

# The Monthly Newsletter of the Magic Valley Astronomical Society

# May Highlights

Friday, May 6<sup>th</sup>, 8:15 PM **Bimonthly astronomy talk:** "Mercury, Close Up" An update on the discoveries from the MESSENGER probe, the first artificial satellite to orbit the innermost planet. Adult admission: \$2.50, students: \$1.50, children 6 and under free.

Saturday May 7th International Astronomy Day 2011 activities will be at the Herrett Center. Volunteers need to be there by 9:00 am and the activities will begin at 10:00 am. Many events will run throughout the day.

Saturday, May 14<sup>th</sup>, 7:00 PM to midnight. Monthly Meeting Ken Thomason will be the speaker. Following the meeting is our Monthly star party. Gibbous Moon, Saturn, double/multiple stars.

Once again, the Herrett Center for Arts and Science will be holding their annual International Astronomy Day activities on Saturday May 7th beginning at 10:00 am to 4 pm. To better accommodate families. The Center has called upon the Magic Valley Astronomical Society to help with activities by providing much needed volunteers. If you want to volunteer, please do, then contact club president Terry Wofford, or Kristi Cederstrom at the Herrett Center (732-6657). Activities include: Water bottle rocket making station (w/launching outside) several make-n-take projects, solar viewings at the observatory, planetarium shows and finally there will be night telescope viewing at the Centennial Observatory beginning at 8:45 pm. NOTE: If you are volunteering for any of the telescope activities (safe solar observing or the night viewing) then you must coordinate volunteering through Chris Anderson (732-6663)

International Astronomy Day 2011

There will be a robotics demonstration as well provided by Mark Sneddon, son of former President and club member Jay Sneddon. Participants will build different objects, such as an airplane or animal, then program it for movement on the computer. This exhibit was well received last year. Hoagie Street Deli will be the on-site food vendor again. Come join the society for activities at the Herrett Center.



#### Win This Telescope

Like last year, the Herrett Center will be selling raffle tickets for another Meade LXD-55 Schmidt-Newtonian 6" Telescope w/go-to target location (value \$780) for \$5 per ticket. There is a limit of 200 tickets, so act soon. Drawing for the winner will be held June 4th during the Western Days Celebration in Twin Falls.

Image © 2010.04.24 by Pamela Olsen, used with permission.

# MVAS Memberships



Night Sky Network

NASA

Welcome to the society and hello. We hope you have a good time, enjoy the hobby, & bring good skies with you.

We hold indoor meetings each month at the Herrett Center for Arts & Science College of Southern Idaho campus in Twin Falls, ID, USA . Our meetings start at 7:00 pm on the second Saturday of the month. There

will always be a very interesting program, class or presentation at these meetings, as well as good fellowship. There is always something new to learn.

Welcome to the Magic Valley Astronomical Society

Following our meetings we have a star party (weather permitting) at the Centennial Observatory, also at the Her- Wishing you dark skies and rett Center.

Our star parties are free and you don't have to bring your own telescope. Telescopes are also set up outside on the stargazer's deck. Star Parties are held year round, so please dress accordingly as the Observatory is not heated, nor air conditioned.

clear nights!

**MVAS Board** 

MAY2011

# May Celestial Sky Events



**Mercury** will brighten to magnitude -0.9 this month but will be very low on the horizon and hard to locate. It will be close to Jupiter, Venus and Mars. All these planets will be hard to see. The planets will be dim and the sky bright.



**Venus** will be sinking lower into the morning eastern horizon this month. Venus will not be too good of a telescope target. There will be too much atmospheric turbulence. Find Venus to locate Mercury, Mars and Jupiter.



**Mars** will be very low above the horizon in the morning glare. It will be shinning at magnitude 1.3. It will tough to spot even with binoculars. If you look for Mars you will need a low, clear view of the horizon and binoculars or a small telescope.



**Jupiter** will be very low on the morning horizon. Very early in the month it will be hard to spot but by the end of the month it will be higher and visible by the naked eye. It's brightness will be at mag. -2.1.

Saturn will be a great target all month. It

reached opposition April so it will be only

slightly smaller and dimmer this month. It

is near its best for the year. Saturn will be

up in the sky from before sunset to just

before sunrise.



