



Desert Sky Observer

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NEWSLETTER OF THE ANTELOPE VALLEY ASTRONOMY CLUB, INC
P.O. BOX 4595, LANCASTER, CALIFORNIA 93539-4595
*The Antelope Valley Astronomy Club, Inc., is a 501(c)(3) Non-Profit Corporation.
Visit the Antelope Valley Astronomy Club website at www.avastronomyclub.org/ The
A.V.A.C. is a Sustaining Member of The Astronomical League and the International
Dark-Sky Association.*



Up-Coming Events

- May 4: **First Quarter Moon**
- May 5: [Prime Desert Woodlands](#)
- May 6: Hands-On Universe**
- May 6: National Astronomy Day
- May 12: Club Meeting, YEA Winners*
- May 12: **Full Moon**
- May 19: Executive Board Meeting
- May 20: **Last Quarter Moon**
- May 20: JPL Open House
- May 21: JPL Open House
- May 26: **New Moon**
- May 26: [RTMC](#)
- May 27: [RTMC](#)
- May 28: [RTMC](#)

* Monthly meetings are held at the S.A.G.E. Planetarium at the Cactus School in Palmdale on the second Friday of each month. The meeting location is at the northeast corner of Avenue R and 20th Street East. Meetings start at 7 p.m. and are open to the public. *Please note that food and drink are not allowed in the planetarium*

** This event will be at the SAGE Planetarium

Club President Doug Drake

Hi everyone. I want to thank all of the people that helped Rose with the Poppy Festival on April 22 and 23. Thank you for your personal time. It was a job well done and we had fun talking to all of the kids and grownups about what we do in the wonderful field of amateur astronomy. We had two new members sign up and raffled off a 6" Orion Dob telescope, which was won by a young lady who took it home. We are so happy to have another telescope in the hands of someone with an interest in astronomy like us.

Don't forget that the Riverside Telescope Makers Conference (RTMC) is this month from May 26 through 29. You can go for just the day, or stay overnight for one, two, or three nights. There will be contestants showing their homemade telescopes which range from beautiful to outrageous. There is a swap meet on Saturday, speakers on various astronomy subjects, a beginner's corner and numerous door prizes. Look at their web site (<http://www.rtmcastronomyexpo.org/index.html>) to see if you might want to come up to Big Bear and have a blast.

See you at our next club meeting (Friday, May 12) the YEA Awards presentation. Fun, fun, fun!
Your Pres Doug

Vice President***Richard Hague***

Our May 12 meeting will celebrate the Youth Exploring Astronomy winners (YEA). Debora Pedroza will MC the ceremony. The youngsters, fifth through eighth grades, will be presented with prizes and have a special planetarium show by Jeremy. There will be various VIPs doing the presentations. Among them will be NASA, Scaled Composites, Mojave Spaceport, XCorp and local dignitary representatives. It will be a fun evening so please try and make it.

NASA's Mars Reconnaissance Orbiter successfully went into orbit last month. Since then, the spacecraft has been gradually tweaking its orbit through the process of aerobraking and taking test images of the red planet. When it is done with this its' orbit will be low and circular, just right for very high resolution pictures. Learn more about the mission and see images on the Orbiter home page.

+Mission home page... <http://www.marsprogram.jpl.nasa.gov/mro/>

+Mission news http://www.nasa.gov/mission_pages/MRO/main/index.html

Coming in May: JPL's Open House, May 20 - 21, 9 a.m. to 5 p.m. Free to the public.

+ More information <http://www.jpl.nasa.gov/ps0/oh.cfm>

Dick Hague

Director Community Development: Rose Moore

The month of May starts off with a star party at the Prime Desert Woodlands on Friday, May 5th at 7 PM for Brownies and Girl Scouts. Doug has offered to be my main weather contact so I may notify everyone if the event has to be canceled. At this time I have David Abrass, Karole and Shane Barker, Phil Evans, and myself for the event. Doug may be available if he is not working. If anyone would like to volunteer to help out, please contact me. More help would be appreciated!

We will be contacting Ms. Santos at the Painted Turtle Camp at the beginning of May to see when she would like us to come out to do an astronomy event for the kids. We are also attempting to reschedule the star party for Vista San Gabriel School. The teacher Dan Molik is possibly looking at a Saturday date. We were approached by several individuals at the Poppy Festival, teachers and scout leaders, about having an astronomy event of some kind for their group. I'll keep you posted about any of these new events if and when they become more definite.

