



Desert Sky Observer

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NEWSLETTER OF THE ANTELOPE VALLEY ASTRONOMY CLUB, INC
P.O. BOX 8545, LANCASTER, CALIFORNIA 93539-8545
*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: Annual Club Picnic @ [Mount Trotta](#)

August 8: Club Meeting @ the Sage* – Daniel from Woodland Hills Camera

August 9: Lunar Club Party at [Pedroza Flats](#)

August 11: Board Meeting at [Pedroza Flats](#)

August 12: Persids Meteor Shower

August 16: [Prime Desert Woodland](#) Preserve Moon Walk

August 30: Dark Sky Star Party @ [Mount Pinos](#)

* 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

Terry Pedroza

Nominations for the 2009 Antelope Valley Executive Board open at this month's meeting. Have your nominations ready. Will you be the one to nominate next year's President or will you be next year's President? Nominations will be open until elections at the October Annual meeting.

I have thought about having the Antelope Valley Astronomy club Executive Board members receive that years membership free as many clubs do. What do you think? To do this we would need to vote on a constitutional amendment at the Annual Meeting. If you could give me your input on this I would greatly appreciate it.

The Antelope Valley Astronomy club is one of the busiest Clubs that I know of and we should all be proud. We do more and in my humble opinion better outreach than most groups and we owe ourselves a big pat on the back for all the time and effort that we've put into our community. Good job folks.

Do you think that we can do a better job in the outreach department? If so give us your input so that we can make your club better. Do you have other ideas about our club, our goals, our future, we need those inputs. Jenn is working hard on our clubs long range plan and goals and I hope that each and every one of you has an idea to enhance that effort so that our club may grow and become an everlasting presence in the Antelope Valley and beyond.

Clear skies,
Terry

Vice President
Debora Pedroza

Our annual club picnic is coming up on Saturday, August 2nd at Steve and Kate Trotta's house in Acton. Come up around 3:00pm and enjoy the cool water of the pool or just come and relax under their beautiful trees and enjoy the scenic countryside and AVAC fellowship. We will barbeque around 5:00 and also hold raffle drawings as well as a silent auction. The club will be offering telescopes for the silent auction from our overstocked library...so here is your chance to get a scope at a bargain! Executive board members will be calling all of the members to remind you of this special day and to get an idea of what to bring. The club is providing the meat and the drinks. This is hands down one of our most fun member events. Don't miss it!

Here is a look ahead at our speaker/presentations slated for our monthly club meetings in the upcoming months. For our August meeting we are very excited to have Daniel from Woodland Hills Camera coming out to show and demonstrate solar viewing with dedicated solar telescopes as well as telescopes with solar equipment. Woodland Hills Camera has been a fantastic club sponsor and it will be a pleasure to share an evening with them. For the month of September Jeremy and I are working on getting us someone from JPL and October is our business/election meeting. In September's DSO I will describe what's new and brewing for the month of November. It is called "Getting To Know The AVAC".

Our trip to the Griffith Observatory with the essay contest winners was a great success, thanks to Lockheed Martin and Tom Koonce and Dr. Laura Danly. We are nearly at that time again to begin planning the essay contest for 2009. This valley wide contest will be going in its 9th year and has picked up in popularity and anticipation with each passing year. As both chairperson and creator of this contest I need to be completely candid. I do have 3 key people and one family who help me year after year but the contest has become too monumental for just one person to do the majority of the planning, calling, faxing, committee meetings, awards, parent notification, selection of judges etc .I NEED HELP TO SAVE THIS CONTEST! Here is my thought: I will sit down and put every task involved in the contest from start to finish and put those tasks in file folders. I would then ask for volunteers to pick a task and with enough help we can do this and maintain the high quality of work this contest is known for.

Will you help? I know we are all busy and that is why I will break it all down into small tasks.

I am looking forward to hearing from many of you!

Debora

Director of Community Development
Karole Barker

On Wednesday, July 2nd we had a star party for about 30 cadets at Edwards Air Force Base and we had a blast. Terry brought a solar scope for the cadets to look through and Jeff brought Roswell and the kids went nuts when he came out. They had to get a group shot with Roswell. The kids had a great time looking through all of our scopes and asking a ton questions about the night sky.

