

Meeting of the Eagle Valley Astronomical Society

When: Thursday, March 8, 2012, 7:30-9:00 PM
Free and open to the public; no reservation required.

Where: Walking Mountains Science Center,
318 Walking Mountains Lane (off Buck Creek Road), Avon, Colorado
Note the new signs directing visitors to the Science Center.

Contact: Lara Carlson, Community Programs Director
Walking Mountains Science Center, 970-827-9725, ex. 129, or
John W. Briggs, HUT Observatory, jwb@hutobservatory.com,
970-328-6228 or cell 970-343-0618.

Meeting Topic:

Demonstration of a backyard robotic telescope using technology anyone can now afford

Eagle Valley Astronomical Society will meet Thursday evening, March 8, starting at 7:30 PM at the Walking Mountains Science Center near the base of Bush Creek Road in Avon. Local astronomer and Walking Mountains volunteer John Briggs, hosted by staff naturalist Katie Eyles, will lead the program. The program will feature a demonstration of a large computer-controlled telescope. This topic is relevant to all amateur astronomers nowadays because the necessary technology has become very affordable, if not outright free!

The telescope demonstrated will be a 10-year-old 12-inch reflector made by Meade. Smaller Meade telescopes have been marketed recently through Walmart and are common second-hand. The technical revolution, however, is the available software that allows a home computer to communicate with many motorized telescopes. John Briggs will demonstrate how his 12-inch telescope is dramatically transformed into a remotely-controlled sky-pointing robot using such software. This month's presentation is inspired by EVAS members Charles and Andrew Overy, who have borrowed the EVAS 11-inch Celestron telescope and have successfully communicated with it using the free sky-mapping software, *Stellarium*.

Why robotic telescopes?

All modern observatory telescopes are now computer controlled, including the 16-inch reflector at HUT Observatory in Eagle. Robotic telescopes make finding celestial objects fast and easy. It is also possible to link backyard telescopes through the Internet to orbiting NASA satellites such as the Swift mission, which was built to detect the largest explosions in the Universe, "gamma ray bursters." On March 1st Mr. Briggs returned from a week visiting the University of Chicago's Yerkes Observatory, where he began a process to refurbish a 41-inch reflecting telescope that is networked to the Swift mission in space. When a new gamma ray burst is detected in the sky, the Yerkes telescope and others around the world are able to move and photograph the explosion almost instantly. Such projects are not possible without robotic telescopes. Along with the demonstration, Mr. Briggs will show photos from his recent trip, including images he recorded of the Moon using his home camera and the famous Yerkes 40-inch refractor, the largest lens-type telescope in the world.

Current Sky News: Bright Planets!

The planets Venus and Jupiter in our western evening sky have been joined by Mars, now appearing as a bright orange-red object rising low in the east right after sunset. Mars is thus coming to "opposition," when it is closest and brightest as seen from Earth. Mars is changing its

position rapidly in the sky. If you have never watched it through an opposition before, now is your chance! Weather permitting, we shall observe the planets after the presentation. (Mars may remain hidden by the hills to the east of the Science Center, but it will appear higher in the eastern evening sky every night in coming weeks.)

Stellarium Software.

The excellent, free software often being used at our meetings is called *Stellarium*. It's easy to use and allows anyone with a home computer to explore the sky in detail. Downloads are available here:

<http://www.stellarium.org/>

Stellarium must know your approximate location on Earth before it can simulate the sky correctly. Because it was developed by astronomers in France, its default setting is for Paris. Setting and saving your default location as Denver is easy. It's also possible to set your exact location using latitude and longitude, but for most local applications, a setting to "Denver" is entirely satisfactory.

Notes from last month's meeting.

Our February meeting featured a demonstration of how coming important celestial events of 2012 – the May 5th annular eclipse of the Sun, and the profoundly rare June 5th Transit of Venus – dramatize by analogy how astronomers are now able to discover planets around other stars. A 13-inch Dobsonian reflecting telescope, recently transferred from Eagle Valley Middle School to stewardship by EVAS, was displayed at the meeting and used to see Jupiter and its moons. This instrument, named "Big Red," has been refurbished by Mr. Briggs and will be available for loan to interested families starting at the March meeting. The EVAS 11-inch Celestron was lent to the Overy family shortly after the February meeting, and they have already made exciting progress with it as mentioned above.

A Note on the Future.

Repeating from our previous announcements, we hope that additional astronomers in the Eagle Valley area and beyond will hear about our meetings and join us, normally on the second Thursday of every month at Walking Mountains Science Center in Avon, Colorado. Note that astronomy clubs like ours always welcome folks, young and old, who are experienced or just starting an interest. The purpose of our organization is to share and encourage interest! If you're already involved with astronomy, you can especially help. We look forward to having more telescopes set up at meetings, additional speakers, more loaner telescopes, weekend star parties, and field trips. One of many active clubs setting an excellent example here in Colorado is the Denver Astronomical Society. It meets regularly at the historic and magnificent Chamberlin Observatory of the University of Denver: <http://www.denverastro.org/>. Another organization of interest is the Front Range Astronomy Club, an email-based group that connects members of individual astronomical societies in the Colorado region.

Walking Mountains Science Center: <http://www.gorerange.org/>

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