met one very precocious 5 year old who memorized all the planets in order and who knew that the asteroid belt was correctly located between Mars and Jupiter. When he started to tell us that Pluto has been a dwarf planet since 2006 I started thinking that I was looking at a reincarnated Carl Sagan! I hope we see this little guy at one of our StarWatches this summer.

BMAA and the Bucks County Science Teachers Association

➤ By Dwight Dulsky

On May 1st I had the pleasure of addressing about 25 Bucks County science teachers at their semiannual association meeting in Doylestown. I was very excited to get the word out about BMAA to this group who is directly involved with astronomy education to thousands of students. The 45 minute presentation was divided into three parts. The first 15 minutes was spent talking about what BMAA is and what we do as a club in this region. One of my main points was to invite them and their students to our StarWatches when we are in their community.

The next 15 minutes was spent showing them some of the educational outreach activities we do involving the Night Sky Network kits. They were quite impressed with the kits and how they show astronomical concepts so simply and cleverly. The fact that they are free to non-profits and schools also got their attention in these times of tight budgets.

The final segment of the presentation was showing them the remote telescope facility www.slooh.com I was careful to request a later time slot for our presentation to give us a chance of seeing some live observations from the Canary Islands. Our 5:45 PM EDT translated into 9:45 PM Canary Island time – late enough for dark skies. I also reserved an observing mission during that time to see M51, the Whirlpool Galaxy. Well, as luck would have it, it was a nice night over there and just as I logged in they were right in the middle of imaging M51 right on cue. All of the variables fell into place and it was quite an impressive site seeing the Whirlpool fill up our screen.

These science teachers are giving students their first taste of astronomy. Unfortunately, most of it is from the text book. Hopefully, we can get some of these students to the eyepiece and see these sights firsthand.

Astronaut Dr. Dan Barry / Space Night at Upper Moreland Middle School

➤ **By Dwight Dulsky**

A few months ago, I heard about the Educational Foundation of the Upper Moreland School District setting up a program with recently retired NASA astronaut Dr. Dan Barry. He was going to come to our school and do some presentations to our students, faculty and community. To me this seemed like a golden opportunity for BMAA to become involved. After getting approval from the administration we came up with the idea to have a variety of space/astronomy related activities to occur following his presentation on April 21st.

Dr. Barry gave an excellent glimpse into the life of a NASA astronaut. Special NASA video footage was shown of a rumbling lift off that rattled your bones to the core. Dr. Barry is a veteran of three missions and has logged many hours of spacewalks outside of the shuttle. He also highlighted the perseverance he needed to finally get accepted into the astronaut program. He applied 14 times before becoming an astronaut! The 400+ audience was very appreciative of his wit and humor when talking about his experiences in orbit.

As the audience left the auditorium, they spread out into the various activities we had planned. Ed Radomski and Art Baldwin help man the BMAA information table. We had planned on some live observing, but the clouds forced us inside. We had a few telescopes on static display which got a lot of attention. Ed and Art did a great job talking about the scopes and BMAA. In the library, students and parents visited a lot of space/astronomy websites on the Internet. A DVD of "Space Station IMAX" was also showing on a large screen. In the cafeteria, students were making scale "Pocket Solar Systems" on cash register tapes. Younger students were busily engaged in some coloring activities of astronauts, planets and space shuttles. In the main commons area, students were making real Star Wheels that they could take home and use outside. We also had a display of solar system planets in scale to a 1 meter diameter Sun. At this size, the entire solar system would fit into a two mile diameter circle. Another popular area was the www.slooh.com presentation being conducted by BMAA member Lou Vittorio. Lou was in our special multimedia room, which projects his computer screen image onto a 108" wide screen. Again, we were lucky that night that they were having clear skies in the Canary Islands. Students and their families stayed around for about an hour visiting the activity stations.

Thank you our hosts Upper Moreland Middle School and also the teachers and students who served as presenters and helpers during the evening.



