



Desert Sky Observer

Volume 26 Issue 8

August 2006



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

August 2: First Quarter Moon

August 11: Monthly Club Meeting*

August 9: Full Moon

August 15: Last Quarter Moon

August 18: Executive Board Meeting

August 23: New Moon

August 26: Club picnic and Star Party at Steve Trotta's (see web site www.avastronomyclub.org for directions)

* Monthly meetings are held at the S.A.G.E. Planetarium on the Cactus School campus in Palmdale, 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*

Club President

Doug Drake

We have arrived at the mid-summer time of year that normally brings pleasant summer nights. Even though it has been hot with not much relief from cooling down, I would like to think, just for a moment, that we are out on a mid summer night with our telescope or binoculars, pointed upward and gazing at the beautiful panorama of the Milky Way. The Milky Way is a splendor to behold, a very long, time ago ancient people looked to the Milky Way as a time pathway though life. Ancient peoples of Latin America, Africa, Egypt and Asia, watched this pathway to tell them where they were in time. To us this pathway invites us to explore the mystery and wonder as we look though the edge of our Milky Way Galaxy. While looking at the Milky Way let its beauty fill your eyes and take time for your eyes to open and see the small dimly lit clusters. Start at the bottom of the Milky Way, Sagittarius and Scorpio, and work your way up and over the top. Let your eyes take-in the small fuzzy spots within the Milky Way and then aim your telescope, or binoculars, on those fuzzy spots and you will discover a nebula or star cluster. You can do this without a star chart, star wheel or guide book. Just use your eyes and your sense of awe as you take-in the splendor of the heavens.

May your skies be clear and visibility unlimited.

Doug

***Vice President
Richard Hague***

Chris Butler is our speaker for our August 11 meeting. He is an internationally published astronomy artist and has 30 years of amateur astronomy experience, which has affected his art - and his perspective on how we interpret the universe. From three-dimensional models and video productions to traditional art, Chris will share the lessons he has learned about the intersection of science and art. As art director for Griffith Observatory's new planetarium film, Chris will explain how that project benefits from the presence of amateur astronomers on the film making team. His illustrations have appeared in thousands of publications worldwide. Chris's humorous lectures have earned him the nickname "stand up comedian of the scientific world". The 2006 recipient of the Western Astronomical Association's G. Bruce Blair Medal for service to astronomy, Chris was also recognized in 2002 by having an asteroid named in his honor by the International Astronomical Union. Come along and enjoy his presentation with the rest of us.

Our annual picnic is on August 26 (Saturday) at Steve Trotta's. Directions to his home can be found on our web site. The club will supply the meat for barbecuing as well as the drinks. There will be a sign up sheet at our August 11 meeting for other pot luck items. Please let us know what you can bring. There will be free door prizes and if you have any thing for the silent auction please bring them to the picnic. Also bring your favorite 'scope or just your favorite eyes for an evening of viewing following the barbecue.

Dick Hague

***Director of Community Development
Rose Moore***

We have 4 club members who will be attending the day astronomy program for the Liver Transplant kids at Painted Turtle for July 28th. Anyone interested in participating in a possible 2nd trip for another group, please contact Dick Hague or myself.

I am waiting to hear from Nancy Mossman regarding the Aerospace Walk of Honor for September, and I'm also waiting to hear back from the Palmdale Fall Festival staff (approx. Sept. 1st).

Also upcoming in the fall will be a public star party at Prime Desert Woodlands. Possible events: a school star party at Vista San Gabriel Elementary, a public star party at the Poppy Reserve (to coincide with a meteor shower?), and Super Science Saturday at Joe Walker Middle School (a letter with information is in the mail). We have a very busy event schedule so please consider participating, and contact me as soon as possible; there will also be sign up sheets as the dates get closer and are confirmed.

I have contacted Steve Trotta regarding the Mt. Wilson trip reimbursements. Club members who still have trip money in the account should be getting it returned over the next few weeks.

