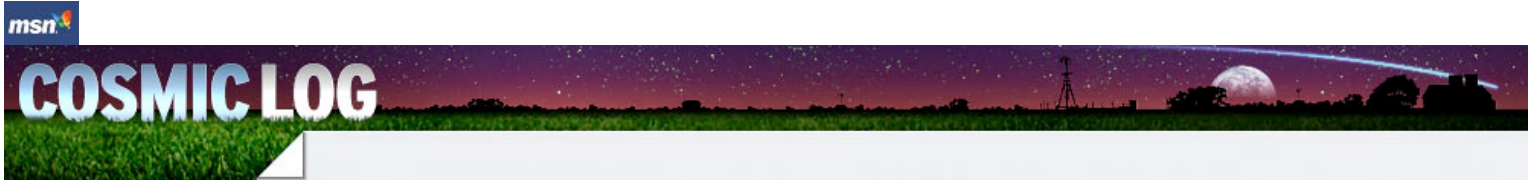


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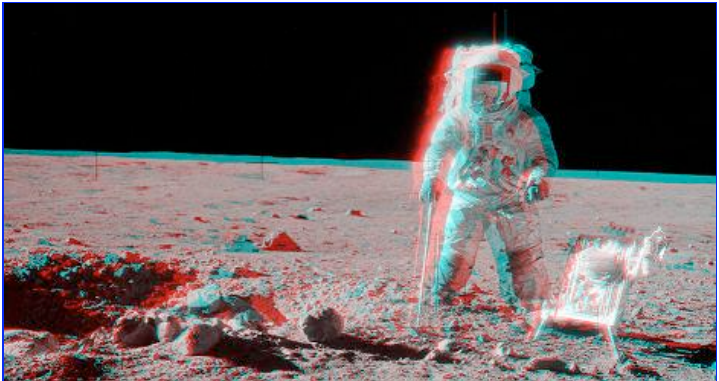


Alan Boyle covers the physical sciences, anthropology, technological innovation and space science and exploration for MSNBC.com. He is a winner of the [AAAS Science Journalism Award](#), the [NASW Science-in-Society Award](#) and other honors; a contributor to "[A Field Guide for Science Writers](#)"; and a member of the board of the [Council for the Advancement of Science Writing](#).

Check out Boyle's [biography](#) or send a message to Cosmic Log via cosmiclog@msnbc.com.

Space in 3-D

Posted: Friday, June 26, 2009 6:45 PM by Alan Boyle



Kevin Frank / The Tonight Show / NASA

Apollo 12 astronaut Pete Conrad stands near the southern rim of Surveyor Crater during a moonwalk on Nov. 19, 1969. Conrad holds a sampling scoop, and a tool carrier rests by his foot. Put on red-blue glasses for the 3-D effect, which was added by graphic artist Kevin Frank. Click on the image for a larger version.

[Our latest crop of cosmic pictures](#) puts you hundreds of miles above an erupting volcano, sends you zooming over the moon and plunks you down on Mars. But if you *really* want to feel as if you're in outer space, you'll have to put on your red-blue 3-D glasses. It's the next best thing to being there.

Take [this spectacular image](#) of Sarychev Volcano's [eruption](#), for example. It's the first image in our "Month in Space" roundup for June, and it looks pretty cool in the slideshow window. But it looks [even cooler in 3-D](#), thanks to Belgian stereo artist Patrick Vantuyne. Hats off to SpaceWeather.com for serving up the image, along with [time-lapse satellite readings](#) that show the spread of the volcano's plume and a [stunning aerial photo](#) of the volcanic clouds.

While you have your red-blue glasses on, spend some extra time clicking through [Vantuyne's online 3-D galleries](#). I particularly like his [series of stereo shots](#) showing the Apollo moonwalkers at work.

Most of the Apollo 3-D images, or anaglyphs, were created using a simple technique called the "stereo cha-cha": The astronaut with the camera would take one photograph while putting his weight on the left leg, then shift his weight to the right leg and snap the second picture. The images could then be combined, using red and blue highlights to create the stereo effect.

Some photographers place the left-right views side by side and expect you to [look at them cross-eyed](#), but that's a trick my poor eyes can hardly ever achieve.

