



Snake River Skies

A monthly publication of The Magic Valley Astronomical Society, member Astronomical League

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Yearly membership is \$10 per person, \$15 per family, \$6 per student. Benefits include magazine discounts to *Sky & Telescope* and *Astronomy*, club activities, and Astronomical League benefits.

MVAS Next Meeting: J.B. Tarter Speaks on California Astronomy Camp



J.B. Tarter, a senior at Twin Falls High School is the featured speaker at September's MVAS meeting.

The September meeting for the Magic Valley Astronomical Society features J.B. Tarter, a senior at Twin Falls High School, discussing his studies at the Summer Science Program (SSP) in Ojai, California. While at the camp, J.B. studied the orbital characteristics of

asteroids.

J.B.'s will discuss how he found out about the camp, his application process, some things about the people running the camp, the participants, and some of the astronomers he met. He will also discuss his studies while there and answer questions about his experiences.

The **Summer Science Program** began in the late 1950s at The Thacher School in Ojai, California, a small town just inland from Ventura and Santa Barbara in southern California's Ventura County.

The headmaster of the School became convinced that the country's most promising high school students, those most capable of careers in the intellectually-challenging physical sciences, were not being adequately informed and inspired about those career options.

He believed that a short summer program for those students, one that would challenge them beyond anything they had so far experienced, would give those students a taste of "real science" and would inspire many of them to seek a career in the sciences.



Students at the Summer Science Camp practicing astrophotography procedures

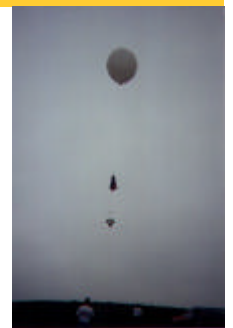
From the President—Tom Gilbertson

Thanks to Paul Verhage and his crew for putting on a very impressive high altitude balloon launch last month. They were able to find the near craft and parachute by the Kimamah Butte north of appropriately named Paul, Idaho.

Paul presented a short segment of the video at the Idaho Star Party. Unfortunately there were no Perseid meteors on film but there was an interesting panorama of the night-lights of Twin Falls, Burley,

Paul, and Heyburn. Even an airplane was visible in some of the frames. Anyone interested in the Near Space Program can visit their site on the web <http://www.the-one.com/tvnsp>.

Congratulations to the Boise Astronomical Society and their very successful Idaho Star Party. The speakers gave excellent presentations and skies were reasonably clear on Saturday night. There



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Amateur Comet Hunter Beats Computers to Discovery *(courtesy space.com)*

The last week in August, an amateur proved humans can still bag a comet and do it the old-fashioned way.

Vance Petriew of Regina, Saskatchewan -- a computer consultant by day and an amateur astronomer by night -- was at the Saskatchewan Summer Star Party on August 18th when he turned his 20" telescope toward the Crab Nebula. Hoping from one star to another across the constellation Taurus, Petriew guided his telescope toward the famous supernova remnant -- but he never made it. He stopped instead at a curious smudge that appeared unexpectedly in his eyepiece.

"I almost passed it by because I was looking for the Crab Nebula," says Petriew, "and this wasn't it." But there was something intriguing about the smudge, something that made Petriew investigate further. "Thinking it might be a galaxy, I looked at my star charts to see if any were nearby. Just then Richard Huziak (Saskatoon Centre, Royal Astronomical Society of Canada) happened to walk over for the first time that night." Huziak was familiar with the region of sky and knew that no eye-catching galaxy was in the vicinity. The pair quickly realized that Petriew had stumbled onto an unknown comet.

"It's like winning the lottery!" says Petriew. "Only [two peo-

ple] in the whole world discovered a comet last year the same way I did. It's pretty cool to have one named after me and I'm very excited!"



Vance Petriew of Regina, Saskatchewan

Petriew announced his discovery hours later, and since then astronomers have been monitoring the newfound comet to learn more about it. Based on data spanning less than a week, it appears that Comet Petriew may be traveling around the Sun once every 5.5 years following an elliptical path that stretches from a point just inside Earth's orbit (0.95 AU) out to the realm of the giant planet Jupiter (5.3 AU).

Fall Craters of the Moon Star Party - September 14th & 15th

The Fall Craters of the Moon Star Party will be held September 14-15 at the Craters of the Moon National Monument, near Arco, Idaho. The September Craters Star Party will feature some spectacular morning planets and terrific skies. Observing begins at dusk in the Caves area. The star party is free but all park fees apply. Dress warm and be sure to cover your flashlights with red.

The CSI Outdoor Program is offering a **Caving/Star Gazing package for \$25**, which includes transportation to the Park,

camping fees and equipment. The schedule includes star gazing Friday, then caving inside the park Saturday. Star gaze Saturday, then caving outside the park on Sunday and then drive home.

Departure time is 6:00pm Friday night from the Herrett Center, returning Sunday. For more information, contact Chris Anderson at the Herrett Center.

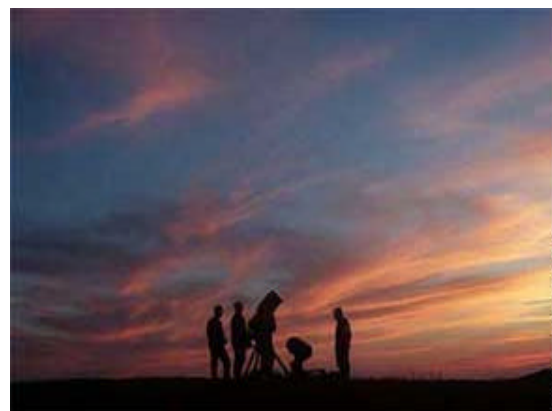
Clouds Darken Craters of the Moon Star Party's Future

This Fall Craters of the Moon Star Party may be the last one for a while. With the increasing popularity of the Craters of the Moon Star Party, the flood of participating astronomers is overwhelming the Crater's available facilities.