The Aerospace Walk of Honor will be Sept. 16th. Nancy Mossman will be contacting me the end of June concerning this. The application for the Palmdale Fall Festival will be mailed this week. The dates for that are October 14th and 15th. Some club members are still interested in a Mt. Wilson trip. As you may remember, it was canceled last year due to poor weather. When I have more information, I'll pass it along.

I will be setting up some contacts at the Antelope Valley Press and High Desert Broadcasting so that we may make public announcements regarding our events. Debra Basham has offered to help me on this. If anyone else is interested in helping us organize this, it would be greatly appreciated!!

For those going to RTMC the end of the month, have a great time and a safe journey!
Rose Moore, Community Development Director



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News and Headlines

Astronomical Events in Southern CA

Keep up to date with Laura Woodard Eklund of the Mt. Wilson Observatory Association. She maintains a list of "Events of Interest to Astronomy Lovers in Greater Los Angeles".

<http://www.mwoa.org/events.htm>

New Season on Mars

There is a new panoramic view of the Martian Surface. The image was taken by Spirit just before the seasons change. Spirit will try and conserve energy to survive the Martian Winter in the Columbia Hills.

<http://www.jpl.nasa.gov/missions/mer/images-print.cfm?id=1931>

History of Astronomy Day

The Astronomical League provides information about Astronomy Day, its history, facts, and future dates.

<http://www.astroleague.org/al/astroday/astrofacts.html>

Comet in Hercules

Comet P73/Schwassmann-Wachmann 3 ejected a new fragment and now this fragment has broken into multiple pieces too. Astronomers aren't sure just how many pieces the comet will eventually break into. It reaches its closest point to the Earth on May 11, so we'll get our best view then. The fragments will reach their closest point to the Sun on June 7.

http://science.nasa.gov/headlines/y2006/24mar_73p.htm

Podcast Astronomy

There are many free podcasts on iTunes about Astronomy. iTunes is free to download. After you have iTunes installed, click on podcasts from the source menu and then on podcast directory. This will take you to the podcast music store. From there follow the link that says "Science and Medicine." There are many good links, but one that I like is "'What's Up?' In Astronomy" from page 3.

<http://www.apple.com/itunes/download/>

Hubble Visits the SAGE

The SAGE Planetarium will host a 4 foot by 6 foot image of M-82 taken by the Hubble Space Telescope. Be sure to check it out at the next meeting.

<http://hubblesite.org/newscenter/newsdesk/archive/releases/2006/14/>





Who Wants to be a Daredevil?

By Patrick L. Barry and Dr. Tony Phillips

When exploring space, NASA naturally wants to use all the newest and coolest technologies—artificial intelligence, solar sails, onboard supercomputers, exotic materials.

But “new” also means unproven and risky, and that could be a problem. Remember HAL in the movie “2001: A Space Odyssey”? The rebellious computer clearly needed some pre-flight testing.

Testing advanced technologies in space is the mission of the New Millennium Program (NMP), created by NASA’s Science Mission Directorate in 1995 and run by JPL. Like the daredevil test pilots of the 1950s who would fly the latest jet technology, NMP flies new technologies in space to see if they’re ready for prime time. That way, future missions can use the technologies with much less risk.

Example: In 1999, the program’s Deep Space 1 probe tested a system called “AutoNav,” short for Autonomous Navigation. AutoNav used artificial intelligence to steer the spacecraft without human intervention. It worked so well that elements of AutoNav were installed on a real mission, Deep Impact, which famously blasted a crater in Comet Tempel 1 on July 4, 2005. Without AutoNav, the projectile would have completely missed the comet.

Some NMP technologies “allow us to do things that we literally could not do before,” says Jack Stocky, Chief Technologist for NMP. Dozens of innovative technologies tested by NMP will lead to satellites and space probes that are smaller, lighter, more capable and even cheaper than those of today.