Vantuyne is by no means the only guy who goes in for space in stereo. NASA has assembled albums of 3-D imagery for [Apollo 11](#), [Apollo 12](#) and [Apollo 14](#). There's also a [zoomable panorama](#) of lunar terrain as seen during Apollo 15. The U.S. Geological Survey has its own anaglyph atlas for [Apollo 16 and 17](#), and Mars Unearthed offers a wealth of stereo imagery for the [Red Planet](#) as well as for the [moon and other cosmic locales](#).

I mentioned ["Moon 3-D"](#) a couple of weeks ago in my [roundup of books](#) with an Apollo theme - and if you're interested in a 3-D Mars, you'll want to check out this [archived log item](#).

One important issue to resolve right away is how to get the 3-D glasses in the first place. You can usually find them at novelty or party stores, and NASA provides a [handy guide](#) to buying the glasses or making your own. I keep a cardboard set of the glasses in my pocket: You never know when a 3-D volcano or moonwalk will pop up.

The big pictures

Here are links to more information about the other images featured in our latest "Month in Space" roundup:

- **Moonshadow on Saturn's rings:** You can see Mimas' shadow stretch across Saturnian rings at the [Cassini imaging team's Web site](#). I provided an overview on the ringed planet's equinox in a [Cosmic Log item](#) earlier this week.
- **Tail of flame:** The NASA Human Spaceflight Web site provides the [big picture](#) showing last month's liftoff of reinforcements for the international space station.
- **Channels on Mars:** Real-life "canali" on the Red Planet? The European Space Agency's Mars Express Web site has the [full story](#) behind Hephaestus Fossae's dry channels.
- **Marine green:** NASA's Earth Observatory features the [satellite image](#) of a swirling phytoplankton bloom off Japan's Hokkaido Island.
- **Stacking up:** NASA's Project Constellation Web site shows [hardware stacked up](#) for a future rocket test. Will the Ares I rocket pass the test? Here are a [couple of perspectives](#) on NASA's next-generation launch systems.
- **Mars revealed:** The Web site for the Mars Reconnaissance Orbiter's High-Resolution Imaging Science Experiment, or HiRISE, has versions of [this picture from Gale Crater](#) in sizes suitable for framing (or wallpapering).
- **Putting their heads together:** For the first time, six astronauts from five countries are spending months of quality time aboard the international space station. NASA's Human Spaceflight Web site provided [this unconventional portrait](#).
- **Old moon...:** The Moon Views Web site has oodles of reprocessed images from the Lunar Orbiter project of the 1960s, including [this view of the moon's south pole](#).

- **... And new moon:** To see the [final pictures](#) taken before Japan's Kaguya orbiter crashed on the moon, check out the Japan Aerospace Exploration Agency's Web site. Check out [this story](#) as well.
- **Evolving island:** Earth Observatory provides the [full story](#) behind the space station snapshot of St. Helena island, visited by Napoleon Bonaparte as well as Charles Darwin.
- **How Martian spiders evolve:** [This HiRISE photo](#) is proof that Martian geology is truly alien. What the heck are those things? I talked about the "[Spiders From Mars](#)" almost three years ago, and the [Martian Spiders](#) Web site has more of the scientific story.
- **To the moon!** You'll find launch photos galore at NASA's [Lunar Reconnaissance Orbiter](#) Web site. LRO has already [entered lunar orbit](#), and the LCROSS moon-smashing probe has sent back its [first images](#).
- **Mercury's rays:** The Messenger Web site at Johns Hopkins' Applied Physics Laboratory offers [loads of images](#) from Mercury.
- **Valleys on Mars:** The Mars Reconnaissance Orbiter's view of the [valleys carved into Elysium Mons](#) comes from the HiRISE Web site.
- **First look:** The European Space Agency sent along the [first images](#) from its Herschel infrared telescope. You can review [our launch story](#) to find out more about Herschel and its partner probe, Planck.
- **Take me home:** NASA's [Kennedy Media Gallery](#) shows you not only how the shuttle landed back in Florida atop a modified Boeing 747 jet, but also what happened afterward.

Join the Cosmic Log corps by signing up as my [Facebook friend](#) or hooking up on [Twitter](#). And if you really want to be friendly, ask me about my upcoming book, "[The Case for Pluto](#)."

