Westminster Astronomical Society Inc, of Maryland

Volume 30, Issue 5
May 2013

The Mason-Dixon Astronomer

May Meeting:

- Wed., May 8th – 7:30pm
  Bear Branch Nature Center
- **Dr. Demos Kazanas**
  "*The ins and outs of Black Holes.*"

Dinner With Our Speaker!

- Wed., May 8th – 6pm.

  Harry's Main Street Grill -
  65 W Main Street
  Westminster, MD 21157

President's Message

May 2013 - Vanessa Thomas

Welcome to May, everyone! It's been nice lately to spend an evening under the stars without having to bundle up quite so much!

I'd like to thank everyone who came to the April meeting. It was good to have a full crowd and lots of interesting questions for our guest speaker, Dr. Jason Kalirai of STScI, who spoke to us about Hubble and the James Webb Space Telescope. Even though I also work at STScI, and for these two great telescope projects, I still learned a few things from the presentation. I hope you did, too.

I'd also like to thank each one of you who has volunteered some of your time to help with outreach events lately. It's the primary way we interact with our community, and the primary (or perhaps only) way people in our community get to experience the wonder of astronomy first-hand. I know for me, interacting with the public, showing people jewels of the sky through my telescope, or just talking about general space stuff reminds me of why astronomy is so amazing and why I love it so much. Even if you don't own a telescope, or don't have one you can or care to share with the public, you can help in other ways. Lend a helping hand in setting up for an event (and packing up afterward), talk to people about astronomy or WASI at an event, or help out with a planetarium show. Check our calendar at westminsterastro.org or on the Night Sky Network's website for upcoming events. Or talk to me, Skip Bird, or Jim Reynolds about helping out at an outreach event or planetarium show.

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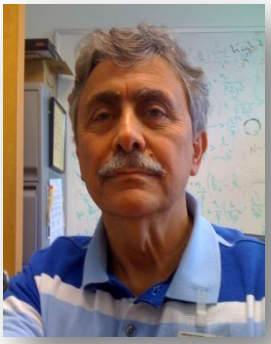


May Meeting – Guest Speaker

Dr. Demos Kazanas (NASA Goddard Space Flight Center)

"*The Ins and Outs of Black Holes*."

Bio:

Dr. Demosthenes 'Demos' Kazanas is an astrophysicist at the NASA Goddard Space Flight Center. His research interest is in high energy astrophysics: Radiation emission from accreting black holes, and neutron stars; structure of accretion disks; pulsar magnetosphere models; and structure of active galactic nuclei. Other interests involve cosmology and the gravitational theory of conformal gravity.

Members Observing

May 2013 – Steve Conard

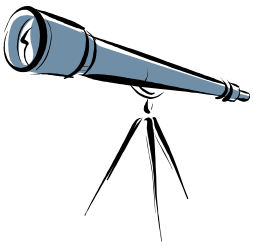
We had another great member's observing session on April 27th. There were 10 members and one guest present. We had a wide variety of telescopes, from 66 mm to 11". A number of attendees were able to find the Messier galaxies in Leo before the moon rose. With the dicey weather predictions, I decided not to bring my video astronomy equipment. We'll do this at an upcoming session, when some of the summer, gaseous/planetary, nebulae are available.

Normally our next session would be four weeks after April 27th. However, the moon has gradually shifted forward and will actually be full that day, so we will wait 5 weeks to get back on cycle to 3rd quarter moon. The "May" session then will be on Saturday, June 1st.

Paul will be making a new list of 10 Messier objects for June. Yet another flyer will be distributed at the May general membership meeting.

As usual, junk food will be provided--I'm thinking some kind of "pie" product. Bring your own healthy snacks, and a thermos of your favorite hot or cold liquid.

