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# Squadron 144



## News



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DECEMBER 2011

### Marines Provide *Semper Fidelis* AE Opportunity

Excerpt By: Maj Dennis Ammann, Full article at <http://www.sq144.com>



On 5 November 2011 personnel from two squadrons assembled to receive a personalized tour of the CH53E Super Stallion and the Flying Leatherneck Marine Corp Museum.

Maj Dennis Ammann, a volunteer docent at the museum briefly informed the group about aircraft and their historical significance as follows: Fairchild C-119 Packet (aka: Flying Boxcar), Douglas C-117 Skytrain (last C-47 variant), and the C-54 Skymaster (largest a/c in the museum inventory).

After this initial brief, the group drove over to the Flying Tiger Squadron. Capt Daniel Fitzpatrick, a seasoned '53 driver' warmly welcomed the cadets and senior members, informing them what he had planned for the morning tour.

He then introduced 1Lt Matt Riley, a new Sea Stallion pilot who prepared a PowerPoint presentation about this very versatile/multi role helicopter. It is the largest helicopter in the military inventory, fast for its size at over 200 mph, with a range of about 518 miles, 16 ton



lift capacity, two .50 caliber machine guns out both side windows with a GAU-21 chain gun out the back ramp, and can carry 35 combat equipped Marines.

Lt Riley also spoke about its defensive systems to counter missiles and the hazardous environmental conditions involved in Middle East operations.

After Lt Riley's brief, he introduced 1Lt Dahlia Garcia, also a new Sea Stallion pilot, who spoke about the Marine aviator pipeline. She emphasized the need to first attain a college degree, and covered military college programs, i.e. ROTC, Officer Candidate School, and enlisted commissioning programs, etc.

After the ready room briefing, Capt Fitzpatrick demonstrated the use of night vision goggles (NVG) utilizing Cadet Brandon Meek as a model. He explained the advantages they have at night and how the goggles are designed to produce various shades of green. The human eye can distinguish more shades of green than any other color.

Next stop was the hangar where a few of the Sea Stallions were undergoing maintenance. Capt Fitzpatrick spoke about the tail rotor assemblies, rotor heads, engines, etc., all taken off the helicopters and at ground level.

Capt Fitzpatrick allowed everyone inside helicopter #66 for a look around as he pointed out the crew positions, hydraulic, emergency, and lift systems. Lt Garcia took the cockpit jump seat and had each cadet sit in the pilot/co-pilot seats while she explained the instrument panel and infrared monitor that is connected to a million dollar IR camera on the front left side.

Capt Fitzpatrick told the cadets that his training as a CAP cadet (Mitchell Award recipient with 2 finds) in Raleigh, NC was priceless. Staying away from drugs and alcohol is also a big factor during college while maintaining a high grade point average if being a military pilot is their goal.

Continued on Page 3...



## Upcoming Events

- ⇒ December 2-4  
Cadet Commanders' Course  
Vandenberg AFB, CA  
Cost: \$30
- ⇒ December 4  
Volunteer for 147th Family Day,  
Recruiting Event  
Admiral Baker Field, SD, CA  
Cost: FREE, Lunch Provided
- ⇒ December 10  
Wreaths Across America  
Point Loma, CA  
Cost: FREE
- ⇒ December 27  
**NO MEETING**  
Happy Holidays!
- ⇒ December 26-January 2  
Cadet Officers' Basic Course  
NAS Leemore, CA  
Cost: \$150 & Meal Money
- ⇒ January 13-16  
CAWG Cadet Competition  
Vandenberg AFB, CA
- ⇒ January 14  
A-STEM Day (non-CAP)  
Gillespie Field, CA  
Cost: FREE, Bring Lunch
- ⇒ January 15  
NCSA and Scholarship Application  
Deadline
- ⇒ January 21  
Sqdrn 144 Awards Banquet  
Carmel Mountain Ranch, CA  
Cost: \$35
- ⇒ January 27-29  
BCS and ATS  
Camp Pendleton, CA  
Cost: \$40
- ⇒ February 17-20  
Cadet Programs Conference  
Camp San Luis Obispo, CA  
Cost: TBD

