

Newsletter of the Baton Rouge Astronomical Society

[www.braastro.org](http://www.braastro.org)

**May 2013**

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**IMPORTANT NOTE:**

**This month's meeting will be held on Saturday, May 18th at LIGO.**

## PRESIDENT'S MESSAGE

Hi Everyone,

April was quite a busy month and the busiest day was International Astronomy Day. As you may have heard, we had the highest attendance at our Astronomy Day festivities at the HRPO ever. Approximately 770 people attended this year and we were graced with blue skies during the day and clear skies in the evening. Thanks again to all of you that volunteered your time to help out with this event. I was especially pleased to hear from Chris that he didn't even need to hit the phone lines to recruit people this year because we had more than enough people volunteer right off the bat! Doing this kind of outreach is a blast and I hope that you will give it a try sometime if you've never done it before.

Some more well-deserved congratulations are in order for our fellow club member, Dr. Bradley Schaefer. On April 15th, Dr. Schaefer was presented the Distinguished Research Master Award by the LSU Council on Research. The award has been presented since 1972 in recognition of outstanding faculty accomplishments in research and scholarship. As part of the award, Dr. Schaefer was given the University Medal, LSU's highest award for academic accomplishment.

The short summer nights are getting closer, but I hope to get out and do some viewing of the summer night sky. I'd like to get some more folks out to our dark sky site on a regular basis. If anyone is interested in going out there, let the rest of us know! Post it on the forum or on the BRAS Facebook page. You are bound to have a few people interested in joining you. Take a look at the Observing Clubs offered by the Astronomical League ([astroleague.org](http://astroleague.org)) and you just may find one that interests you. Our dark sky site is a perfect place to start many of these clubs.

We've had a great year so far and I hope we can keep up the momentum. Building and maintaining our membership are ways of doing that, too. If you still need to pay your dues, please consider doing so as soon as you can. Our club's dues to the Astronomical League are due soon and that price is based on how many members are in our club. We need everyone to be paid up by that time so they have your information and you can continue to be a member of the Astronomical League, as well. Also, if you know anyone that may be interested in joining a club such as ours, invite them out to the Observatory for a visit. Either a club meeting or just a Friday or Saturday public night would be great.

Well, I hope everyone is looking forward to more 2013 as it rolls along. Our May meeting should be fun so make sure to plan on joining us. (A perfect meeting to invite friends and neighbors, too!) Hope to see you there.

Clear Skies,  
Ben Toman  
BRAS President

## NOTES FROM THE VICE PRESIDENT

Our May meeting will be a daytime event at LIGO in Livingston on May 18<sup>th</sup>. We will NOT meet on the second Monday. Details below, but first I want to make a request.

I've had a number of requests for hands-on or how-to meeting topics. I am asking you for ideas and/or to volunteer to do presentations on chosen astronomical activity. For example, for example, telescope collimation is a good one. One person could do Newtonians, while another covers SCTs – maybe covering different collimation methods and tools – eyeballing, Cheshire eyepieces, laser collimators, etc. Or maybe a workshop on how to make an analemma or sundial. I have some simple plans for making Bahtinov masks, which I could cover for about 15-20 minutes, if someone else could to a short presentation on another subject. I know of one person who has some fine and detailed information about telescope filters (hint, hint). There are lots of topics we could cover. Let's make it fun.

OK, we will meet on May 18<sup>th</sup> at 11:00 AM, pot luck-style, at the pavilion at the LIGO Livingston Observatory, across from the Science Education Center, 19100 LIGO Lane, Livingston, LA 70754. We will eat lunch at the pavilion, then join the public for the Saturday Science events at 1:00 PM. BRAS will provide the main dish, most likely jambalaya, soft drinks, plates, forks, etc. Bring a side dish, if you like.

### Directions to LIGO:

1. Take I- 12 to Livingston/Frost (east of Baton Rouge, west of Hammond)
2. Take Exit 22. Proceed north on Hwy 63 to the light (right from Hammond, left from Baton Rouge)
3. Go west (left) on Hwy 190 at the light.
4. Travel on Hwy 190 for ~1/4 mile.
5. Go north (right) on Hwy 63, cross railroad tracks. (Small LIGO directional sign on corner)
6. Travel on Hwy 63 for ~ 3-1/2 miles.
7. Go west (left) at the LIGO sign. (Can't miss it.)
8. LIGO Lane is ~ 1-1/2 mile. **Drive slow!** Stop at the guard shack and press intercom if gate is closed.