Upcoming Events From Our Calendars



- **Monthly Meeting** May 8, 7:30 p.m., at Bear Branch Nature Center (BBNC)
- **Soldiers Delight Public Stargazing** May 11, 8 p.m., at Soldiers Delight Natural Environment Area in Owings Mills
- **Planetarium Show** May 18, 7:30 p.m., at BBNC
- **WASI Member Observing** Saturday – June 1st, Sunset (about 8:15pm) BBNC

President's Message

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Another way many people interact with astronomy is through beautiful imagery like that the Hubble Space Telescope bestows upon us. For Hubble's 23rd anniversary in April (can you believe it's been 23 years since the telescope was launched?) we've received the gift of another sure-to-be iconic image of something perhaps some of you have glimpsed through a telescope with your own eyes — the Horsehead Nebula. In case you didn't know, Hubble has the ability to observe some wavelengths of infrared light, and Hubble captured this view of the Horsehead in infrared, revealing features in (and behind) the nebula like never seen before. The Horsehead has been imaged in infrared light prior to this, but I can't say I've ever seen it in such stunning detail. Wisps of gas and dust are so textured it seems as if I could reach out and pet the horse's mane. And the skyscape around the nebula has become so transparent that you can hunt for distant galaxies in the background of the image. So cool.

Something else that gets people excited about astronomy is comets. I remember Comet Halley being one of the first things I endeavored to observe in the night sky when I was young and becoming captivated by astronomy. Earlier this year, some WASI members were able to share views of Comet Pan-STARRS with the public. But I for one am hoping we'll have an even greater show out of Comet ISON this autumn. While we anticipate its approach, Hubble has given us something to look forward to. In April, it captured this view of Comet ISON, which is already supporting a puffed-up coma and very respectable tail.

I'm keeping my fingers crossed that this comet won't break up or fizzle out but instead will give us something spectacular to view and talk about for years to come, and will inspire curiosity and awe in future astronomers and WASI members!

Vanessa

Upcoming Regional Star Parties….

Here are a few of the upcoming regional start parties...

If you have never attended a star party, you should give it a try. Hundreds of astronomers gather in one location for speakers, conversation, vendors, and (of course) observing. Below are just a few of the offerings in our area.

Most of the events encourage you to register early and in some cases the events sell out. So please check the web sites and follow the instructions if you plan to attend. Most have rules and information for first timers.

If you plan on attending…post to our yahoo mail group and let everyone know. You may find that others are attending from the club!

- **Cherry Springs Star Party**
  June 6-9, 2013 – Cherry Springs State Park (near Coudersport, PA). Registration closes when all 450 slots are filled or May 28th. One of the darkest (and highest) sites in the area.
  Cost: $40 per person - Discounts for Families and Students

  For more information or to register: http://www.cherrysprings.org/

- **Green Bank Star Quest**
  July 10-13, 2013 – Near the grounds of NRAO and the Robert C. Byrd Green Bank Telescope (Green Bank, WV). A huge program that combines radio and visual astronomy. Lots or rules about radio interference…so read carefully.
  Cost: Based on length of stay…$25 per day. Discounts for additional days and various other options.

  For more information: http://www.greenbankstarquest.org/index.html

- **Mason Dixon Start Party**
  July 10-14, 2013 – Shreveport Airport (South of Dillsburg, PA). This long running star party has been a staple in the regional star party world for decades. Reasonably dark skies and low horizons are a trademark of this party.
  Cost: $20 (in advance) per person – Family and Student discounts – Camping is additional.

  For more information: http://www.masondixonstarparty.org

- **Stellafane**
  August 8-11, 2013 – Breezy Hill, Springfield, VT. Home to the Springfield Telescope Makers, this party is all about telescope making. Lectures, hands-on workshops, and contests highlight this gathering.
  Cost: $20 (early registration) per person – Camping extra, early entry permit extra..

  For more information: http://stellafane.org

Join The Westminster Astronomical Society…

Joining WASI gives you a great opportunity to meet fellow astronomers and provides group memberships to the Astronomical League and the International Dark-Sky Association. Additionally, benefits include access to our Library (over 500 astronomy-related books), the ability the borrow club scopes, a subscription to the Astronomical League's *Reflector*, access to members-only observing sessions and sites, and club discounts on astronomical magazine subscriptions.

