



AU AstroNews

The Newsletter of the Astronomical Unit

September 2003

Sponsored by the Santa Barbara Museum of Natural History

AU Meetings Resume This Month!

The next AU meeting is Friday, September 5. The speaker will be our own Tony Galvan. Tony often travels with his wife Joan, and they try to incorporate their love of nature and astronomy whenever possible. His presentation will center on the Greater Yellowstone Ecological area, from Oregon on the west to Wyoming on the east. People tend to think of Yellowstone National Park as a park filled with bison and elk, but it is also an active geological area that contains more hot springs and geysers than any other place on earth. Tony will also show slides of the Craters of the Moon National Monument.

August Outreach Volunteers

Outreach volunteers since the last Newsletter were AU Members Jim Billig, Maria & Thomas Bún, Joe Doyle, Dora Drake, Laurence Harms, Art Harris, June Kelley, Nicole Lemaster, Pat & Chuck McPartlin, Edgar Ocampo, Helen Osenga, Ron Pembleton, Craig Prater, Tom Whitemore, Jim Williams, and Tim Wittenburg. Non-AU Members were Frank Anderson and Warren Bitters. Tim Wittenburg deserves the AU Purple Heart (Purple Star?) for showing up at outreaches on crutches while recovering from knee surgery. We showed the sky to 564 customers in that time period, plus got TV and press coverage associated with the Mars opposition, *before* it happened.

AU Events for September

Friday, September 5, 7:30 PM – Monthly meetings resume in Farrand Hall at SBMNH.

Saturday, September 6, setup 7:00 PM – Slide show and scopes for Cachuma Lake Campgrounds. Scopes set up at Dakota Plains.

Saturday, September 13, 6:00 PM – AU Planning Meeting at SBMNH, Krissie's office. All members welcome to help plan future AU activities.

Saturday, September 13, 7:30 PM – Monthly Public Star Party at SBMNH.

Friday, September 19, 7:00 PM – Monthly Public Observation at Westmont College's Van Kampen Observatory.

Saturday, September 20, setup 6:30 PM – Telescopes for Refugio Beach State Campground.

Thursday, September 25 to Sunday, September 28 – CALSTAR 2003 at Lake San Antonio. Get details from their website at www.201.pair.com/resource/calstar/ and spot AU members in photos from last year.

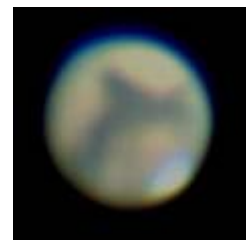
Scheduled events are subject to change and additions with little notice! For the latest and greatest, contact Edgar Ocampo (eocampo26@earthlink.net) or Chuck McPartlin (macpuzl@west.net) for the latest developments.

AU in the News

In case you missed it, the AU was on the *front page* of the Santa Barbara News-Press on Sunday, August 17. There was a big picture of AU VP Chuck McPartlin, and an interview with him and AU member Gail Massey concerning the upcoming opposition of Mars. Good job educating the public!

Mars

Craig Prater took the accompanying picture by webcam at 3:57 am on 8/11. He basically followed the instructions from the article in the June 2003 Sky & Telescope. He bought a Creative Webcam ProEx from CompUSA, and used it with his 8" LX200. He used Registax software to align and stack 500 frames. Wow!





In Memory

Emerson Smith was an AU member for many years. He was always smiling, and always asking questions. That got him in trouble at meetings sometimes, when he peppered the speaker with them. We'll miss him and the

healthy goodies he brought when he did refreshments. The following is excerpted and edited from the Santa Barbara News-Press:

Emerson Warren Smith left as peacefully as he lived his life. He arrived at UCSB in the fall of 1963 after twenty-two years, ten thousand hours, and two million miles piloting US Air Force fighter/bombers, four-engine transports, hospital planes, and a variety of Air/Sea Rescue aircraft. Of all his medals, he was most proud of his Distinguished Flying Cross for flying as the Pathfinder during rather "hairy" night bombing missions in the Korean War, and his Medal for Humane Action for flying "all weather" transport supply missions in the miraculous Berlin Airlift. When he retired from the US Air Force in 1962, he had reached the rank of Major, with the rating of Command Pilot. From 1973 to 1991, He taught sailing at UCSB, and considered himself one of the lucky people whose vocation was also his avocation. Emerson was a pioneer windsurfer, enjoyed traveling and music, and lived life to the fullest. His sense of humor, patience and kindness will forever be remembered. Though he will be deeply missed by his family and friends, (his children often referred to him as the best and the "greatest of all time" Dad and Opa,) we take comfort in knowing that he is with his dear Lord, and on to new adventures. We are truly thankful for the awesome blessing he has been in our lives and we will forever hold him in our hearts. He was fond of the saying "Make today something to smile about" and lived his life in such a way that brought laughter and smiles to everyone around him.