**Uranus** will be above the predawn traffic jam of planets in the predawn sky in Pisces. Early in the month it will be hard to find because it will be in the twilight glare. Later in the month it will be easier to see



**Neptune** will be in Aquarius in the morning eastern sky this month. It will be at its best just before the sky starts to lighten. It should be easy to find since it will be less than  $\frac{1}{2}^{\circ}$  from magnitude 5 star 38 Aquarii.

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- **Moon Information**
- 3 New Moon
  6 Greatest North Declination (+23.4°)
- 10 First Quarter
- **15** Moon at Perigee (closest to Earth) **17** Full Moon - Flower Moon (Algonquin)
- **18** Greatest South Declination (-23.4°)
- 24 Last Quarter
- 27 Moon at Apogee (furthest from Earth)

- 1 Moon near Mercury (25° from Sun) at 0h UT.
- 1 Mars 0.4° NNW of Jupiter, (18° from Sun) at 3h UT.
- 5 Moon near Aldebaran (evening sky) at 14h UT.
- 6 **Eta Aquarid meteor shower peaks** at 13h UT (broad peak). Active from April 19 to May 28. Associated with Comet Halley. Very fast, bright meteors, up to 10-20 per hour. Favorable conditions this year.
- 7 Astronomy Day 2011 is today! Astronomy clubs, planetariums, observatories, and science museums will offer a variety of public activities.
- 9 Moon near Beehive cluster at 23h UT.
- 11 Moon near Regulus at 14h UT.
- 11 Venus .6° SSE of Jupiter (26° from Sun) at 16h UT.
- 11 Mercury, Venus and Jupiter within 2.1° circle (26° from Sun, ) at 20h UT.
- 15 Moon near Spica at 5h UT.
- 18 Moon near Antares
- 21 Mercury, Venus and Mars within 2.1° circle at 8h
- 29 Moon near Jupiter (39° from Sun) at 11h UT.
- 30 Moon near Mars (24° from Sun) at 20h UT.
- 31 Moon near Venus (21° from Sun) at 1h UT.

#### **Eta Aquarid Meteor Shower**

While the peak activity will be on the night of May 5/6, the offspring of Comet Halley are already beginning to make their appearance known. No matter where you live or what time zone you observe from, the best time to look for "shooting stars" is over the next week or so during the hours just before dawn. Somewhere in the outer reaches of our solar system beyond the orbit of Jupiter, Comet Halley continues on its track – far away from its 1986 debris trail. However, now isn't the only time we encounter this famous comet's leftovers. Three times a year the Earth cruises through the dusty trail causing the Eta Aquarids, the Beta Aquarids (both in May) and the Orionids (during October). When a piece of this debris enters our atmosphere, it is traveling about 66 kilometers per second and can shine as brightly as the stars (3rd magnitude) in the constellation from which it appears to originate. Encountering a dense paticle stream may spark activity of up to 70 meteors per hour for lucky observers in the southern hemisphere, but don't count yourself out if you live in the north! Because the constellation of Aguarius is relatively low for northern observers, this means we have at least a better chance of spotting those breathtaking Earth grazers! Image: Comet Halley Courtesy of Halley Multicolor Camera Team, Giotto Project, ESA





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Planisphere for May



Fifty years ago this month; America launched the first man into space. Though not the actual first man in space (proceeded 23 days earlier by Yuri Gagarin of the Soviet Union, see April's newsletter) Naval Aviator and NASA Astronaut Alan B. Shepard, Jr., lifted off from launch pad 5 at Cape Canaveral, Florida, on May 5, 1961, at 9:34 a.m. to become the first American in space. The small Mercury capsule he named "Freedom 7" was propelled

# Did You Know?

into space by a slim but powerful Redstone missile. The suborbital flight reached an altitude of 116.5 miles (space begins at 100 miles altitude or 500,000 feet) and lasted for 15 minutes. Shepard would, ten years later, command Apollo 14 and became the fifth man on the moon and the first and only person to ever golf on the moon. Mr. Shepard retired from NASA as Chief of the Astronaut office and the Navy with the rank of Rear Admiral.

Image: Alan Shepard in his Freedom 7 capsule before launch on May 5th 1961. Credit: NASA file photo.



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NASA Space Place

#### **Cosmic Recount**

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NASA Space Place

#### by Dr. Tony Phillips

News flash: The Census Bureau has found a way to save time and money. Just count the biggest people. For every NBA star like Shaquille O'Neal or Yao Ming, there are about a million ordinary citizens far below the rim. So count the Shaqs, multiply by a million, and the census is done.