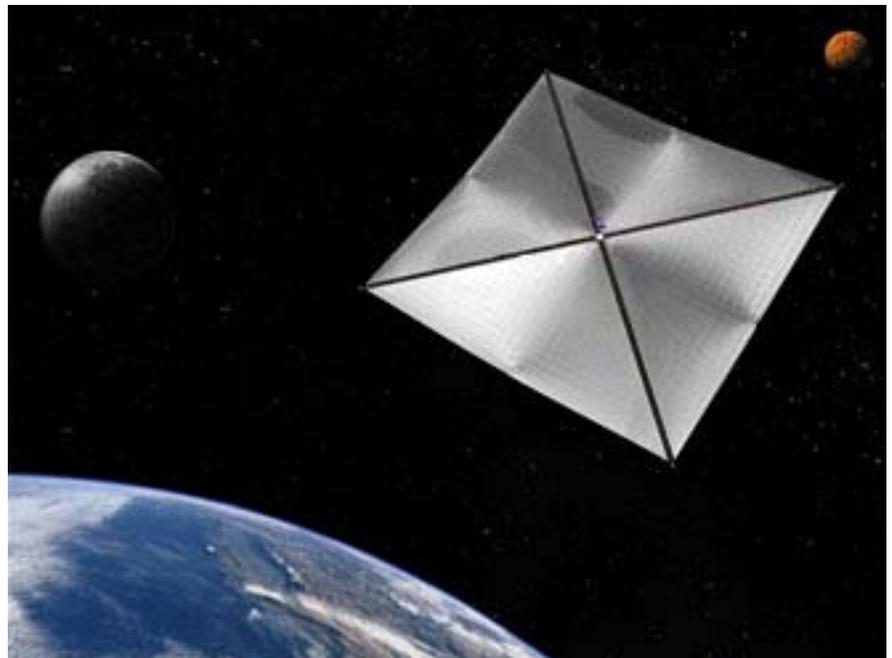
Another example: An NMP test mission called Space Technology 9, which is still in the planning phase, may test-fly a solar sail. Solar sails use the slight pressure of sunlight itself, instead of heavy fuels, to propel a spacecraft. Two proposed NASA missions would be possible only with dependable solar sails—L1 Diamond and Solar Polar Imager—both of which would use solar sails to fly spacecraft that would study the Sun.

“The technologies that we validate have future missions that need them,” Stocky says. “We try to target [missions] that are about 15 to 20 years out.”

A menagerie of other cool NMP technologies include ion thrusters, hyperspectral imagers, and miniaturized electronics for spacecraft navigation and control. NMP focuses on technologies that have been proven in the laboratory but must be tested in the extreme cold, vacuum, and high radiation environment of space, which can’t be fully recreated in the lab.

New NMP missions fly every year and one-half to two years, taking tomorrow’s space technology for a daredevil test drive.

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



Artist’s rendering of a four-quadrant solar sail propulsion system, with payload. NASA is designing and developing such concepts, a sub-scale model of which may be tested on a future NMP mission.

Did you know? ? ?

The Hubble Space telescope is 16 years old. Not bad for a telescope with a spherical aberration problem!

? ? ?

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A.V.A.C. Membership Information

Membership in the Antelope Valley Astronomy Club is open to any individual.

The Club has three categories of membership.

- Family membership at \$30.00 per year.
- Individual membership at \$25.00 per year.
- Junior membership at \$15.00 per year.

Membership entitles you to...

- Desert Sky Observer—monthly newsletter.
- The Reflector—the quarterly publication of the Astronomical League.
- The A.V.A.C. Membership Manual.
- To borrow club telescopes, binoculars, camera, books, videos and other items.

The Desert Sky Observer is available as a separate publication to individuals at a cost of \$10.00 per year. Subscription to the Desert Sky Observer does not entitle the subscriber to membership in the Antelope Valley Astronomy Club and its associated privileges.

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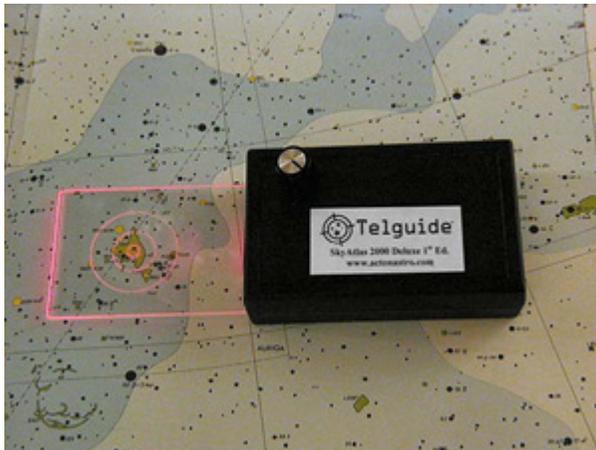
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High Desert Broadcasting: General Manager, Vicky Connors (661) 947-3107. They assist us in advertising our Club.

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www.telescopes.net

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Astronomy Links on the Web

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

(International Dark-Sky Association)

<http://www.astro-tom.com/>

(Tom Koonce's website)

<http://www.noexitrecords.com/zerobox/astro.htm>

(Tom Varden's website)

<http://www.astropaws.com>

(Terry Babineaux's astrophotos)

<http://www.actonastronomy.com/>

(Steve Trotta's website)

<http://saturn.jpl.nasa.gov/multimedia/images/latest/index.cfm>

(The latest Saturn pics from Cassini)

<http://astronomy-mall.com/>

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