Why Go To A Dark Sky Site?

AU member and dark sky guru Joe Doyle submitted the following article. Please note that Joe is the owner of an awesome 18" Dob that he often brings to AU Dark Sky observations. Read on in case you need any more reason to come. Thanks, Joe!

I usually observe from dark sites and have a battery of little known but wonderful objects for the

telescope. In a moment of weakness I promised the AU newsletter editor that I would write an article about some of these objects that can be viewed with a small scope from a suburban backyard. No Messier objects, but I am blessed with a good south view, so no problem. With plenty of time before the editor's deadline I pulled my 6" Dob out and set up in my Goleta backyard. My first target was a pretty little open cluster below and to the right of M11. Using averted vision, there was just barely a hint of a fog where the cluster was supposed to be. Only a minor setback — how about that great mini M57 in Ophiuchus, NGC 6369? It is easy to find because it is at the end of a chain of naked eye stars. Of course they weren't all really naked eye stars from my backyard, but I could see two of them, and I did find the planetary. Sadly, even with an OIII it never showed more than a pale fuzzy spot. About this time my neighbors on the south side turned on their porch light, and the Trifid nebula disappeared. Then their dog heard my joyful muttering for their light and started barking. In desperation for something for the article I promised, I started checking double stars. Albireo looked nice, but was excluded by definition for an article about little known celestial objects. Delphinus had one at one end, but frankly I could not find much enthusiasm for it. That night Delta Cephei looked like a slightly dimmer Albireo, one star orange and the other blue. This at last was a great target from my Goleta back yard. But wait a minute, my love is nebulae and galaxies! And here I find myself researching double stars? Ultimately the result of my research is that if one wants to look at faint and low contrast objects, then one has to go somewhere where the background skyglow is less than the luminosity of the target objects. The sky is full of great and little known targets, but many of them are just too faint to see from the burbs. We can hone our skills on the Messier objects, but to get past the top 100, we have to leave town! Fortunately, we in greater Santa Barbara have decent dark sky sites. The Winchester Gun Club (or even just Camino Cielo road) is a lot darker than most of our backyards, and with a little fog, it can be very dark. The south view over the ocean from Refugio is fabulous. Both Refugio and the Gun Club are only 20 to 25 minutes away. I say, grab your scope and get out of town! And vote against candidates who do not oppose suburban development in our community while we at least have the Messier objects!



Careful Planning and Quick Improvisation Succeed in Space Biz

by Dr. Tony Phillips

On December 18, 2001, ground controllers at JPL commanded NASA's Deep Space 1 (DS1) spacecraft to go to sleep. "It was a bittersweet moment," recalls Marc Rayman, the DS1 project manager. Everyone was exhausted, including Deep Space 1, which for three years had taken Rayman and his team on the ride of their lives. DS1 blasted off atop a Delta rocket in 1998. Most spacecraft are built from tried-and-true technology — otherwise mission controllers won't let them off the ground. But Deep Space 1 was different. Its mission was to test 12 advanced technologies. Among them: an experimental ion engine, a solar array that focused sunlight for extra power, and an autopilot with artificial intelligence. "There was a good chance DS1 wouldn't work at all; there were so many untried systems," recalls Rayman. Nevertheless, all 12 technologies worked; the mission was a big success. Indeed, DS1 worked so well that in 1999 NASA approved an extended mission, which Rayman and colleagues had dreamed up long before DS1 left Earth — a visit to a comet. "We were thrilled," says Rayman. And that's when disaster struck. DS1's orientation system failed. The spacecraft couldn't navigate! What do you do when a spacecraft breaks and it is 200 million miles away? "Improvise," says Rayman. Ironically, the device that broke, the 'Star Tracker,' was old technology. The DS1 team decided to use one of the 12 experimental devices — a miniature camera called MICAS — as a substitute. With Comet Borrelly receding fast, they reprogrammed the spacecraft and taught it to use MICAS for navigation, finishing barely in time to catch the comet. "It was a very close shave." In September 2001, DS1 swooped past the furiously evaporating nucleus of Comet Borrelly. "We thought the spacecraft might be pulverized," Rayman recalls, but once again DS1 defied the odds. It captured the best-ever view of a comet's heart and emerged intact. By that time, DS1 had been operating three times longer than planned, and it had nearly exhausted its supply of thruster-gas used to keep solar arrays pointed toward the Sun. Controllers had no choice but to deactivate the spacecraft, which remains in orbit between Earth and Mars. Rayman has moved on to a new project — Dawn, an ion-propelled spacecraft that will visit two enormous asteroids, Ceres and Vesta, in 2010 and 2014. "Dawn is based on technologies that DS1 pioneered," he says. Even asleep, DS1 continues to amaze.

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