# DECEMBER 2011

Sun	Mon	Tue	Wed	Thu	Fri	Sat
				1	2	3
4 <b>Give Back Day</b>	5	6 Weekly Meeting	7	8	9	10 <b>Wreath Laying</b>
11	12	13 Weekly Meeting	14	15	16	17
18	19	20 Weekly Meeting	21	22	23	24
25	26	27 No Meeting	28	29	30	31
<b>Cadet Officers' Basic Course</b>						



# JANUARY 2012

Sun	Mon	Tue	Wed	Thu	Fri	Sat
1	2	3 Weekly Meeting	4	5	6	7
8	9	10 Weekly Meeting	11	12	13	14 <b>A-STEM Day</b>
15 <b>NCSA Deadline</b>	16	17 Weekly Meeting	18	19	20	21 <b>Sq 144 Banquet</b>
22	23	24 Weekly Meeting	25	26	27	28
29 <b>BCS &amp; ATS</b>	30	31 Weekly Meeting			<b>BCS &amp; ATS</b>	

## Cadet Commander's Corner

Greetings San Diego Cadet Squadron 144,

Wait a minute... aww what did I just do!!?

I said that many times in my head after doing something that I shouldn't have. Sometimes it was immediately after I did it, sometimes it took weeks for me to figure out that I had screwed up. At that point it was usually too late for me to change what I just did. Life officially stunk, and my CAP career was sure to go down in flames because of that job that I just botched.

Those events are burned in my memory forever, but is that a bad thing?

I remember making quite a few of those at my basic encampment, and I remember my flight commander talking with me after one of them. He understood what was going on, and that I was new to the responsibility that he had given me. He said "That's what we're here for. To make mistakes, and learn from them." The problem was that I had gone into survival mode, and I wasn't willing to look around and learn from my mistakes. All I was focusing on was making it through the task to get it out of the way.

I'll never forget what my flight commander said that day, and it may very well be the most important lesson I've ever learned in CAP. That day, I learned how to learn. You look at what happened, find out how it could have gone better, and then make sure you implement that next time you perform that task.

This is why we're here.

Sincerely,

C/2nd Lt. Jesse O'Keefe, Cadet Commander, San Diego Cadet Squadron 144

Semper Vi!

## Marines Provide *Semper Fidelis* AE Opportunity Continued from Page 1....

After lunch, Maj Ammann led the way to the Marine Air Museum's restoration hangar where a WWII Grumman F4F Wildcat fighter was being repainted. Prior to entering the museum, Maj Ammann stopped to point out the various versions of the A-4 Skyhawk on fighter row, along with the RF-8 Crusader and AV-8 Harrier.

Once inside the museum, he introduced LtCol Richard Miller, USMC (Ret.), Director of Docent Volunteers who welcomed CAP to the museum, the only museum dedicated to Marine Aviation. Col Miller was a Maintenance Officer and a Vietnam Veteran, although not a pilot, he was allowed to fly the C-119 during his service in the 1950s.

Maj Ammann quickly spoke about some of the Marine aviators and Japanese pilots who fought in WWII,

pointed out memorabilia inside the glass case exhibits, and spoke about the first Marine Aviator, Lt Alfred A. Cunningham who was appointed to flight training on 22 May 1912. Also on display are numerous model aircraft, pictures, and paintings. One room is devoted to female Marine aviators and their uniforms, including a very valuable WWI uniform and recent full dress uniform.

Outside, the tour continued with the rotary wing and prop fixed wing areas which include aircraft from the Korean, Vietnam, and Iraqi Wars. Finally to the second jet fighter area where Maj Ammann pointed out the nose launch bar on the newer fighters and where a hooks and cables are attached under the fuselage on older jets. Both types enabled jets to catapult off aircraft carriers using 1,200 psi super heated

steam catapults, going from zero to 180 mph in two seconds down a 200 foot catapult. The arresting hook was also discussed and compared between a WWII fighter and a heavy F-4 Phantom. Many thanks to our three guests who helped with transporting cadets to and from the air station: Mr. George Scott II, Mrs. Brooke Meek, and Mr. Philip Blanco.