We had a great turn out for the Prime Desert Woodlands on Saturday, July 5th we had 142 people, which included club members. We do have an upcoming event at Prime Desert Woodlands on August 16th @ 8:30 p.m., which I still need volunteers to bring out scopes that night. Please let me know if you can make it at PDW.

The "Lunar Club" star party at Matt Leone's on July 12th was canceled due to Thunderstorms.

On Friday July 25th we will be at the historic Western Hotel/Museum on Lancaster Blvd. for their annual Old Fashion ice cream social and outdoor silent movie, "Aelita: Queen of Mars" (1924), in honor of NASA's 50th anniversary. The hotel will provide passes for our club members for the ice cream social and for the viewing of the silent movie, which is from 9:00 to 11:00 p.m.; the ice cream social is from 6:00 p.m. to 8:00 p.m. They would like us in front of the hotel to do some solar viewing.

On Sunday July 27 at 3:00 a.m. to 6:00 a.m. will be a Lunar Club party at Pedroza flats.

On August 2nd is our annual Club Picnic at Mt. Trotta at 3:00 p.m. Please contact Debora Pedroza or myself if you can come to the club picnic. Plus if you have any items for the silent auction or raffle, please let us know.

August 7th is Thursday Night on the Square from 5:00 to 9:00.

On August 9th is a Lunar Club star party @ Pedroza Flats at 6:00 p.m.

Clear skies,
Karole Barker

AVAC Observing Challenge

By Tom Koonce

It's the end of the Summer, but the fun's not done! This month's challenge is all about sharing the excitement of the night sky with at least two other people...

Beginner's Challenge

Attend one of the Star Parties this month (either the "Moon Walk" at Prime Desert Woodlands on Saturday evening, August 16, or the August Dark Sky Party at Mt. Pinos on Saturday, August 30). This may be your very first Star Party, but that's OK. Bring two friends or family members with you, a couple of red-light flashlights, and set aside the entire evening to expand your horizons, learn about the sky from the other members and enjoy yourself! Make sure you and your guests dress for temperatures 20 degrees cooler than you're expecting. Go from telescope to telescope and ask them what they're looking at and ask if you can take a look also. Tell them you're just beginning and they'll talk your ear off about the night sky.

Intermediate Challenge

- A) Attend this month's Dark Sky Party at Mt. Pinos on Saturday, August 30.
- B) Do a 15 minute meteor count. The count can come later in the evening since the best time to observe meteors is just after Midnight.
- C) In the meantime, link up with at least two new visitors to the Star Party, and show them 5 different constellations, pointing out the all the main stars, the traditional mythological figure made out of these stars and name at least one bright star in each constellation.