Membership is still only $25 per year.

For more information or the link to join immediately via PayPal, please visit the club's website and navigate to the Membership tab.

http://www.westminsterastro.org

You may also join at any regular monthly meeting.
Simply ask a club officer for more information.

Hey…Where Is The May St*r Points Article?

Occasionally life and timing don't mix too well. That is the case this month with the Star Points article that is submitted by Curt Roelle. The meeting was early this month and we needed to get the newsletter out before the column was complete.

As room permits, we will catch up with Curt's May article in a future issue!

Thanks for your understanding.

March Meeting Minutes

Bob Clark

Minutes, Westminster Astronomical Society
12 April 2013
At Bear Branch

Called to order at 7:40 by Vanessa Thomas, Pres.

Our Speaker: Dr. Jason Kalirai (STScI) (Highlights)

Hubble Space Telescope
Work Being Done by Hubble and the James Webb Space Telescope teams
The decision process for components of a mission
- There was a survey to establish mission objectives.
- James Webb will be infrared.
- Hubble has been in operation for 22 years.
- About 4,000 scientific papers have been based on Hubble activities.
- Study by Dr. Kalirai's group included the 47 Tucanae Cluster.

Along with James Webb there are efforts to make Hubble even more powerful.
What is next (James Webb)
- Seek the earliest galaxies and stars.
- Measure the chemistry of the young universe.
- Operate at very low temperatures.
- Utilize Micro Shutters.

James Webb and Planets
- Most stars have planets.
- Looking for possible life bearing planets. When a planet gets between us and its sun/star and if we know the spectra of the star then we can deduce the chemistry of the planets' atmosphere by looking at the light coming from near the planet.
- The James Webb telescope will be launched in a folded configuration. It will unfold shortly after launch.

Short discussion on Members Observing efforts.

Skip discussed outreach activities including:
- Two events on 28 April
- Comic Book Day on 4 May in Eldersberg, call Skip at 443-375-2562

One Outreach Award was awarded by Skip

Adjourned 9:30 PM

Respectively Submitted

Robert L Clark, Sect

NASA's Space Place

Exploring the Water World

In some ways, we know more about Mars, Venus and the Moon than we know about Earth. That's because 70% of our solar system's watery blue planet is hidden under its ocean. The ocean contains about 98% of all the water on Earth. In total volume, it makes up more than 99% of the space inhabited by living creatures on the planet.

As dominant a feature as it is, the ocean—at least below a few tens of meters deep—is an alien world most of us seldom contemplate. But perhaps we should.

The ocean stores heat like a "fly wheel" for climate. Its huge capacity as a heat and water reservoir moderates the climate of Earth. Within this Earth system, both the physical and biological processes of the ocean play a key role in the water cycle, the carbon cycle, and climate variability.

This great reservoir continuously exchanges heat, moisture, and carbon with the atmosphere, driving our weather patterns and influencing the slow, subtle changes in our climate.

The study of Earth and its ocean is a big part of NASA's mission. Before satellites, the information we had about the ocean was pretty much "hit or miss," with the only data collectors being ships, buoys, and instruments set adrift on the waves.

Now ocean-observing satellites measure surface topography, currents, waves, and winds. They monitor the health of phytoplankton, which live in the surface layer of the ocean and supply half the oxygen in the atmosphere. Satellites monitor the extent of Arctic sea ice so we can compare this important parameter with that of past years. Satellites also measure rainfall, the amount of sunlight reaching the sea, the temperature of the ocean's surface, and even its salinity!

Using remote sensing data and computer models, scientists can now investigate how the oceans affect the evolution of weather, hurricanes, and climate. In just a few months, one satellite can collect more information about the ocean than all the ships and buoys in the world have collected over the past 100 years!

NASA's Earth Science Division has launched many missions to planet Earth. These satellites and other studies all help us understand how the atmosphere, the ocean, the land and life—including humans—all interact together.