We salute our host, Capt Daniel Fitzpatrick and his fellow Marines: 1Lt Dahlia Garcia, 1Lt Matt Riley, LCpl Patrick Lindley, and Pvt Michael Caprett for their informative tour and to LtCol Richard Miller at the Marine Air Museum for his knowledge and keeping the museum open so that the general public can learn about Marine aviation's rich history. Lastly to all, for their service to our great country, continuing the Marine heritage, and keeping us free.

# National Cadet Special Activities

By: 1stLt Sonya Petty

Every November cadets get excited and the word spreads around that there is something new to do in CAP. It's not encampment, not



another bivouac, but the National Cadet Special Activities (NCSA). These are activities that take place during the summer

months (with a few exceptions) and allow the cadets to get more training in the specific fields they are interested in with cadets from all over the nation. The variety of NCSAs offered by CAP gives cadets a diverse experience. Activities focus on career exploration, leadership development, search and rescue skills, aeronautical training, Air Force familiarization, government, and a variety of other topics.

To attend these events, cadets must have completed a basic encampment prior to the start of the activity. Each NCSA has its own age and rank requirements so make sure you double check this before you apply. Starting the application process is relatively simple—file an application on the e-Services website which will be approved by the Squadron Commander. Want to do more than one activity—go ahead!



Be sure to rank what you want to do in order of choice—high to low.

As a sneak

peak, here are a few activities that are offered every year and may be of interest to you:

- ⇒ National Emergency Services Academy (NESA): Get your ground team member qualification
- ⇒ Hawk Mountain Ranger School: Learn survival skills in this living off the land adventure
- ⇒ National Blue Beret (NBB): Work the flight line at the EAA Airventure in Oshkosh, Wisconsin
- ⇒ Cadet Officer School (COS): Learn what it really takes to be a better officer with a hands-on approach to leadership
- ⇒ International Air Cadet Exchange (IACE): For cadets who have attained their Earhart Award and age 17 you can spend two weeks in a foreign country experiencing the world as a representative of the USA



The deadline to apply is January 15th so make sure you check out the website now and apply early! To find out all of the NCSAs available this year go to <http://www.ncsas.com/>



# CAP Scholarship Opportunities

## SCHOLARSHIPS FOR SCHOOL AND FLYING

It doesn't get any simpler than that! Each spring, Civil Air Patrol provides academic and flight scholarships to deserving cadets and seniors who meet the eligibility requirements. Specific scholarships are announced each fall. Combined with our college partners, we offer over \$350,000 in scholarships.

### BASIC ELIGIBILITY CRITERIA

The following criteria applies to all scholarships. Additional criteria will be noted within the specifics of an individual scholarship description:

1. Be a current CAP member;
2. Have earned the Billy Mitchell Award or received a Senior Rating in any specialty track;
3. Possess and maintain an academic and discipline standard acceptable to the school;
4. Be enrolled in a full-time course of study during the academic year for which the scholarship is awarded;
5. Have not received the scholarship in the past that you are applying for.

Only those members that have been selected for scholarships will need to provide official school transcripts and other supporting documents to validate the information that is provided in the application.

### APPLICATION PROCEDURES

More information about how to apply is available on [http://capmembers.com/cadet\\_programs/library/scholarships.cfm](http://capmembers.com/cadet_programs/library/scholarships.cfm)

Please read all of the instructions before you start your application.

The deadline to apply is 15 January, 2012.

# 6th Annual Astronomy Night a Success!

By: Maj Dennis Ammann, Project Officer



**Tierra del Sol, CA --** Our sixth annual Civil Air Patrol (CAP) Astronomy Night held on 29-30 October 2011 was perhaps the best of all, even though there were a few asteroids in our way. Three CAP squadrons were represented: San Diego Cadet Squadron 144 (host squadron), Escondido Cadet Squadron 714 and Skyhawk Composite Squadron 47.