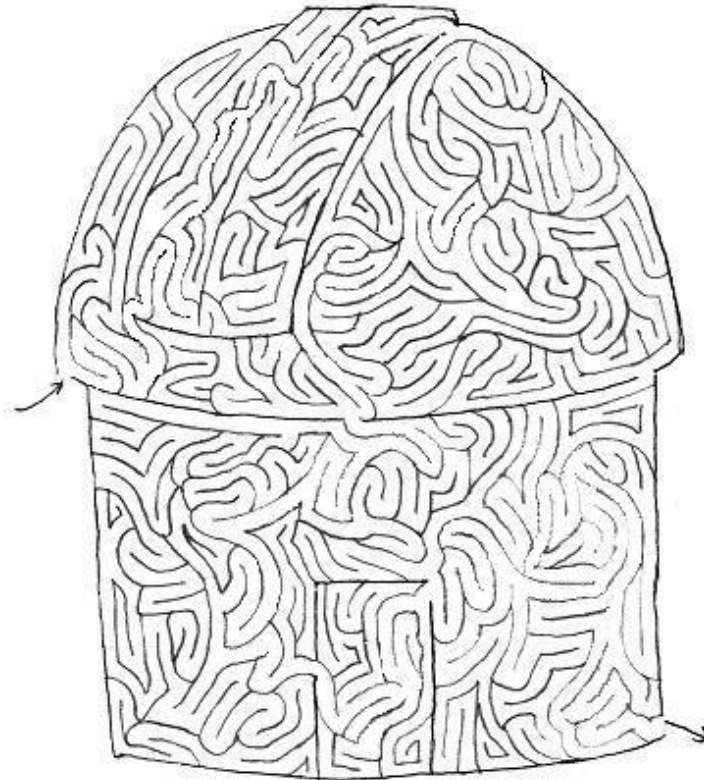
Advanced Challenge

- A) Attend this month's Dark Sky Party at Mt. Pinos. Take at least 30 minutes in the early evening just after dark to show either a few of the intermediate members or General Public off to the side and show them how to pick out objects just as the night sky begins to reveal itself. Share your sense of excitement and vast knowledge with them. Alternatively, demonstrate how to properly collimate a Newtonian to two other amateurs there with you.
- B) Do a 15 minute meteor count, sketching their path on paper. Is there a radiant? There is a minor meteor shower, the Alpha Aurigids that peaks on September 1 making an interesting night by producing 2-5 meteors per hour. Even more interesting is that this minor meteor shower has produced a couple of notable displays of 20-30 meteors per hour in the past! There are numerous minor meteor showers that are visible throughout the year that can make for an amazing night of observing for the savvy amateur astronomer.
- C) Observe 1 comet, estimate its brightness and angular size, e-mail a write up of your observation and a sketch or photo of the object to Steve Trotta at webmaster@avastronomyclub.org.

Clear Skies!
Tom

For Cloudy Nights.....

Maze: Dome Take a tour of the observatory.



News and Headlines

Voyager Spacecraft Reveals Solar System Edge

Voyager 2's journey toward interstellar space has revealed surprising insights into the energy and magnetic forces at the solar system's outer edge, and confirmed the solar system's squashed shape.

<http://www.space.com/scienceastronomy/080702-voyager-crosses-shock.html>

NASA's Phoenix Mars Lander Prepares For Next Sample Analysis

The latest activities of NASA's Phoenix Mars Lander have moved the mission closer to analyzing a sample of material, possibly icy soil, from a hard layer at the bottom of a shallow trench beside the lander.

<http://www.spaceref.com/news/viewpr.html?pid=26042>

Young Galaxies Surprisingly Magnetic

Galaxies much like ours harbor mysterious magnetic fields, which turn out to build up much faster than scientists realized, a new study has found.

<http://www.space.com/scienceastronomy/080716-magnetic-galaxies.html>

The quiet explosion

A team of astronomers from Europe are providing hints that a recent supernova may not be as normal as initially thought. Instead, the star that exploded is now understood to have collapsed into a black hole, producing a weak jet, typical of much more violent events, gamma-ray bursts.

<http://www.astronomy.com/asy/default.aspx?c=a&id=7228>

Shiny Eye for Airborne Observatory

Twenty seconds. That's all it took for technicians to apply an ultrathin reflective aluminum coating to the primary mirror for the Stratospheric Observatory for Infrared Astronomy, or SOFIA. And now the world's most advanced airborne observatory is one step closer to completion.

<http://www.skyandtelescope.com/news/24039504.html>

Earth and Moon Dance for the Camera

It seems like every spacecraft headed away from Earth to some distant solar-system target takes a moment to record its home planet for posterity. Most often there's a bit of science involved — the imaging instruments use Earth or the Moon as a calibration target.

<http://www.skyandtelescope.com/news/25825909.html>

Polaris Brightness Variations are Revived, Astronomers Mystified

Polaris is a well known Cepheid variable, but its periodic brightness variations have been steadily decreasing in amplitude for the last hundred years.

<http://www.universetoday.com/2008/07/22/polaris-brightness-variations-are-revived-astronomers-mystified/>

Fourth dwarf planet named Makemake

The International Astronomical Union (IAU) has given the name Makemake to the newest member of the family of dwarf planets — the object formerly known as 2005 FY9 — after the Polynesian creator of humanity and the god of fertility.