As a final note, keep your calendar open for a special presentation at the planetarium a day or so before the "Walk of Honor" event. David Levy, who is this years keynote speaker, will be Jeremy Amaran's special guest for an evening with David Levy.

Clear skies!
Rose Moore



Celebrating 40 Years of Intent Listening

By Diane K. Fisher

In nature, adjacent animals on the food chain tend to evolve together. As coyotes get sneakier, rabbits get bigger ears. Hearing impaired rabbits die young. Clumsy coyotes starve. So each species pushes the other to “improve.”

The technologies pushing robotic space exploration have been like that. Improvements in the supporting communications and data processing infrastructure on the ground (the “ears” of the scientists) have allowed spacecraft to go farther, be smaller and smarter, and send increasingly faint signals back to Earth—and with a fire hose instead of a squirt gun.

Since 1960, improvements in NASA’s Deep Space Network (DSN) of radio wave antennas have made possible the improvements and advances in the robotic spacecraft they support.

“In 1964, when Mariner IV flew past Mars and took a few photographs, the limitation of the communication link meant that it took eight hours to return to Earth a single photograph from the Red Planet. By 1989, when Voyager observed Neptune, the DSN capability had increased so much that almost real-time video could be received from the



For over 40 years, the “Mars” 70-m Deep Space Network antenna at Goldstone, California, has vigilantly listened for tiny signals from spacecraft that are billions of miles away.

much more distant Planet, Neptune,” writes William H. Pickering, Director of JPL from 1954 to 1976, in his Foreword to the book, *Uplink-Downlink: A History of the Deep Space Network, 1957-1997*, by Douglas J. Mudgway.

Mudgway, an engineer from Australia, was involved in the planning and construction of the first 64-m DSN antenna, which began operating in the Mojave Desert in Goldstone, California, in 1966. This antenna, dubbed “Mars,” was so successful from the start, that identical 64-m antennas were constructed at the other two DSN complexes in Canberra, Australia, and Madrid, Spain.

As Mudgway noted in remarks made during the recent observance of the Mars antenna’s 40 years of service, “In no time at all, the flight projects were competing with radio astronomy, radio science, radar astronomy, SETI [Search for Extra-terrestrial Intelligence], geodynamics, and VLBI [Very Long Baseline Interferometry] for time on the antenna. It was like a scientific gold rush.”

In 1986 began an ambitious upgrade program to improve the antenna's performance even further. Engineering studies had shown that if the antenna's diameter were increased to 70 m and other improvements were made, the antenna's performance could be improved by a factor of 1.6. Thus it was that all three 64-m DSN antennas around the world became 70-m antennas. Improvements have continued throughout the years.

"This antenna has played a key role in almost every United States planetary mission since 1966 and quite a few international space missions as well. Together with its twins in Spain and Australia, it has been a key element in asserting America's pre-eminence in the scientific exploration of the solar system," remarks Mudgway.

Find out more about the DSN and the history of the Mars antenna at <http://deepspace.jpl.nasa.gov/dsn/features/40years.html>. Kids (and grownups) can learn how pictures are sent through space at http://spaceplace.nasa.gov/en/kids/phonedrmarc/2003_august.shtml.

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

News and Headlines

Cleaning Event Boosts Power On Opportunity

With only three Martian days to go before Opportunity joins its twin Spirit in 900-sol territory, the rover has spent its last five sols at a target called Joseph McCoy.

http://www.marsdaily.com/reports/Cleaning_Event_Boosts_Power_On_Opportunity_999.html

Subaru/Keck Telescopes Spot Largest Structure In The Universe

A team of astronomers using the Subaru and Keck telescopes on Mauna Kea has discovered a giant, three-dimensional filament of galaxies extending across 200 million light-years of space.

http://www.spacedaily.com/reports/Subaru_Telescope_Spots_Largest_Structure_In_The_Universe_999.html

Lowell Observatory, UA Optical Sciences to Complete Discovery Channel Telescope Primary Mirror

Lowell Observatory and the University of Arizona's College of Optical Sciences (OSC) have finalized a \$3 million, three-year contract to complete the Discovery Channel Telescope primary mirror.