Our new San Diego Astronomy Association (SDAA) host this year was Mr. Jerry Hilburn, a nine year member of SDAA. He is the CEO and software engineer of Catfish Software, Inc. and one of those people every organization has that assumes the jobs no one else will volunteer for, so Jerry has dozens of "hats" at SDAA. He is an avid astro-imager with a two powerful 10" telescopes: a Celestron Newtonian and a Meade LX200 Schmidt-Cassegrain. He uses an Orion 600mm refractor for most of his photography along with his trusty computer, software, and digital camera. Jerry also owns one of the six observatories on site. They have a saying south of the border, "Su casa es su casa," which means "my house is your house." This was Jerry's policy all night as he welcomed the cadets to his observatory and view the universe through his light buckets until 0245 hours when he closed the roof for the night.

With the exception of last year's inclement weather, the SDAA has allowed Civil Air Patrol to camp out under the stars each year. Their ten acre site is located one hour's drive east on I-8; 5 miles southwest of the Golden Acorn Casino in the Tierra del Sol (TDS) area. Out in east San Diego County, one can still see 60% of the Milky Way and the stellar heavens above, even though the adjacent cities are expanding the light pollution each year.

At about 1530 hours all three squadrons arrived at the SDAA site with C/2Lt Jesse O'Keefe calling them to attention for opening formation. Maj

Dennis Ammann provided the mandatory safety brief concerning the altitude (3,500'), hydration, wild ani-

mal/insect concerns, and navigating in the dark using red filtered flashlights.

At 1745 hours, C/2Lt O'Keefe formed up the cadets for evening formation. This year we were very fortunate to have Dr. Philip Blanco, Cadet Christian Blanco's father with us. Dr. Blanco teaches Astronomy 101 and Physics at Grossmont Community College. He spoke about "what's up" informing the cadets about Jupiter and its four Galilean Moons, Andromeda Galaxy, the Milky Way, etc. Mr. Hilburn encouraged the cadets not to be shy but to ask the SDAA members for permission to view the heavens through their telescopes and also ask questions about what they're looking at. After the indoctrination, Mr. Hilburn led our group on a walking tour of the site. He stopped at a



robot telescope that is enclosed in a small white dome the members can use off site anywhere in the world. Another structure houses the on-site weather station with 24 hour camera to inform them about the weather conditions at TDS. Jerry told us there are about 40 private pads located in the chaparral on the southern half of the site. His tour ended at the giant 22" reflecting telescope inside the Lipp Observatory.

As the sun set in the west, the atmosphere turned dark blue, red, yellow, and orange; what a beautiful display of God's handiwork. The crescent moon followed the setting sun, peaking in and out of the thinning cirrus clouds. The moon provided an excellent target for viewing the craters and mountains with long contrasting shadows. As the moon dropped below the horizon, the cirrus clouds dissipated and we were left with good observing conditions with the exception of some high altitude turbulence which made the planets and stars jitter about. This soon settled down leaving the amateur astronomers with excellent observing clear dark conditions all night.



Continued on Page 7...

*Man must rise above the Earth—to the top of the atmosphere and beyond—for only thus will he fully understand the world in which he lives.*

— Socrates



# Aerogels for Aerospace Uses

By: C/A1C Madeleine Angquico, AE NCO, Image Credit: NASA



Take a bowl full of sweet Jell-O made from gelatin powder and hot water. Place it in a refrigerator to cool down and when it solidifies into a gel, heat the wiggly gel in an oven causing all of the moisture to evaporate. All that would be left would be an extremely light porous solid. This is exactly how aerogels are made.

Aerogels are among the lightest solid materials known to man. They are created by combining a polymer with a solvent to form a gel, and then removing the liquid from the gel and replacing it with air. Aerogels are extremely porous and the pores are measured in the nanometer range. The nano pores are so small they are invisible to the human eye and heat conduction is very poor. Traditional silica-based aerogels have been used in space craft providing insulation such as the Mars Rover. When aerogels are used for commercial purposes, they are typically in pellet form or in a composite with other materials. Aerogels have been combined with batting to create insulating "blankets," as well as filled in between panes of glass to create translucent panels for day-lighting applications. Silica-based aerogels



are very light because they are about 95% porous. Silica aerogels are very useful, but they have limitations—they are very fragile.

## Aerogel Innovations

The first innovation is a method of creating aerogels that are reinforced by polymers. The method changes the surface of the gel as it reacts with a polymer. The result is that the interior surface of the aerogel gets a thin layer of polymer, which greatly strengthens the aerogel.