Summer Globular Clusters-Listed by Right Ascension*

Globular Cluster	RA	Constellation	Magnitude
C80	13h26.8m	Cen	3.7
M68	12h39.5m	Hya	8.2
C66 (NGC5694)	14h39.6m	Hya	10.2
NGC4147	12h10m	Com	10.3
M53	13h12.9m	Com	7.7
NGC5466	14h05.5m	Boo	9.0
M3	13h42.2m	CVn	6.4
M5	15h18.6m	Ser	5.8
NGC5987	15h17.4m	Lib	8.5
M10	16h57.1m	Oph	6.6
M12	16h47.2m	Oph	6.6
NGC6284	17h05.m	Oph	9.0
NGC6287	17h05.2m	Oph	9.4
NGC6293	17h10.2m	Oph	8.2
NGC6325	17h18m	Oph	10.7
M14	17h37.6m	Oph	7.6
M107	16h33m	Oph	8.1
M19	17h02.6m	Oph	7.2
M9	17h19.2m	Oph	8.0
NGC6356	17h23.6m	Oph	8.3
NGC6342	17h10.2m	Oph	9.5
NGC6369	17h21.2m	Oph	9.7
M62	17h01.2m	Oph	6.6
M13	16h41.7m	Her	5.9
M92	17h17.1m	Her	6.5
M80	16h17m	Sco	7.2
M4	16h23.6m	Sco	5.9
NGC6144	16h27m	Sco	9.1
NGC6453	17h50.9m	Sco	10.2
NGC6440	17h48.9	Sgr	4.4 (see PN NGC6445?)
NGC6522	18h03.6m	Sgr	9.9
NGC6528	18h04.8m	Sgr	9.6
M69	18h31.4	Sgr	7.7
NGC6642	18h32m	Sgr	9.1
C78 (NGC6541)	18h08.1m	CrA	6.3

*Based on the Table Provided by Orum Stringer. Thanks Orum!!!!

NASA Space Place: Stellar Compass for Space Explorers

➤ by Patrick L. Barry

In space, there's no up or down, north or south, east or west. So how can robotic spacecraft know which way they're facing when they fire their thrusters, or when they try to beam scientific data back to Earth?

Without the familiar compass points of Earth's magnetic poles, spacecraft use stars and gyros to know their orientation. Thanks to a recently completed test flight, future spacecraft will be able to do so using only an ultra-low-power camera and three silicon wafers as small as your pinky fingernail.

"The wafers are actually very tiny gyros," explains Artur Chmielewski, project manager at JPL for Space Technology 6 (ST6), a part of NASA's New Millennium Program.

Traditional gyros use spinning wheels to detect changes in pitch, yaw, and roll—the three axes of rotation. For ST6's Inertial Stellar Compass, the three gyros instead consist of silicon wafers that resemble microchips. Rotating the wafers distorts microscopic structures on the surfaces of these wafers in a way that generates electric signals. The compass uses these signals—along with images of star positions taken by the camera—to measure rotation.

Because the Inertial Stellar Compass (ISC) is based on this new, radically different technology, NASA needed to flight-test it before using it in important missions. That test flight reached completion in December 2007 after about a year in orbit aboard the Air Force's TacSat-2 satellite.

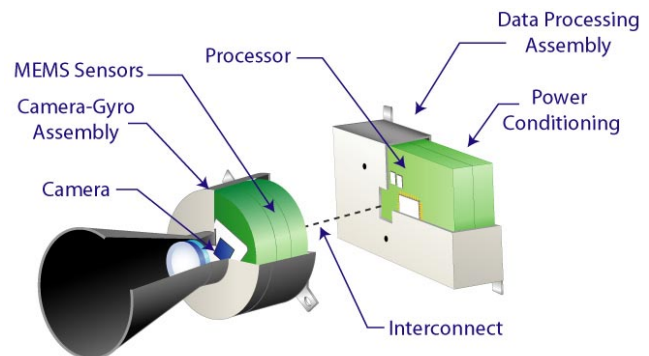
"It just performed beautifully," Chmielewski says. "The data checked out really well." The engineers had hoped that ISC would measure the spacecraft's rotation with an accuracy of 0.1 degrees. In the flight tests, ISC surpassed this goal, measuring rotation to within about 0.05 degrees.

That success paves the way for using ISC to reduce the cost of future science missions. When launching probes into space, weight equals money. "If you're paying a million dollars per kilogram to send your spacecraft to Mars, you care a lot about weight," Chmielewski says. At less than 3 kilograms, ISC weighs about one-fifth as much as traditional stellar compasses. It also uses about one-tenth as much power, so a spacecraft would be able to use smaller, lighter solar panels.