Could the Bureau really get away with a scheme like that? Not likely. Yet this is just what astronomers have been doing for decades.

Astronomers are census-takers, too. They often have to estimate the number and type of stars in a distant galaxy. The problem is, when you look into the distant reaches of the cosmos, the only stars you can see are the biggest and brightest. There's no alternative. To figure out the total population, you count the supermassive Shaqs and multiply by some correction factor to estimate the number of little guys.

The correction factor astronomers use comes from a function called the "IMF"—short for "initial mass function." The initial mass function tells us the relative number of stars of different masses. For example, for every 20-solar-mass giant born in an interstellar cloud, there ought to be about 100 ordinary sun-like stars. This kind of ratio allows astronomers to conduct a census of all stars even when they can see only the behemoths.

Now for the *real* news flash: The initial mass function astronomers have been using for years might be wrong. NASA's Galaxy Evolution Explorer, an ultraviolet space telescope dedicated to the study of galaxies, has found proof that small stars are more numerous than previously believed.

"Some of the standard assumptions that we've had—that the brightest stars tell you about the whole population don't seem to work, at least not in a constant way," says Gerhardt R. Meurer who led the study as a research scientist at Johns Hopkins University, Baltimore, Md. (Meurer is now at the University of Western Australia.) Meurer says that the discrepancy could be as high as a factor of four. In other words, the total mass of small stars in some galaxies could be four times greater than astronomers thought. Take that, Shaq!

The study relied on data from Galaxy Evolution Explorer to sense UV radiation from the smaller stars in distant galaxies, and data from telescopes at the Cerro Tololo Inter-American Observatory to sense the "H-alpha" (red light) signature of larger stars. Results apply mainly to galaxies where stars are newly forming, cautions Meurer. "I think this is one of the more important results to come out of the Galaxy Evolution Explorer mission," he says. Indeed, astronomers might never count stars the same way again.

Find out about some of the other important discoveries of the Galaxy Evolution Explorer at http:// www.galex.caltech.edu/. For an easy-to-understand answer for kids to "How many solar systems are in our galaxy?" go to The Space Place at: http://tiny.cc/I2KMa

1 { 2000 Massive Star Small Stars

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

Caption: Astronomers have recently found that some galaxies have as many as 2000 small stars for every 1 massive star. They used to think all galaxies had only about 500 small stars for every 1 massive star. Credit NASA

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#### **Astronomy Day**

Astronomy Day is a grass roots movement designed to share the joy of astronomy with the general population -"Bringing Astronomy to the People." On Astronomy Day, thousands of people who have never looked through a telescope will have an opportunity to see first hand what has so many amateur and professional astronomers all excited. Astronomy clubs, science museums, observatories, universities, planetariums, laboratories, libraries, and nature centers host special events and activities to acquaint their population with local astronomical resources and facilities. Many of these events are located at non-astronomical sites; shopping malls, parks, urban centers-truly Bringing Astronomy to the People. It is an astronomical PR event that helps highlight ways the general public can get involved with astronomy - or at least get some of their questions about astronomy answered. Astronomy Week encompasses Astronomy Day starting on the previous Monday and ending on the following Sunday.

Each spring, the Magic Valley Astronomical Society and the Herrett Center for Arts and Science participates in the worldwide celebration of International Astronomy Day. Join us for a full day of space and astronomy activities, starting at 10:00 AM and continuing until midnight.

Explore our fun and exciting universe. View the Sun safely, build and launch your own water bottle rocket, see a planetarium show, and much more. Food is available in the "Cosmic Café". Schedule of events:

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# ASTRONOMY DAY

Image of the Astronomy League's Astronomy Day logo Creative Commons free license used.



Image: Saturn will be most prominent throughout the month and an easy target for Astronomy Day. Credit: NASA/JPL

Image of the Sun. Safe views of the Sun during Astronomy day with the Centennial Observatory's new HA Filter. Credit: NASA/SOHO



