The Blue Moon Observer

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Door Peninsula Astronomical Society

PO Box 331
Sturgeon Bay, WI
54235

www.doorastronomy.org

The May general meeting of DPAS will be held at 7 PM on Tuesday, May 7, at 7 PM at the Ray & Ruthie Stonecipher Astronomy Center. Tom Guilym will continue the series leading up to the 50 year celebration of the Apollo lunar landing by presenting the Apollo 6 phase. Following refreshments, the new inflatable planetarium will be inflated and demonstrated.

Meeting Notes from the April 2 General Meeting

Total in attendance - 24

The meeting was opened by president *pro tem* John J. Beck at 7 PM. Each attendee in turn introduced himself or herself and briefly mentioned their relationship to the club.

John then announced the events in which DPAS was to participate on April 4:

A table and presence at the STEAM (Science, Technology, Engineering, Art, and Mathematics) night at Sunrise School.

A table and presence at the lobby of TAP (Third Avenue Playhouse) prior to the play, “Shooting Star” and during intermission.

He also mentioned the National Geographic Live lecture on “Exploring Mars” to be given at the Weidner Center in Green Bay on April 12.

An invitation to join NPMAS (Neuville Public Museum Astronomical Society) for their annual was reported, along with the comment that this year is not a most favorable one for a Messier Marathon in this area because of the full moon around the dates that are otherwise optimal for “baggin” the entire catalog of deep sky objects.

John was delighted to announce that the new Planetarium is scheduled to ship out on April 8th with delivery anticipated within a week from the shipping date.

It was announced that DPAS has 2 new members: Mario Alonso and Bob Konczac from Algoma.

Gary Henkelmann presented a talk on the continuing series on the Apollo missions which he titled "Genesis of Apollo". He reviewed the history of the politics, incremental achievements, and public support which ultimately lead to the Apollo project, again a step-wise approach toward a human lunar landing.

Following his presentation there was a break for refreshments and informal conversation. John brought a coffee ring from Scaturo’s and fruit juice.

The second program was a slide show by Jim O'Reilly from their Mauna Kea Observatory trip.

Finally, Tom Gwilym showed some of his latest images from the backyard observatory which he built since moving to Door County.

The meeting closed around 8:45pm.

Who We Are

DPAS is a local club and chapter of the Astronomical League. We are also a club member of the International Dark-Sky Association and the Night Sky Network, teaching arm of the Astronomical Society of the Pacific. We meet on the first Tuesday of every month, with rare exception. Meetings are held at the Ray & Ruthie Stonecipher Astronomy Center unless otherwise announced. We operate and maintain the Leif Everson Observatory which houses a 16" Ritchey-Cretien telescope on a sophisticated tracking mount controlled by computer, and a new Maksutov-Cassegrain telescope for planetary viewing. A weather station is housed in the observatory. Current weather readings are shown on our web site:

www.doorastronomy.org

The StarGarden near the observatory is used for viewing the sky with unaided vision, binoculars and members' telescopes. There are also binocular mounts set in concrete which allow viewers of different heights to view the same object through the same binocular.

The Ray & Ruthie Stonecipher Astronomy Center provides for storage, projects, meetings, warm-up and toilet facilities. It also housed a StarLab, an inflatable planetarium with a sophisticated projection system. The planetarium was used for group presentations. See announcements page 6.

An Analemmatic Sundial was dedicated on October 20, 2012.

The "astronomy campus" as described here is reached by taking Utah Street east to the stop sign and turning left through the gate onto Stargazer Way. Or you can set your GPS to 2200 Utah.

DPAS Participates in STEAM Night at Sunrise School and 'Shooting Star' Opening at TAP.

April 4 was busy for DPAS as we demonstrated Space Science activities to families at Sunrise school's STEAM Night (Science, Technology, Engineering, Arts, and Math). [See photos on page 6 *ed*] Academic Coordinator Coggin Heeringa and Board member Jacque Axland set up a range of demonstrations aimed at explaining why we see phases of the Moon, why we never see the back side of the Moon, and how the Moon's craters are formed and look the way they do. These and other hands-on activities, including an 8' diameter 'Earth', were arranged in a circle to enable the throngs of visitors to progress from one to another in an orderly fashion. This was the second year that we participated, hoping to see a crowd equal to last year's curious 200.

At the same time, the Society staffed the Non-Profit table at the Opening of Third Avenue Playhouse's 'Shooting Star'. Gary and Barb Henkelmann, Dennis and Pat Meyer, and President John Beck greeted about 50 playgoers in the theater lobby, explaining the Scholarship Fund that bears our name and pointing out the growing list of scholars benefitting from Ray Stonecipher's gift to the Peninsula. Donations totaling $80 were turned over to the Door County Community Foundation, and the highlight of the night was meeting the parents of Ian Hoffman, who in 2016 became the first scholarship award winner! They were so enthused and appreciative over his receiving the scholarship, and we were all thrilled to meet them.