## MESSAGE FROM THE HRPO

### FRIDAY NIGHT LECTURE SERIES

*all start at 7:30pm*

10 May: “Skylab 40<sup>th</sup> Anniversary”

17 May: “Mercury and Venus”

24 May: “The Phoenix Mars Lander”

31 May: “Exoplanets!”

### CALL FOR VOLUNTEERS: ON SITE

\* Saturday, 18 May from 6pm to 10pm. *Two volunteers in addition to regular BRAS compliment, each for two-hour shift.* **Evening Sky Viewing Plus.** Marshmallow roast, demo and clock tables; small telescope; setup and takedown. Easy; training provided.  
\*Sunday, 26 May and Monday, 27 May from 7pm to 9pm. *One volunteer for each shift.* **Triple Planetary Conjunction.** Small telescope operation. Telescope expertise required.

### TRIPLE PLANETARY CONJUNCTION

Sunday, 26 May and Monday, 27 May from 7pm to 9pm

*Free and for all ages.*

For two nights three of our sibling planets—Mercury, Venus and Jupiter—will form a tight triangle in the west-northwest. HRPO personnel will have telescopes ready at the back of the Burbank Soccer Complex, between the long lake and the Dog Park. All three planets will be in the constellation Taurus—the same constellation the Sun will be at that time. This will be the last triple-planet conjunction able to be viewed with the unaided eye until 2026.

## OBSERVING NOTES

### Constellation of the Month Virgo – the Virgin

#### Position in the sky

Right Ascension: 13 Hours Declination: -4 Degrees

#### Named Stars

Spica (Alpha Vir) Al Simak al A'zal "The Unarmed One" Mag. 10.1, position 13 22 6 S10 54 Variable binary, 16<sup>th</sup> brightest star in the sky

Zavijava ( Beta Vir) "The Corner of the Barking Dog"

Porrima (Gamma Vir) Zawait al Awwa "The Angle (or corner) of the Barking Dog" mag.2.76, position 12 39 1 S01 11

Auva (Delta Vir) mag. 3.66, position 12 53 1 N03 40, suspected binary with dwarf star 80 arc sec. away, 6 deg. NE from Gamma Vir.

Vindematrix (Epsilon Vir) "The Grape Gatherer" mag. 2.84, position 12 59 7 N11 41, the great Virgo cluster of galaxies is centered between Epsilon Vir. and Beta Leonis.

Heze (Zeta Vir), mag. 3.37

Zaniah (Eta Vir) , a triple star that cannot be resolved, 2 stars are binary-.5 au apart, with 3<sup>rd</sup> star close by.

Syrma (Iota Vir), mag. 2.44 "The Train of a Garment"

Rijl ai Awwa (Mu Vir), "The Foot of the Barking Dog", mag. 3.87

Beta, Eta ,Delta, and Epsilon form an asterism known as the "Barker" or Al Awwa

Virgo has 26 known Exo-planets orbiting 20 stars

70 Virginus is one of the first known extra solar planetary systems, with 1 confirmed planet of 7.5 Jupiter's mass

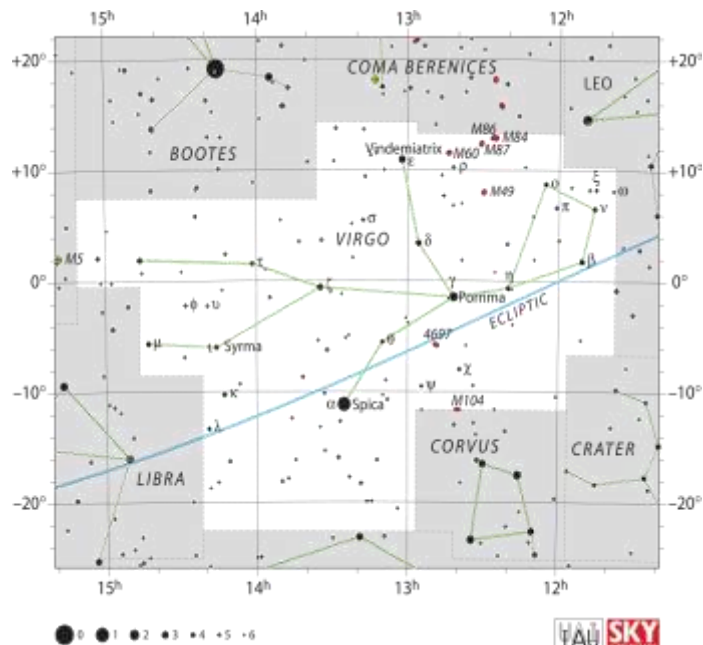
Chi Virginus has a planet 11.1 times the mass of Jupiter, and is a binary with a mag. 4.652