#### Time Event/Location

10:00 - 4:00	Space & astronomy make-n-take activities,
	puzzles, & coloring pages/Rick Allen Room
10:00 – 4:00	Water bottle rocket construction/Rick Allen
	Room
10:00 - 4:00	Lego Mindstorm Robotic Rovers/Rick Allen
	Room
10:00 - 4:00	Cosmic Café food services (Hoagie Street
	Deli)/Kinney Court
10:00 - 4:00	Magic Valley Astronomical Society infor-
	mation table & telescope raffle ticket
	sales/Rick Allen Room
10:15 - 4:00	Water bottle rocket launches/East museum
	lawn
10:00 - 6:00	Solar & daytime target viewing (weather
	permitting)/ Centennial Observatory
2:00 - 2:45	"The Planet Patrol – Solar System Stake-
and the second	Out"/Faulkner Planetarium
4:00 - 4:45	"The Planet Patrol – Solar System Stake-
	Out"/Faulkner Planetarium
7:00 - 8:00	"Dark Matters" (with live sky tour)/Faulkner
	Planetarium
8:15 – 9:00	"Lynyrd Skynyrd – Fly On Free
	Bird"/Faulkner Planetarium
8:45 - 12:00	Star party (weather permitting)/ Centennial
	Observatory

#### Magic Valley Astronomical Society P.O. Box 445 Kimberly, ID, USA 83341 http://www.mvastro.org/

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Images on the front page: 1. Centennial Observatory courtesy of Chris Anderson, Observatory Manager. The Centennial Observatory is located at the Herrett Center for Arts and Science, College of Southern Idaho, Twin Falls, ID, USA. Chris Anderson also provides the Planispheres usually on page 3. 2. Shoshone Falls is a major attraction to the Magic Valley and a prominent landmark on the Snake River. Falls image is used under "public domain;" unknown photographer.

3. M-51 on the front page was imaged with the Shotwell Camera and the Herrett Telescope at the Centennial Observatory by club members Rick Widmer & Ken Thomason. 4. Star explorers image is an open source photo, photographer unknown.

## Membership Information

Membership is not just about personal benefits. Your membership dues support the work that the Magic Valley Astronomical Society does in the community to Contact Treasurer Jim Tubbs for promote the enjoyment and science of astronomy.

Speakers, public star parties, classes and support for astronomy in schoolrooms, and outreach programs just to name a few of the programs that your membership dues support.

Annual Membership dues will be \$20.00 for individuals, families, \$10.00 for students.

dues information via e-mail: jtubbs015@msn.com or home telephone: 736-1989 or mail directly to the treasurer at his home address. 550 Sparks Twin Falls, ID 83301

Donations to our club are always welcome and are even tax deductible. Please contact a board member for details.

# About the Magic Valley Astronomical Society

The Magic Valley Astronomical Society (MVAS) was founded in 1976. The Society is a non-profit [501(c) 3] educational and scientific organization dedicated to bringing together people with an interest in astronomy.

In partnership with the Centennial Observatory, Herrett Center, College of Southern Idaho - Twin Falls; we hold regularly scheduled monthly meetings and observation sessions, at which we share information on current astronomical events, tools and techniques for observation, astrophotography, astronomical computer software, and other topics concerning general astronomy. Members enthusiastically share their telescopes and knowledge of the night sky with all who are interested. In addition to our monthly public star parties we hold members only star parties at various locations throughout the Magic Valley.

MVAS promotes the education of astronomy and the exploration of the night sky along with safe solar observing through our public outreach programs. We provide two types of outreach; public star parties and events open to anyone interested in astronomy, and outreach programs for individual groups and organizations (e.g. schools, churches, scout troops, company events, etc.), setting up at your location. All of our outreach programs are provided by MVAS volunteers at no cost. However, MVAS will gladly accept donations. Donations enable us to continue and improve our public outreach programs.



A moon just past full as seen from Earth's northern hemisphere. Credit NASA

# **Membership Benefits**

Sky and Telescope group rates. Subscriptions to this excellent periodical are available through the MVAS at a reduced price of \$32.95.

Astronomy Magazine group rates. Subscriptions to this excellent periodical are available through the MVAS at a reduced price of \$34.00

Receive 10% discounts on other selected Astronomy Publications.

For periodical info. and subscriptions Contact Jim Tubbs, Treasurer

Lending Library: Contact, the current board for information.

Lending Telescopes: The society currently has two telescopes for loan and would gladly accept others. Contact Rick Widmer, Secretary for more information.

### Elected Board

Terry Wofford, President terrywofford@hotmail.com

David Olsen, VP / Newsletter Ed. editor@mvastro.org

Jim Tubbs, Treasurer itubbs015@msn.com

Rick Widmer, Secretary / Webmaster rick@developersdesk.com