Comparing a polymer-enforced silica aerogel with the same density silica gel, the polymer reinforced aerogel is about two times stronger. The second innovation is a method of creating aerogels made completely of polymers. These polymer-based aerogels are extremely strong and flexible. They can also be made into a bendable thin film.



## Aerogels in Flight

The Glenn team is currently working on a NASA project called the Hypersonic Inflatable Aerodynamic Decelerator (HIAD). The HIAD is an inflatable reentry vehicle that is folded and stowed inside a launch vehicle. Prior to entering the atmosphere, the HIAD is inflated and becomes rigid. This helps the spacecraft slow down, safely descend and land on Earth, Mars, or any other planet that has an atmosphere.

The HIAD will be covered by a Flexible Thermal Protection System, which uses aerogels as an insulator to protect the space craft. The HIAD is scheduled to



flight test in 2012.

## Aerogel Applications

Other NASA centers have expressed interest in further exploring these thin polymer aerogels, for applications like cryogenics or in the next space suit. Polymer aerogels are ideally suited for use in a vacuum, like in space, as well as in different gravity scenarios, such as the moon or other planets.

Governmental agencies are also interested in exploring the thin polymer aerogels for use in shelter applications, such as insulated tents. Some commercial use could be possible in refrigeration, building and construction, updating historical structures, and many other insulation needs, especially when there isn't a lot of room and smaller, more effective insulation is needed.

## Aerogels and the Future

Polymer-enhanced aerogels and polymer-based aerogels have numerous potential applications, both in space, on distant planets and on our own Earth. They are light, durable and extremely effective at insulating and preventing heat transfer. NASA has taken aerogels to the next level, beyond what was previously imagined, and uncovered a world of possibilities for this versatile material.



# SAFETY

## 10 Winter Travel Safety Tips

Full article at <http://www.travelsense.org/tips/wintertraveltips.cfm>

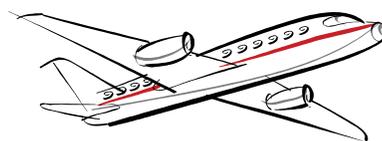
It's no secret that winter and holiday travel can be the most stressful occasion. Especially when the hustle and bustle of holiday travel starts, people become more distressed with long waits and unexpected challenges. If you travel by air or car during the cold season, you can count on more delays than you'd experience in the summer. Once bad weather appears during the peak times for air travel, we end up with the lengthiest flight delays, cancellations and missed connections of the year.

On the other hand, road travel has its share of annoyances and risks. There may be road closings, slower speeds due to snow or sleet, traffic accidents and other obstacles to throw you off track. However, don't let the winter and holiday travel season make you blue. Become a smarter and happier traveler for your next winter vacations.

### Airline Travel Tips: Flying Doesn't Always Lead to Disaster

Can you feel your teeth grinding as you imagine flying to your destination? If you're traveling a great distance over the holidays, the last thing you need is a stressful airport experience to start your vacation on the wrong foot. Consider some of the simplest airline travel tips that can alleviate your worries.

1. Plan ahead for your own sanity.
2. Leave at least an extra hour earlier.
3. Pack as light as possible for your holiday travel.
4. Steer clear of influenza—get your flu shot before you go.
5. Stretch your legs often.



### Winter Driving Tips: Easier and Safer Winter Road Trips

For road travelers, winter can also be the most dangerous time of year. Motor vehicle accidents involving bad weather, mostly ice and snow, claim the lives of 6,000 Americans and injure 500,000 more every year (National Center for Atmospheric Research, 2005). The following winter driving tips will help you stay safe and a little less anxious on your next trip.

1. Have your car examined before you leave.
2. Be prepared for a change in course.
3. Stay hydrated for the journey.
4. Pack a winter safety kit for the car.
5. Make frequent rest stops.