Engineers at Draper Laboratory, the Cambridge, Massachusetts, company that built the ISC, are already at work on a next-generation design that will improve the compass's accuracy ten-fold, Chmielewski says. So ISC and its successors could soon help costs—and spacecraft—stay on target.

Find out more about the ISC at nmp.nasa.gov/st6. Kids can do a fun project and get an introduction to navigating by the stars at spaceplace.nasa.gov/en/kids/st6starfinder/st6starfinder.shtml.

This article was provided by the Jet Propulsion Laboratory, California Institute of Technology, under a contract with the National Aeronautics and Space Administration.



Caption: *Compass is built as two separate assemblies, the camera-gyro assembly and the data processor assembly, connected by a wiring harness. The technology uses an active pixel sensor in a wide-field-of-view miniature star camera and micro-electromechanical system (MEMS) gyros. Together, they provide extremely accurate information for navigation and control.*

Quarterly Meeting Minutes

**Bucks-Mont Astronomical Association, Inc.
General Meeting Minutes
Peace Valley Nature Center, Doylestown PA
April 2, 2008**

Officers Present: Dwight Dulsky, President; Bernie Kosher, Vice President; Ed Radomski, Treasurer; Herb Borteck, Secretary; George Reagan, Star Watch Chairman. Attendance: 17 members. There were two new guests at the meeting: Heidi Sheridan and her daughter, Jackie Sheridan. We all hope that they will be with us in the future.

Dwight Dulsky started the meeting at 8:00 pm.. Ed Radomski gave the treasurer's report. Our paid up membership is now 50

George Reagan said that there will be a Science Fun Day at the Neidig Elementary school, Quakertown, Pa on Friday, April 18th. Time and directions will be announced via email. April 21st, Astronaut Dr. Dan Barry will give a lecture from 7 to 8 PM and there will then be a special star watch from 8 to 9PM at the Upper Moreland Middle School, Hatboro. It is possible that we will celebrate Astronomy Day at The Montgomery Community College on May 10th.

Bernie Kosher gave a talk on Saturn and also about his special challenge. This was about Terby's Spot, which occurs where the rings go behind Saturn. Have any of you been able to see it? Dwight gave us a thorough session with lots of information concerning the Messier Marathon. Also we received a handout that gave us all the knowledge needed to find the 110 Messier objects. As usual he presented a thorough and interesting discourse.

Here is the list of monthly topics that will be discussed.

May: DSLR Astrophotography

June: CCD Astrophotography

July: Show And Tell

August: Image Management (Astrophotography)

September: Stella Della Valley Preparation

October: How To Buy a Telescope

November: Bmaa Holiday

December: Choosing Eyepieces [Write down your questions for the meeting and if you have "ancient and interesting eyepieces for show, by all means bring them.]

The StellaDella is set for Oct. 24-26, 2008.

After a break, there was lottery for an old mechanical spherometer which Herb was eager to win. This was donated by Norman Remer who assured us that Galileo used it to make his own telescopes. The lucky winner was Jackie Sheridan, who no doubt will come back many times to again win more of these great prizes. Herb showed a NASA picture of Mercury. There was a discussion on what caused the bright spots and trails on the planet.

It was another great meeting which we all thoroughly enjoyed.

Respectfully submitted,
Herb Borteck, Secretary.

**Bucks-Mont Astronomical Association
April Business Meeting at Churchville,
Wed. the 16th at 7:30 PM**

Officers Present: Dwight Dulsky, President; Bernie Kosher, Vice President; Ed Radomski, Treasurer; Herb Borteck, Secretary; George Reagan, Star watch Chairman; Chris Sommers, Constellation; Art Baldwin and Frank Schubert. The meeting started at 7:30 pm.

Dwight Dulsky presented the April business meeting agenda. But first he showed us the new StarWatch signs that had been ordered and delivered. They were excellent, easy to set up and to read. There was a general round of approval for and great job by our president.

1. Update on Antoine's Dob. Assembled for delivery to PVNC? Ed and Bernie discussed the re-assembly and what they are doing to get the Dob ready.

2. Donation to Clear Sky Clocks Ed said that we could sponsor the Camp Onas Clock and our logo could also appear on the page. Ed is still awaiting a reply from the webmaster regarding the donation procedures.