Thanks to all who helped make this a good night for DPAS!

Gary Henkelmann

The new planetarium. "First Air" Top image: Jacque Axland and Tom Guilym watch the dome as inflation begins. Lower image: Dave Lenius and Jim Maki look on.
April 22, 2019.

DPAS BOARD

John J. Beck, President *pro tem* and Editor
editor@doorastronomy.org

David Lenius, Vice President

Thomas Minahan, Outreach Coordinator

Susan Basten, Secretary, Membership Chairperson, and ALCOR.
treasurer@doorastronomy.org

Jacque Axland, Membership Chairperson and Recording Secretary of the Board

John W. Beck, Past President and Webmaster

Dennis Sundin, Member at Large

Tom Gwilym, Member at Large

Jim Maki, Member at Large

Ray Stonecipher, in spirit.

Gary Henkelmann, on leave from the Board.

Barbara Henkelmann serves as the DPAS Archivist.

Coggin Heeringa serves as acting school coordinator in the absence of that board position.

The business of the DPAS is largely conducted at the Board meetings to leave the general meetings open for programs. The Board meetings are held at the Astronomy Center at 7 PM on Monday, 8 days prior to the following general meeting.

Members of DPAS are invited to attend Board meetings.

Watching the Late Spring Skies
By David Prosper

Late spring brings warmer nights, making it more comfortable to observe a good showing of the Eta Aquarids meteor shower. Skywatchers can also look for the delicate Coma Star Cluster, and spot the Moon on the anniversary of Apollo 10's "test run" prior to the Moon landing in 1969.

The Eta Aquarids meteor shower should make a good showing this year, peaking the morning of May 6. This meteor shower has an unusual "soft peak," meaning that many meteors can be spotted several days before and after the 6th; many may find it convenient to schedule meteor watching for the weekend, a night or two before the peak. You may be able to spot a couple dozen meteors an hour from areas with clear dark skies. Meteors can appear in any part of the sky and you don't need any special equipment to view them; just find an area away from lights, lie down on a comfy lawn chair or blanket, relax, and patiently look up. These brief bright streaks are caused by Earth moving through the stream of fine dust particles left by the passage of Comet Halley. While we have to wait another 43 years for the famous comet grace our skies once more, we are treated to this beautiful cosmic postcard every year.

While you're up meteor watching, try to find a delightful naked eye star cluster: the Coma Star Cluster (aka Melotte 111) in the small constellation of Coma Berenices. It can be spotted after sunset in the east and for almost the entire night during the month of May. Look for it inside the area of the sky roughly framed between the constellations of Leo, Boötes, and Ursa Major. The cluster's sparkly members are also known as "Berenice's Hair" in honor of Egyptian Queen Berenices II's sacrifice of her lovely tresses. Binoculars will bring out even more stars in this large young cluster.

May marks the 50th anniversary of the Lunar Module's test run by the Apollo 10 mission! On May 22, 1969, NASA astronauts Thomas Safford and Eugene Cernan piloted the Lunar Module - nicknamed "Snoopy" - on a test descent towards the lunar surface. Undocking from "Charlie Brown" - the Command Module, piloted by John Young – they descended to 47,400 feet above the surface of the Moon before returning safely to the orbiting Command Module. Their success paved the way for the first humans to land on the Moon later that year with Apollo 11. Look for the Moon on the morning of May 22, before or after dawn, and contemplate what it must have felt like to hover mere miles above the lunar surface. You'll also see the bright giant planets Saturn and Jupiter on
continued on page 4

Astronomy Quiz

1. What two astronomical events, the first in August of 1560 and the second in August of 1563, cemented Tycho Brahe's interest in astronomy?

2, What does Maunder's Butterfly Diagram show us?

3. Note the difference in the

positions of the maria relative to the outline of the moon in these two images. What is the name of the lunar phenomenon responsible for this difference?

late spring skies from p.2
either side of the Moon before sunrise. When will humans travel to those distant worlds?

You can catch up on all of NASA's current and future missions at nasa.gov.

This article is distributed by NASA Night Sky Network The Night Sky Network program supports astronomy clubs across the USA dedicated to astronomy outreach. Visit nightsky.jpl.nasa.org to find local clubs, events, and more! DPAS is a member of Night Sky Network.

New Members

Welcome new members:
Mario Alonso and
Bob Konczac
Shea Defour-Remy

Board Activity

Membership = 46 paid and complimentary.

The Great Courses video on Galaxies and Clusters was moved to the June general meeting.

Plans are being developed for a moon party and lunar viewing on July 20 in celebration of the 50th anniversary of the Apollo moon landing.