## Astronomy Night Continued...

With flashlights rigged with red cellophane to protect their night vision, the cadets fanned out to see what they could see. Cadet Christian Blanco brought his 40mm telescope with a high quality eye piece and locked on Jupiter. Three of the Galilean moons were on the left and one on the right. Galileo viewed these same moons almost 401 years ago when he turned his new telescope towards Jupiter. Jupiter is at opposition which means it's on the opposite side of the earth as compared to the sun, thus reflecting maximum light to earth. With larger telescopes we could see two equatorial bands running across Jupiter. Cadet Blanco also showed some of the cadets how to locate Andromeda Galaxy (M31) and let them view it through his telescope.

Other targets throughout the long night were Alberio a double star (one blue, one gold) in Cygnus the Swan, Pleiades (M45) (pronounced Subaru in Japanese), the Crab Nebula (M1) in Taurus, Orion Nebula (M42), Betelgeuse a super red giant in Orion, and numerous other galaxies, stars, and nebulae.

Each cadet had the opportunity to view the most distant object the human unaided eye can see: Andromeda Galaxy (M31), located straight up about 2300 hours. They now have bragging rights seeing something 2.5 million light years away.

At 2200 hours C/2Lt O'Keefe assembled the cadets to discuss what they saw that evening, i.e., numerous shooting stars, some with green florescent trails etched across the sky, nebulae, galaxies, double stars, etc.

After a few minutes of dialog, the cadets were given the option of going to sleep or continuing their viewing as the winter constellations started to appear in the east. Just before turning in for the night at 0130 hours, Maj Ammann presented a Sq. 144 cover to Mr. Hilburn and made him an honorary member of Sq. 144. We intend to utilize him in the near future for an AE presentation on NASA's Juno space probe on a five year mission to Jupiter.

At 0600 hours reveille was sounded, all gear stowed, and the site cleaned up, collecting 12 bags of trash. Just before departure, Mr. Jim Traweek, Director of the Lipp Observatory and Maj Ammann thanked everyone for attending and invited all back next 'light year' for the 7th Annual CAP Astronomy Night!



Citizens Serving Communities  
*Above and Beyond*

**Civil Air Patrol  
San Diego Cadet Squadron 144**

Direct questions, comments, and submissions to:  
1st Lt Sonya Petty, Newsletter Editor  
Phone: 918-361-6730  
E-mail: smmrinkrat@yahoo.com

For more information about CAP visit:  
<http://www.gocivilairpatrol.com>  
<http://www.capmembers.com>  
<http://capnhq.gov>

## Civil Air Patrol

### Citizens Serving Communities: Above and Beyond

Civil Air Patrol was founded in December 1941, one week before the Japanese attack on Pearl Harbor, by more than 150,000 citizens who were concerned about the defense of America's coastline. Under the jurisdiction of the Army Air Forces, CAP pilots flew more than one-half million hours, were credited with sinking two enemy submarines and rescued hundreds of crash survivors during World War II. On July 1, 1946, President Harry Truman established CAP as a federally chartered benevolent civilian corporation, and Congress passed Public Law 557 on May 26, 1948. CAP was charged with three primary missions – aerospace education, cadet programs and emergency services. With the passage of Public Law 106-398 in October 2000, Congress provided that "The Civil Air Patrol is a volunteer civilian auxiliary of the Air Force when the services of the Civil Air Patrol are used by any department or agency in any branch of the federal government."

<http://www.sq144.com/>

# *Achievements and Accomplishments*

## November Promotions:

- Darius Brown was promoted to C/SSgt
- Alexander Elwers was promoted to C/SSgt
- Peyton Jasso was promoted to C/AIC
- Edmund Kapelczak was promoted to C/Amn
- Jennifer Ngo was promoted to C/AIC
- Ian Rigg was promoted to C/MSgt
- Hayden Sheyda was promoted to C/2dLt
- C/SSgt Alexander Elwers was awarded the Wright Brothers Award!
- C/2dLt Hayden Sheyda was awarded the Billy Mitchell Award!
- C/Amn Edmund Kapelczak graduated from the Basic Training Flight!
- Welcome to our new members: Cesar Lopez and Joshua Steward! Congratulations and keep up the good work recruiting enthusiastic new members for our squadron!

## November Accomplishments:

- C/SSgt Darius Brown was awarded the Wright Brothers Award!

*Did we miss a promotion, achievement, or accomplishment? Send submissions to 1stLt Sonya Petty no later than three days before the end of the month.*