<http://www.astronomy.com/asy/default.aspx?c=a&id=7220>

*Member Profile of the Month***Karole Barker**

1. **What is your earliest memory of an interest in astronomy?** When I was in 5th grade at camp back in the early 80's seeing Saturn thru a telescope for the first time.
2. **Who was the first person to interest you in astronomy?** My husband Shane
3. **What was the first thing you remember really looking up and seeing?** The Big Dipper
4. **Describe your first telescope? How old were you? Was it a gift or a purchase?** My 1st telescope is the 6" Dob that I use now. I was 35 when I got the telescope. I purchased it at our club picnic as a silent auction item.
5. **Have you ever made a telescope?** How did it turn out? No I haven't made one.
6. **When did you join the AVAC?** What events have you enjoyed the most? I joined the AVAC with Shane 3 years ago. I have enjoyed the star parties the most and of course RTMC.
7. **Do you have any formal training in Physics or Astronomy?** Basic College Physics
8. **Are you a "Star Hopper" or a "GOTOer"?** Which do you think is best? I like to do both things.
9. **Did you go through a binocular phase?** No
10. **What kind of telescope do you use most often? How many do you have? What would be your dream scope?** I use my 6" Dob, and Shane & I have a total of two scopes. My dream scope is a Light Bridge.
11. **What is your favorite viewing site and with whom do you like to view?** My favorite viewing site is Mt. Pinos and I like to view with Shane.
12. **What is the most beautiful thing you have ever seen through a telescope?** M13
13. **What do you enjoy looking at the most? Messier objects, galaxies, double stars, etc?** I like looking at star clusters and nebulas the most.
14. **Have you ever done any astrophotography or CCD imaging? What kind of equipment did you use?** I have done CCD & astrophotography. I have a Meade DSI Black & White for my scope & I have a Canon XTI digital Camera with a 70 to 300 mm lens.
15. **What has proven to be your most elusive target?** I have not had one yet.
16. **Beyond basic equipment, what three things do you always take with you when observing?** water, warm clothing & tennis shoes
17. **Do you think life, as we know it, is out there somewhere?** Yes
18. **Of what practical use is astronomy?** Learning about the night sky.
19. **If you only had one night left on Earth to observe the night sky, what object would you like to see again or for the first time?** Orion's Nebula
20. **Complete this sentence: "Every amateur astronomer should..."** learn on a Dobsonian telescope and join an Astronomy club.



Death of a Supergiant

By all outward appearances, the red supergiant appeared normal. But below the surface, hidden from probing eyes, its core had already collapsed into an ultra-dense neutron star, sending a shock wave racing outward from the star's center at around 50 million kilometers per hour.

The shock wave superheated the plasma in its path to almost a million degrees Kelvin, causing the star to emit high-energy ultraviolet (UV) radiation. About six hours later, the shock wave reached the star's surface, causing it to explode in a Type IIP supernova named SNLS-04D2dc.

Long before the explosion's visible light was detected by telescopes on Earth, NASA's Galaxy Evolution Explorer (GALEX) space telescope captured the earlier pulse of UV light — scientists' first glimpse of a star entering its death throes.

"This UV light has traveled through the star at the moment of its death but before it was blown apart," explains Kevin Schawinski, the University of Oxford astrophysicist who led the observation. "So this light encodes some information about the state of the star the moment it died."

And that's exactly why astronomers are so excited. Observing the beautiful nebula left behind by a supernova doesn't reveal much about what the star was like before it exploded; most of the evidence has been obliterated. Information encoded in these UV "pre-flashes" could offer scientists an unprecedented window into the innards of stars on the verge of exploding.

In this case, Schawinski and his colleagues calculated that just before its death, the star was 500 to 1000 times larger in diameter than our sun, confirming that the star was in fact a red supergiant. "We've been able to tell you the size of a star that died in a galaxy several billion light-years away," Schawinski marvels.

"GALEX has played a very important role in actually seeing this for a few reasons," Schawinski says. First, GALEX is a space telescope, so it can see far-UV light that's blocked by Earth's atmosphere.

Also, GALEX is designed to take a broad view of the sky. Its relatively small 20-inch primary mirror gives it a wide, 1.2-degree field of view, making it more likely to catch the UV flash preceding a supernova.

With these advantages, GALEX is uniquely equipped to catch a supernova before it explodes. "Just when we like to see it," Schawinski says.

For more information, visit <http://www.galex.caltech.edu>, "Ultraviolet Gives View Inside Real 'Death Star'." Kids can check out how to make a mobile of glittering galaxies at spaceplace.nasa.gov/en/kids/galex_make1.shtml.

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

The Adventures of Roswell by Roswell

Greetings and salutations to my friends on planet Earth, especially my friends at the Antelope Valley Astronomy Club on behalf of my fellow space travelers from the planet Belluckleonia, or as you pronounce it, Belt Buckle!