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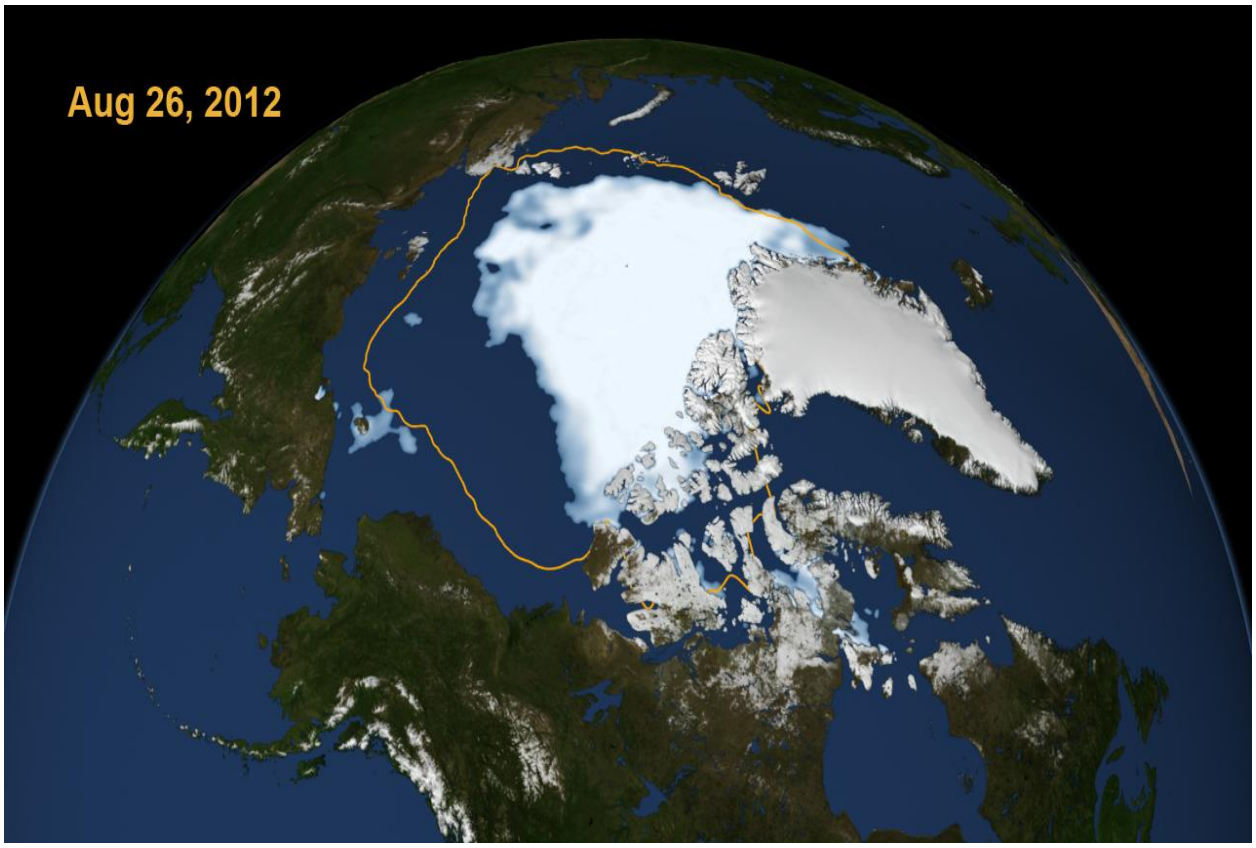
Find out more about NASA's ocean studies at http://science.nasa.gov/earth-science/oceanography. Kids will have fun exploring our planet at The Space Place, http://spaceplace.nasa.gov/earth.

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



Caption:

This image from September 2012, shows that the Arctic sea is the smallest recorded since record keeping began in 1979. This image is from NASA's Scientific Visualization Studio at Goddard Space Flight Center.