<http://www.spaceref.com/news/viewpr.html?pid=20520>

Evidence Strong That It Rains On Titan

NASA scientists said Thursday they have found strong evidence that liquid methane drizzles from the atmosphere of Titan onto the moon's surface.

http://www.saturndaily.com/reports/Evidence_Strong_That_It_Rains_On_Titan_999.html

Did you know ? ? ?

The Perseid meteor shower peaks around August 12-13. The Perseid shower results from Earth passing through the debris field of comet Swift-Tuttle. This year a waning gibbous moon will make observing more challenging during the peak, but the shower continues through at least August 23, when the moon is new.

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.

A.V.A.C. Board Members**President:**

Doug Drake (661) 724-0849 president@avastronomyclub.org

Vice-President and Night Sky Chairperson:

Richard Hague (661) 724-1623 vice-president@avastronomyclub.org

Secretary:

Larry Ochsner (661) 274-9006 secretary@avastronomyclub.org

Treasurer and Astronomical League Coordinator:

Steve Trotta (661) 269-5428 treasurer@avastronomyclub.org

Director of Community Development and Advertisement Chairperson:

Rose Moore (661) 822-4580 community@avastronomyclub.org

Newsletter Editor:

Errol Van Horne (661) 273-7646 newsletter@avastronomyclub.org

Equipment and Library Chairperson:

Karol Barker (661) 940-3312 library@avastronomyclub.org

Club Historian:

Tom Koonce (661) 943-8200 Takoonce@aol.com

Webmaster of Club Site:

Steve Trotta (661) 269-5428 webmaster@avastronomyclub.org

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.actonastro.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/> (shop 'til you go broke)

Thank you to our sponsors for your generous support!

Al's Vacuum and Sewing: 904 West Lancaster Blvd. (661) 948-1521. Stop by and say "hi" to Matt and Sue.

Woodland Hills Camera: 5348 Topanga Canyon Blvd., Woodland Hills. 888-427-8766. www.telescopes.net

Telguide: A supper guide to use with your star chart. www.actonaastro.com

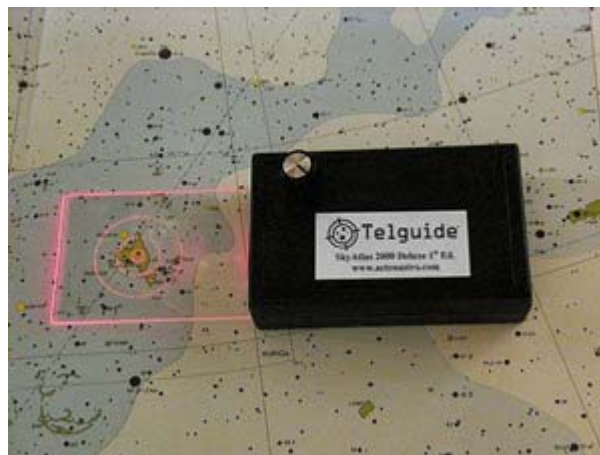
Astro-Tom: Tom is dedicated to amateur astronomy. www.astro-tom.com

High Desert Broadcasting: (661) 947-3107; they assist us in advertising our Club.



Al's Vacuum and Sewing

WOODLAND HILLS *Camera*



The Telguide

Our own Steve Trotta has invented the Telguide to aid you in your galactic hunts.
For more information on how a Telguide can help you, <http://www.actonaastro.com>



A **HARTWIG COMPANY** with offices in Palmdale and Lancaster
Errol Van Horne (661 305 8148) and Jim Jeffra (661 733 8363) offer residential and commercial real estate services to all club members and their referrals, which include a 15% donation to the Youth Exploring Astronomy Program, of any commission earned from those sources.