On **July 2** I had the most excellent opportunity to visit Edwards Air Force Base. My dear friend, Jeff Riechmann took me along with him while he went to Edwards to, as he so elegantly states it, "Abuse his military retiree's privileges!" While Jeff went shopping, I had the chance to catch up on some sleep...underneath a cover in the backseat of Jeff's car. Jeff was very thoughtful though, he did crack one window about an inch, maybe two. It wasn't that big of a deal, I don't think it got anywhere near 110 degrees! What a knucklehead!

He did take me by the base museum to look at a rocket on display there. After looking at this most unique piece of space craft, I could only ask, "How on Earth did you ever get to the Moon?"

After I finished laughing, we then headed out to Branch Memorial Park. We would meet up with other members from your Space Club (Antelope Valley Astronomy Club, Roswell! *Editor*) which include Shane and Karole Barker and Terry Pedroza and everyone's best bud, Duane! Our goal was to educate the local Civil Air Patrol squadron about space.

Terry started the evening off with letting them look through his PST at your star. Then Jeff had them wandering around the park, trying to figure out how to get to Beijing, China by using his GPS receiver. Jeff then showed them his meteorites.

It was at about this time that Jeff introduced me! They loved me...as usual!

We finished the evening off by letting the cadets look through the telescopes. It wasn't long before the cadets were lying on the ground and pointing out objects in the night sky to each other. They were soon joined by Shane. Shane knows his way around the night sky pretty darn good. I wouldn't mind having him as a navigator on one of my upcoming missions!

On **July 10**, I joined Jeff, Dick Hague and Duane Lewis at the Aero Institute in Palmdale to give a presentation to the 50 kids taking part in the NASA Dryden Robotics Workshop. Remember me complaining back in May about it being hot. That was nothing! Today was like a solar flare!

Dick started the show off by explaining the solar system and then Jeff did his usual thing on stuff falling out of the sky. He even had the kids all brushing the comet dust out of their hair! (Jeff even passed out frozen Milky Way bars to all of the kids, which made him quite popular!)

During break, Jeff took a few of the kids outside to demonstrate how satellites work. He tried to show them how to figure out the best time to go fishing based on the signals he was receiving from the satellites! Sad thing was that being in the courtyard of the AERO Institute; he couldn't get a good signal.

After break, Dick spent some time talking about your star and then they did their usual talk on how one of these kids could be the first person to step foot on Mars. When asked what he would say if he was the first person to step foot on Mars, one boy replied, "Dude!" Of course the Astronomy Dudes loved that!

Then, it was outside to look at the Sun. I couldn't believe it when one of the kids actually asked Jeff if he really was an alien! Can you guess what Jeff said? What a knucklehead!

As usual, they placed me in the hot rays of your star for a group picture. Jeff taught them how to wave like an alien. Some of the kids wouldn't smile for the picture. Jeff had them all shout the name of my home planet, "Belluckleonia!" That got them all to smile!

Anyway, anyone know where an alien can get a good powdered sugar donut?

Live Long and Prosper!

Roswell

Ambassador to the AV Astronomy Club

Mt. Wilson Photos



Everyone is waiting patiently to get in to the observatory and begin a night to remember



Rose & Karole by the 60 inch scope



Shane can't wait to get his first view through the 60 inch

Mt. Pinos Star Party Photos



In the pink



Intellect Duane



Which way is north?



Smilin' Tom

Did you know ? ? ?

Each of the brightest stars in a constellation is identified by a Greek Letter. The brightest star is designated as “ α ” pronounced “Alpha” and every other star is assigned a Greek letter according to its diminishing brightness.

| | | | | | |
|----------------|--------------------|--------------------|----------------|--------------------|----------------|
| α Alpha | β Beta | γ Gamma | δ Delta | ϵ Epsilon | ζ Zeta |
| η Eta | θ Theta | ι Iota | κ Kappa | λ Lambda | μ Mu |
| ν Nu | ξ Xi | \omicron Omicron | π Pi | ρ Rho | σ Sigma |
| τ Tau | υ Upsilon | ϕ Phi | χ Chi | ψ Psi | ω Omega |

A.V.A.C. Board Members

President:

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Webmaster:

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Astronomical League Coordinator:

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

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.

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 “hey” to Matt and Sue and run from Michael.

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

Astro-tom.com: Tom is dedicated to amateur astronomy. <http://www.astro-tom.com>

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

ActonAstro: Club Web space provided by <http://www.actonastro.com>

Al's Vacuum and Sewing**WOODLAND HILLS Camera**