61 Virginus has 3 planets, one a super Earth and 2 Neptune mass planets

Virgo – Virgin or Young Maiden in Latin, is the 2<sup>nd</sup> largest constellation in the sky. Virgo is primarily associated with the Greek Goddess of Justice, Dike, but also with the corn Goddess Demeter and Astraea, the daughter of the father of the stars, Astraeus, and the Goddess of the dawn, Eos. In Greek mythology, Dike was so disappointed with humankind and their sins that she spread her wings and flew up into the heavens.

In Greek and Roman tradition, the Virgin was usually identified with the Goddess Astraea, the personification of Justice, daughter of Zeus and Themis, and the last of the deities to abandon Earth at the end of the Golden Age. In another legend, she is Persephone., daughter of the Goddess of the harvest, Ceres, and consequently associated with agricultural matters.

In Egypt, she was the Goddess Isis, the divine wife and mother. In other lands too, Virgo was associated with a great Mother Goddess; in Assyria she was the wife of Bel, in Babylonian lands she was Ishtar, Queen of the Stars, and in India she was identified with Kanya, the Maiden and Mother of Krishna.



## DEEP SKY OBJECTS

Virgo has 11 Messier objects, and the Virgo Cluster of Galaxies has 1300 members.

M49 (NGC 4472) mag. 8.4, position 12 27 3 N08 16, an elliptical galaxy, has 5900 Globular Clusters that are 10 billion years old on average. Believed to have a super massive Black Hole, with 565 million solar masses, at its core. Located 4.1 deg. WSW of Epsilon Virginis.

M58 (NGC 4579) mag. 9.8, position 12 35 1 N12 05, a barred spiral galaxy.

M59 (NGC 4621) mag. 9.8, position 12 39 5 N11 55, an elliptical galaxy 1 deg. E of M58.

M60 (NGC 4649) mag. 8.8, position 12 41 1 N11 49, an elliptical galaxy about 5 deg. E of M59. Optical disc overlays with the disc of NGC 4647, about 2.5 deg. from M60.

M61 (NGC 4303) mag.9.7, position 12 19 4 N04 45, about 8 deg. NW from Gamma Virginis. 17 Virginis (a double star) lies about 50' N, next to faint galaxies NGC 4324 and a small group consisting of NGC 4240, 4273, and 4281 is about 1 deg. to the NNW.

M84 (NGC 4374) mag. 9.3, position 12 22 6 N13 10, a lenticular and radio galaxy and

M86 (NGC 4406) mag. 9.2, position 12 23 7 N13 13, a lenticular galaxy

This pair is spindle shaped, and is called "The Eyes". They are 17' apart with M84 the western member. NGC 4388 forms a nearly equilateral triangle with M84 and M86, and is about 16' to the south and about 10' to the north is an edge on spiral galaxy, NGC 4402.

M87 (NGC 4486) mag. 8.6, a supergiant elliptical galaxy – one of the brightest and the 5<sup>th</sup> strongest radio source known, and is called Radio Source Virgo A. Has a super massive Black Hole at its center and is moving toward M86, which is 1.3 deg. to the NW. M87 has over 1000 globular clusters.

M89 (NGC 4552) mag. 9.8, an elliptical galaxy. There are 2000 globular clusters within 25' of the galaxy. M89 is suspected to have once been a radio galaxy or an active Quasar. M89 is 1.3 deg. E of M87.

M90 (NGC 4569) mag. 9.8, a spiral galaxy about 1.5 deg. NE from M87, and about 1 deg. NNE of M89.

M104 (NGC 4594) mag. 8.3, an unbarred spiral galaxy, called "The Sombrero Galaxy". Located about 11.5 deg. west of Spica, and contains between 1200 and 2000 Globular Clusters. Has a super massive Black Hole at its center.