Tom Minahan has reserved 20 seats for the Peninsula Players' production of "Silent Sky" on August 20. Details to follow.

Plans are under way for the transit of Mercury on November 11, including following it from the Leif Everson Observatory and broadcasting the image to the Astronomy Center to be viewed on the large screen.

Plans are under way for an observing weekend at Newport State Park on August 23, 24, and 25.

The Scholarship Committee reported that 4 scholarships will be awarded from among 6 applicants. Winners are two from Gibraltar and one each from Sevastopol and Southern Door. Board members were supprised that there were no applications from Sturgeon Bay school.

Spring Cleanup will be Thursday, May 9, from 9 AM to noon. Bring gloves; trowels, etc. are optional.

Scheduling for planetarium progreams has begun both for the Astronomy Center and off site. Various members will become familiar with the use of the planetarium and associated equipment.

A group has requested a field trip to see what is available on our astronomy campus. John J. will assist in the scheduling and communications and Dave Lenius will participate.

Jim Maki has rejoined the Board.

Poetry Corner

Stars, I have seen them fall,

But when they drop and die

No star is lost at all

From all the star-sown sky.

The toil of all that be

Helps not the primal fault;

It rains into the sea,

And still the sea is salt.

An untitled poem by

A. E. Housman (1859-1936).

NASA to Take O.D.'s Invention to Space Station

By *Vision Monday* Staff
Wednesday, August 26, 2009 4:32 PM

STURGEON BAY, Wis.—The pending Space Shuttle Discovery launched on mission STS-128 Aug. 29th with more than just astronauts and Tang—Wisconsin optometrist Dr. Paul Filar's Anterior Segment and Retinal Camera Attachment also headed to the International Space Station.

Filar dreamt up the device as a way to send himself images of his off-site patients' eyes—folks in nursing homes and rural communities. The portable camera fits on a PanOptic Ophthalmoscope, and will be used at the space station to transmit images—up to eight megapixels—of astronauts' eyes should ophthalmology needs arise.

"I am extremely excited and proud about the opportunity to work with NASA in this unique capacity. It is amazing that my product will soon be up in space assisting astronauts at the International Space Station," Filar said in a press release.

The Sturgeon Bay, Wis. O.D. was named Wisconsin's 2008 "Young Optometrist of the Year" by the Wisconsin State Optometric Association and the American Optometric Association and is no newcomer to inventing. He is the creator of the Filar Binasal Occluder, sold by Bernell VTP. A behavioral optometrist, Filar has a second practice location on Washington Island, Wis.

The camera attachment uses Carl Zeiss optics and includes auto or manual focusing, time and date stamping, zoom, an HD video capability, and transmits images to any computer using a USB port. Visit www.provizionusa.com for more information.

Paul Filar, O.D., inventor of the Anterior Segment and Retinal Camera Attachment

The above article, from a 2009 article in Vision Monday, was submitted by former BMO editor Ann Hickey.

Katie Bouman

"I'm so excited that we finally get to share what we have been working on for the past year! The image shown today is the combination of images produced by multiple methods. No one algorithm or person made this image, it required the amazing talent of a team of scientists from around the globe and years of hard work to develop the instrument, data processing, imaging methods, and analysis techniques that were necessary to pull off this seemingly impossible feat. It has been truly an honor, and I am so lucky to have had the opportunity to work with you all."

Those were the words of Katie Bouman, 30 year old PhD and 6 year member of the team running the Event Horizon Telescope project. About 3 years ago she developed the algorithm which lead to the first image of a black hole. Six years ago she knew nothing of astronomy or of black holes.

Astronomy Quiz Answers

1. The first was a total eclipse of the sun; the fact that it could be predicted with precision fascinated the 14 year old Tycho. The seconce was a conjuction of Jupiter and Saturn, which revealed the gross inaccuracies in the existing almanacs and ephemerides of that time.

2. The butterly pattern shows the relationship between latitude and the cycle of sunspots. Sunspots are typically confined to an equatorial belt between -35 degrees south and +35 degrees north . At the beginning of a new solar cycle, sunspots tend to form at high latitudes, but as the cycle reaches a maximum the spots form at lower latitudes. Near the minimum of the cycle, sunspots appear even closer to the equator.

3. The change in tilt from our perspective on earth is called "libation"

Viewing Nights

The following is the tentative list of viewing nights for 2019. Changes will be posted here and at

www.doorastronomy.org

May 4
June 1
July 6
August 3 (and/or 28)
September 28
October 26
November 23
December 28

Note: If skies are cloudy, a program will be presented at the Astronomy Center.

Some summer viewing may be cancelled because it gets dark so late.

STEM NIGHT at Sunrise School on April 4, 2019

Photos by Coggin Heeringa