We will be in visiting with the park authorities to see if we can work out new arrangements but we've already begun to consider new places for a joint Magic Valley-Idaho Falls star party. Several state parks are under consideration, including City of Rocks and Massacre Rocks. The star party needs good camping facilities, including restrooms and water sources. Nearby available daytime activities would be a plus.

Any opinions or suggestions for a star party schedule & loca-

tion for next year would certainly be welcome.



VIC & JEN WINTER

Earthlike Weather Discoveries Raise Hopes for Extraterrestrial Life on Titan

By Robert Roy Britt
Senior Science Writer
Space.com

In one of the most distant weather reports ever received, clouds and even rain showers seem to have been spotted on **Titan, Saturn's largest moon.**

Along with vast seas and modest mountains, a picture is emerging of a place more like Earth than anywhere else in the solar system. Scientists have already labeled Titan a hot spot in the search for extraterrestrial life, and the new work adds to that enthusiasm.

In a new study, researchers looked at non-visible light emitted by Titan, spotting small clouds that developed and disappeared daily, most likely after causing a methane rain shower.

"Titan is a planet-sized laboratory hosting perhaps the kinds of organic chemical reactions that preceded and initiated life on Earth 4 billion years ago," said Jonathan Lunine, a professor at the Lunar and Planetary Laboratory who was not involved in the study. "To see methane in action as a cloud-forming and rain-forming condensate lends further credence to the view that Titan is a very attractive astrobiology target."

The driving force

On Earth, weather is largely driven by heat from the Sun, which creates temperature differences that move large masses of wind and foster huge oceanic currents. But Titan receives about 100 times less solar energy; temperatures hover around *minus 288 degrees Fahrenheit* (minus-178 degrees Celsius).

So a different force is thought to drive weather on Titan, weather that is mild by terrestrial standards. "We propose latent heat [released when a gas condenses] plays a large role in driving Titanian weather," said Caitlin Griffith, lead researcher.

"These bizarre conditions conspire to bring about strange clouds. On Titan, clouds are rare, usually covering less than 1 percent of the globe, compared to the Earth's 50-percent coverage."

Titan's gravity is only about one-seventh that of Earth. The intense chill, however, means a low-energy atmosphere that hangs around, instead of escaping this relatively weak force of gravity. So Titan's atmosphere is denser than Earth's and extends much higher into the sky.

Titan, Saturn's Largest Moon



Titan backlit by the Sun

NASA/JPL

Titan's clouds hover about 15 miles (25 kilometers) up, said Griffith, a researcher at Northern Arizona University in Flagstaff. Earth's clouds, by contrast, range from the ground to occasionally as high as 11 miles (17-18 kilometers) in the middle of the worst thunderstorms and hurricanes.

While weather is relatively docile on Titan, and rainfall is probably sparse, it may come down in buckets now and then. "Most rivers on Titan may run dry, but river valleys may nevertheless be abundant and deep," writes the Lunar and Planetary Laboratory's Ralph Lorenz in an analysis of the study.

Search for life

Increasingly, Titan is being seen as a good place to look for extraterrestrial life. Like Jupiter's moon Europa, Titan is expected to be hiding liquid water in its belly, says Lorenz, who models geophysical processes on Titan's surface.

Lorenz said Titan's surface is too cold for liquid water, the requirement for life as we know it. But deep beneath the surface, it may be warm enough to melt the ice.

And already, researchers have evidence of simple organic molecules -- similar to gasoline -- on the smoggy moon.

These molecules are very far from life, but are a first step, says Lorenz. "The one thing Titan does have on its side is all these organics, which Europa doesn't have," Lorenz told *SPACE.com*. "That gives it better stuff to work with to create life -- a more 'hearty' primordial soup, if you like."

Let's go see

There is no evidence that either Titan or Europa *do* harbor life, and scientists agree that we won't know until more research is done, most likely with a spacecraft to perform direct measurements. Answers may come as soon as 2004. The Cassini spacecraft, en route to study Saturn, its rings and moons, is scheduled to drop the Huygens probe into Titan's atmosphere.

Courtesy <http://www.space.com>



Cassini's Huygens probe might land in a sea of methane

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From the President cont

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was a very impressive array of telescopes on hand for the night viewing and as always the Bruneau Observatory is a treat to visit. Even the mosquitoes took some breaks to allow observers some peaceful viewing.

Remember to come to the **Fall Craters of the Moon** sky viewing (star party) event September 14, 15, and 16. The Idaho Falls Astronomical Society will be on hand with their impressive telescopes and the skies are noted to be dark and clear this time of year.

Thanks for being a member of the Magic Valley Astronomical Society.

Tom Gilbertson Pres. MVAS

MVAS CLUB CALENDAR

NEXT CLUB MEETING:

Saturday September 8th, 7PM. MVAS September Meeting. Twin Falls High School senior, J.B. Tarter, presents his experiences at the Summer Science Program held in Ojai, California. A public star party follows.

September 14-15, Fall Craters of the Moon Star Party at Craters of the Moon National Monument.

Saturday October 13, 7PM. MVAS October Meeting.

The Magic Valley Astronomical Society meets the second Saturday of each month at the College of Southern Idaho, Herrett Center Classroom at 7pm. Star Party at the Herrett Center follows. Visit us at <http://www.mvas.net> Please submit web site materials to mvas@mvas.net We welcome photos and other materials.