NGC 4639, a face on spiral galaxy. Has a high number of Cepheid Variables in its outer arms.

Eye galaxies NGC 4435 and NGC 4438, Arp 120 – a pair of interacting galaxies. NGC 4435 is a barred lenticular galaxy and NGC 4438 has a distorted disc and tidal tails.

NGC 4216, mag. 11, an intermediate spiral galaxy that is metal rich with a deficiency of neutral Hydrogen.

NGC 4567 and NGC 4568, mag. 10.9, are Siamese twins (Butterfly Galaxy), a pair of spiral galaxies about 0.5 deg. SW of M58. They are in the process of colliding with each other.

NGC 4526, mag. 10.7, a lenticular galaxy.

NGC 4261, mag. 11.4, an elliptical galaxy. Has a supermassive Black Hole (400 solar masses) at its center, and another Black Hole 200 light-years from its center with a mass of 1.2 billion solar masses.

3C273, mag. About 12.9, is a Quasar – the first one ever to be identified, as well as the brightest and most luminous Quasar in the sky. It is also one of the first extra-galactic X-ray sources, discovered in 1970. 3C273 is classified as a Blazar, a very compact Quasar associated with a super massive Black Hole at the center of an active giant elliptical galaxy.

Double and Multiple Stars 109

Variable Stars 68

Star Clusters, Nebulae, and Galaxies 163+

Meteor Showers Virginids and Mu Virginids

## MAY ASTRONOMICAL EVENTS

Venus – During the 2<sup>nd</sup> week of May, Venus (mag. -3.9) starts appearing just above the horizon.

On May 10<sup>th</sup>, the thin crescent Moon (1% lit) will slide 2 deg. to Venus's lower left at 4 deg. above the horizon at a half hour after sunset with Jupiter nearly 20 deg. high to the upper left.

May 5/6 – The Eta Aquarid Meteor Shower peaks. The radiant in Aquarius rises shortly before 3:00 AM, local daylight time.

May 22/23- Saturn moons Rhea (mag. 10) and Enceladus (mag. 12) join Titan (mag. 8) in a straight line south of the planet. Tethys and Dione (mag. 10) show up north and east of Saturn, respectively.

May 24<sup>th</sup> – Mercury passes 1.4 deg. due north of Venus, with Jupiter at 4 deg. to Venus's upper left.

May 24<sup>th</sup> – A full Moon will occult the multiple star Beta Scorpii between 9:15 and 9:20 PM local time.

May 26/27 – Mercury, Venus, and Jupiter are within 2 deg. of each other.

May 27/28 – Comet PANSTARRS slides through the Little Dipper in Ursa Minor this month, which means it stays visible all night. On the 27/28, shortly before midnight, PANSTARRS (mag. 7) appears just a few degrees from Polaris.

May 28<sup>th</sup> – Venus passes 1 deg. north of Jupiter (only two Moon widths apart), with Mercury (mag. -0.6) hanging 3 deg. above them.

Ceres cuts across Gemini in May, passing less than 1 deg. from Iota Gemini late in the month.

Uranus rises around 3:00 AM, local daylight time, in Pisces. In late May, Uranus will appear some 10 deg. above the eastern horizon as twilight begins.

### BRAS Dark Sky Site Viewing Dates

May 11<sup>th</sup> 2013 Primary

May 18<sup>th</sup> 2013 Secondary

## TREASURER'S NOTES

As Ben mentioned in his President's message, membership has its privileges! If you haven't renewed, I urge you to do so. If your membership expired, you recently got an email from me. I'll be at the meeting on Monday if you'd like to renew.

I'd also like to mention that you can renew for multiple years. It's nice knowing that your membership will be good for the next several years, and you won't have to worry about the pesky treasurer bugging you :)

Geoff Michelli  
BRAS Treasurer



## PREVIOUS MEETING MINUTES

### B.R.A.S. Meeting April 2013 notes:

- **7:16** Meeting begins.
- **7:17** Total count for PanSTARRS observers: 360 +70 Star Party attendees.
- **7:18** International Astronomy Day on Friday 19<sup>th</sup>. Raffle tickets on sale now.
- **7:21** Bill's talk begins.
- **8:08** Talk ends.
- **8:11** Meeting adjourned.

Rory Bentley  
BRAS Co-Secretary