3. Ed also received a note of gratitude from Christopher G. Stieber, Director of the Churchville Nature Center, for our \$50.00 donation for the use of the farmhouse for our business meetings.

4. Commitments to SDV 2008 - Dwight wanted to know if folks are comfortable continuing in their SDV positions from last year. Primarily: Ed as Registrar, Chris for arranging speakers, George coordinating volunteers, Bernie helping with setup, etc. There was a discussion on the need of assistance for Ed during the months of Sept and Oct. Art Baldwin graciously volunteered to help out with registrations. George said he will also help with door-prize procurement. Thank you to Art, George and the rest of you for your continued commitment to SDV.

5. Astronomy Day: Unfortunately Astronomy Day at MC3 has fallen through. George's had a suggestion about trying to return to Peddler's Village. Chris also suggested about going back to Barnes and Nobel just S. of Montgomery Mall. Both ideas are good. We are still awaiting a return call from Peddler's Village. Peace Valley was also brought up as a possible site for Astronomy Day. There were no final decisions, But we will announce ASAP once a suitable place is secured for the event. Keep the date open we will be doing something as a club on May 10th.

6. Bernie brought up the idea of the club purchasing a Coronado PST for the use of the members.

There was no other business. The meeting adjourned at 8:10 pm.

Herb Borteck, Secretary

**Bucks-Mont Astronomical Association, Inc.
General Meeting Minutes
Peace Valley Nature Center, Doylestown PA
May 7, 2008**

Officers Present: Dwight Dulsky, President; Ed Radomski, Treasurer; Herb Borteck, Secretary; George Reagan, Star watch; Chris sommers, Constellation Attendance: 19 members Dwight Dulsky started the meeting at 8:06 pm.

Ed Radomski gave the treasurer's report. Our paid up membership is now 50. We paid our membership dues to the Astronomical League. We sent a check to the Fair Sky Clock; our name will be on the downer's list along with our logo.

George reported that the successful star watches were under 50% At the last watch there were only two people to show up. On May 10th, Astronomy Day, there will be a star watch at Peddler's Village. It will be at the Village

Green and will be from 12 noon until 5 pm and also starting at 8 pm for the rest of the evening. Other star watches are listed at the end of this message.

Chris Sommers reported that the Constellation out on July 1st. If you have any additions to send, please do it now. He also reported that he has two speakers for Stella Della.

Orum Stringer gave us a marvelous lecture about globular clusters. It was very interesting and his enthusiasm spilled out and made us want to get into it even more. He presented us with lists of the globular clusters that would be available during this summer and specified where to look. It was a GREAT lecture.

After the break, there was lottery for a flashlight that sent either red or green beams out. I regret to say that I did not get the name of the winner (and I did not win the lottery). This was donated by Ed Radomski.

Then Bob Post explained how to take tripod based photos of the sky. He also presented us with excellent examples of his work. Rick Lentz followed up with a few examples of what can be done with a simple digital camera. He showed us a picture of the comet Holmes which was quite remarkable for just a point and shoot.

Frank Schubert donated a refractor to the BMAA. It is light and easy to transport. Bruce Collier donated his daughter's telescope for Stella Della. As usual it was a most interesting meeting and I am sorry that some of you missed it.

The meeting closed at 10 pm.

Future topics will be:

May: DSLR Astrophotography

June: CCD Astrophotography

July: Show And Tell

August: Image Management (Astrophotography)

September: Stella Della Valley Preparation

October: How To Buy a Telescope

November: Bmaa Holiday

December: Choosing Eyepieces [Write down your questions for the meeting and if you have "ancient and interesting eyepieces for show, by all means bring them.]

The StellaDella is set for Oct. 24-26, 2008. It is possible that we will celebrate Astronomy Day at The Montgomery Community College on May 10th.

Respectfully submitted,
Herb Bortek, Secretary.