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 sorry, but, I was the FIRST to make (over THREE years ago) 3-D space images ("built" from simple 2-D images) of Apollo and Space Shuttle:

<http://www.gaetanomarano.it/articles/002shuttle3D.html>

[ALAN ADDS: I'm proud to pass along the link, Gaetano ... You were one of the first Cosmic Log correspondents from Italy. I definitely have to remember to include you in any 3-D roundup from now on. Ciao for now, my friend!]

[gaetano marano - ghostNASA.com](#) (Sent Friday, June 26, 2009 9:47 PM)

AND I GET MY BLUE-RED 3D GLASSES WHERE ?

[ALAN ADDS: I provided a link to sources for the glasses in the item. You can order them online, or you can probably find them at novelty stores, or you can make them yourself ... one of the pages I linked to has do-it-yourself instructions. If you can't find any, send me an e-mail ... alan-dot-boyle-at-msnbc-dot-com. I will look into getting some glasses that I can send out if I am sent a stamped, self-addressed envelope. It's that important. ;-)

[To refresh your memory, here are a couple of links:]

http://www.nasa.gov/mission_pages/stereo/sun/3D_Glasses.html

http://www.answerbag.com/q_view/469089

Don Boom (Sent Friday, June 26, 2009 10:19 PM)

thanks Alan

DYI 3-D glasses here: <http://billnye.com/downloads/3dglasses.pdf>

[gaetano marano - ghostNASA.com](#) (Sent Friday, June 26, 2009 10:36 PM)

Interesting article and picture Alan. I thought cool I'll try the 3-D glasses I got from a recent movie but no matter how I tried to focus on the picture from many distances and with and without my regular glasses I could not get the 3-D effect to work. The glasses sure worked well for the movie but not on the picture posted here or the expanded picture. Bummer. The movie 3-D glasses may not be the right stuff. Still it's cool that so many space pictures are being made 3-D.

[ALAN ADDS: Hmm, I'm wondering if you're using the polarized glasses that are often used for movies nowadays. For the online photos, it takes the red-blue glasses. But if it's not working for you, at least there are the other "Month in Space" pix. Let me know if I can help you out with the glasses thing. Best and thanks so much for your good words all through these years ... Alan]

Eric, Salinas, CA (Sent Saturday, June 27, 2009 9:32 AM)

Alan, Thank you for continuously writing superb stories/articles on everything from space to science. I always enjoy reading them and always also notice that you don't get the number of comments/praise you should for providing us such interesting articles. Keep up the good work.

Ryan- Arlington, TX (Sent Saturday, June 27, 2009 5:40 PM)

Thanks for the spectacular links, Alan! I just recently (finally!) got my hands on a set of 3-D glasses, and have enjoyed looking up some of the more interesting imagery online. I find that it helps to take my corrective lenses off, as they do some "prisming" of red/blue.

As for your link to the Jay Barbee article, I must disagree with Mr. Barbee's conclusion that the current Ares/Orion stack is the best/only way to go for continued manned spaceflight. Ares/Orion ensures that we will be unable to put astronauts into space from the US for at least five years. That's the *official* word. How long has it been since NASA met a scheduling goal like that?

Ares/Orion is beset with implementation problems, including apparently removing safety features in order to make the weight limits on the Ares I. Despite NASA's reluctance to do anything that might upset its comfortable apple carts, I really wish they'd give the DIRECT concept a more serious look.

[Loren, SF Bay Area, CA](#) (Sent Sunday, June 28, 2009 12:33 PM)

Alan, I have to thank you as well! Yours are some of the most interesting stories/articles I've read on the net!

Barney L. Cornett, Morgantown, West Virginia (Sent Sunday, June 28, 2009 2:42 PM)

don't give up on cross eyed viewing, if you can't free view (without a viewing device) the viewer for the Loreo 321 camera is made to easily integrate cross eyed image pairs (the print holder pops off easily). viewers are available at <http://www.berezin.com/3d/vivitar3dcam.htm>. anaglyph is ok for black and white, but separate stereo pairs are the way to go for accurate full color.

[john e. campbell, 850 adams loop, hood river, OR 97031](#) (Sent Sunday, June 28, 2009 7:52 PM)

Blockbuster Video stores are selling Red/Blue glasses as a part of their video rentals for the slasher flick My Bloody Valentine. I do not know if you can buy them without renting the movie, though.

[Phil Konstantin](#) (Sent Monday, June 29, 2009 3:05 PM)

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