BMAA 2008 StarWatch Schedule (see www.bma2.org for updates and maps)

July	2 Wed	8pm	BMAA General Meeting, Peace Valley Nature Center, Doylestown
	3 Tue	9:30pm	StarWatch, Lower Nike Park, Warrington
	11 Fri	9:30pm	StarWatch, Peace Valley Nature Center, Doylestown
	29 Tue	9pm	StarWatch, Willard Markey Centennial Park, Perkasio
August	1 Fri	9pm	StarWatch, Nockamixon State Park, Quakertown (Tohickon Boat Access)
	6 Wed	8pm	BMAA General Meeting, Peace Valley Nature Center, Doylestown
	7 Thu	9pm	StarWatch, Hansell Park, Buckingham [Map]
	12 Tue	9pm	StarWatch, Silver Lake Park, Bristol
September	3 Wed	8pm	BMAA General Meeting, Peace Valley Nature Center, Doylestown
	5 Fri	8pm	StarWatch, Peace Valley Nature Center, Doylestown
	9 Tue	8pm	StarWatch, Tamanend Park, Upper Southampton
	24 Wed	7:30pm	StarWatch, Pennypack Ecological Restoration Trust, Huntingdon Valley
October	1 Wed	8pm	BMAA General Meeting, Peace Valley Nature Center, Doylestown
	2 Thu	7:30pm	StarWatch, Honey Hollow Environmental Education Center, Solebury
	7 Tue	7:30pm	StarWatch, Covered Bridge Park, New Britain (Adjacent to the Covered Bridge)
	21 Tue	7:30pm	StarWatch, Lower Nike Park, Warrington
	24-26 Fri-Sun		STELLA-DELLA-VALLEY XXII, Camp Onas, Ottsville
November	3 Mon	7:30pm	StarWatch, Cedar Hill Park, Horsham (Cedar Hill Rd. near Horsham Rd.)
	5 Wed	8pm	BMAA General Meeting, Peace Valley Nature Center, Doylestown
	7 Fri	7:30pm	StarWatch, Silver Lake Park, Bristol
	25 Tue	7:30pm	StarWatch, Gwynedd Wildlife Preserve, Upper Gwynedd
December	3 Wed	8pm	BMAA Holiday Meeting, Peace Valley Nature Center, Doylestown

All StarWatches are free and open to the public. StarParties are open to members and guests only.

Call the BMAA Message Line 215-579-9973 for activity updates. (Cancellations due to weather will be announced 1 hour before the event.)

Constellation-Instructions to Authors

You need to be a BMAA member to submit an article. Articles are typically ½ to 2 pages in length. They can vary in topic from reviews of books, star parties, observing, equipment, issues of general astronomical interest, etc. Go to the BMAA website and take a look at *CONSTELLATION* back issues and you will get the idea. Another good example for articles is on the Cloudy Nights web site (<http://www.cloudynights.com>).

As to the format for articles, please adhere to the following:

Word Processor: MS Word.

Font: Times New Roman

Margins: 1 inch all sides.

Title Font Size: 14 pt

Text Font Size: 10 pt

Spacing: Single Space

Original Figures: Gray scale or color, jpeg format, and please save the file as the size as it would appear in the article (about 2" x 3"). The figures should be original due to copyright issues.

The Editors will modify the article as needed to fit the format.

Email articles to: constellation@bma2.org

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Bucks-Mont Astronomical Association Membership Application

Name and address _____

Renewal() New Member()

Renewal Dues are \$25.00/year and are due starting in November

Dues for new members are:

January	\$25.00
February	\$23.00
March	\$21.00
April	\$19.00
May	\$17.00
June	\$15.00
July	\$13.00
August	\$11.00
September	\$9.00
October	\$25.00
November	\$25.00
December	\$25.00

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Additional members from the same household are 1/2 price.

Your name, city of residence, telephone number and e-mail will be posted in the member's area of the website that can be viewed by using a club issued name and code word. The code is changed periodically and issued to club members only.

() Do not list my name or any personal information on the website.

The Association saves considerable money each year through electronic delivery of the Constellation. Printed copies will always be available at the meetings. You will receive the Constellation by being notified by E-mail when it is available on the website.

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Your e-mail address will be added to the e-group list and you will receive one e-mail a day containing all the mail that is sent to the group address by other members that day. This will allow you to be aware of current activities and discussions, and you may respond to any message by addressing your response to the e-group address. You must be a member to send to or receive messages from the e-group. You may cancel or change this option by contacting Jim Moyer, info@bma2.org.

BMAA Web site - <http://www.bma2.org>

Please return this form, with a check payable to BMAA, to:

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