



Lockheed Martin Management Association Retirees Newsletter

Looking Forward Towards A Wonderful Retiree Future!

JULY 2014

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Needed: Staff Help

LMMAR needs volunteers to help keep LMMAR going. We have several vacancies on the Board and we particularly need a newsletter editor. If you think you can help please contact:

Norm Dhom, Membership Chair – (408) 732-2742

Jerry Vaughan, Treasurer – (408) 985-2708

Space Fence Radar System

MOORESTOWN, N.J., June 3, 2014 – The U.S. Air Force has awarded Lockheed Martin [NYSE: LMT] a \$914 million contract to improve the way objects are tracked in space and increase our ability to prevent space-based collisions.

Lockheed Martin’s Space Fence solution, an advanced ground-based radar

system, will enhance the way the U.S. detects, catalogs and measures more than 200,000 orbiting objects. With better timeliness and improved surveillance coverage, the system will protect space assets against potential crashes that can intensify the debris problem in space.

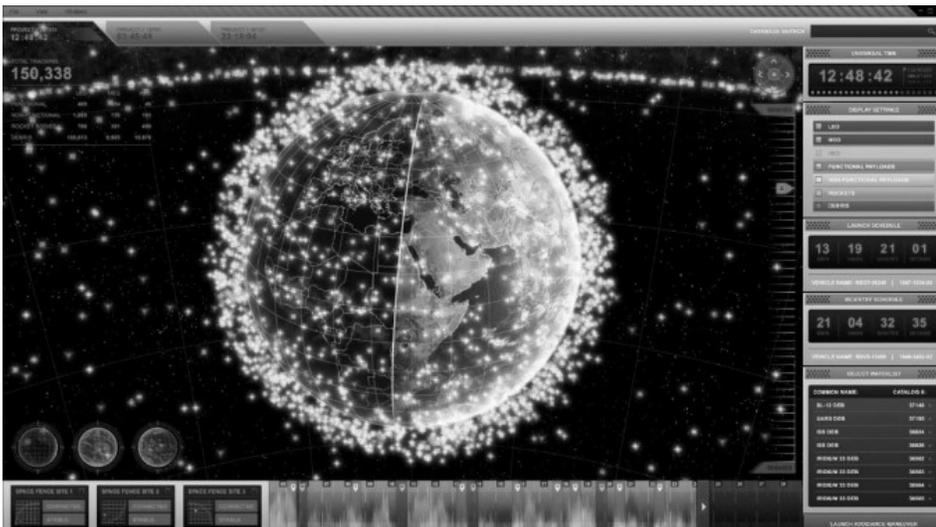
“Space-based technologies enable daily conveniences such as weather forecasting, banking, global communi-

cations and GPS navigation, yet everyday these critical services are being threatened by hundreds of thousands of objects orbiting Earth,” said Dale Bennett, executive vice president of Lockheed Martin’s Mission Systems and Training business. “Space Fence will locate and track these objects with more precision than ever before to help the Air Force transform space situational awareness from being reactive to predictive.”

Lockheed Martin will deliver up to two advanced S-Band phased array radars for the Space Fence program. The Space Fence radar system will greatly improve Space Situational Awareness of the existing Space Surveillance Network.

Construction of the new Space Fence system on Kwajalein Atoll in the Marshall Islands is slated to begin in the early 2015 to meet the program’s 2018 initial operational capability goal. The total contract value is estimated at greater than \$1.5 billion over an eight-year period of performance if all options are exercised.

With more than 400 operational S-band arrays deployed worldwide, Lock-



Debris from space collisions. Spent rocket stages. Dead satellites. Numbered in the tens of thousands, these and other fast-moving “space junk” orbiting the earth can be lethal to spacecraft and satellites in their path.

heed Martin is a leader in S-band radar development, production, operation and sustainment. The Lockheed Martin led team, which includes General Dynamics and AMEC, has decades of collective experience in space-related programs, including sensors, mission processing, cataloging, orbital mechanics, net-centric communications and facilities

Observing Earth from Space

Throughout recorded history, people have sought to explore the farthest and deepest reaches of Earth in search of discoveries that might yield greater opportunities and understanding.

The drive to explore the planet continues unabated, both on the ground and from space.

Whether it involves satellites monitoring Earth's weather and climate, space-based instruments gauging solar activity affecting Earth or ground-based technology and activities enabling scientists to understand the planet's dynamic processes, Lockheed Martin is designing capabilities to help people better understand our planet and to translate that knowledge into progress.

Lockheed Martin has a long history of developing Earth observation satellites. Dating back to the world's first weather satellite in 1960, TIROS-1, the company has sent more than 100 satellites into orbit that have monitored the weather, mapped the lands or kept track of our planet's climate.

For nearly 40 years, the National Oceanic and Atmospheric Administration (NOAA) has operated the Geostationary Operational Environmental Satellites (GOES), which have monitored weather developments over the United States, southern Canada, the Atlantic and Pacific Oceans and Central and South America from fixed positions over the east and west coasts, approximately 22,300 miles above the Earth

Lockheed Martin is building the next generation of GOES satellites, the R

series, or GOES-R. The first one will be delivered in the third quarter of 2015 for launch aboard a United Launch Alliance Atlas V rocket in early 2016.

GOES-R will feature advanced instrument capabilities, including more visible and infrared channels, four times the imaging resolution and new lightning detection technology. Along with building the spacecraft, Lockheed Martin was selected to design a new Solar Ultraviolet Imager, a Geostationary Lightning Mapper (GLM) and a magnetometer.

"GOES-R will significantly reduce the update time of weather developments over the entire Western hemisphere from 30 minutes down to five minutes," said Tim Gasparrini, Lockheed Martin vice president and GOES-R program manager. "And thanks to the Geostationary Lightning Mapper, National Weather Service forecasters will have earlier indications of storm intensification and greater tornado warning lead times, which can save lives."

Cloud Initiative

ALEXANDRIA, Va., June 10, 2014 – A hybrid cloud developed by the Global Combat Support System – Air Force (GCSS-AF) program and Lockheed Martin will provide a secure, hosting capability, that when used with other existing services, will lower costs, increase agility and improve service for 800,000 Air Force users.

The GCSS-AF cloud pilot, which concludes in July 2014, strives to provide a hosting platform for the Air Force Portal and mission applications to demonstrate the technical and operational viability of using the cloud for Air Force hosting. By migrating mission applications coupled with self-service capabilities, service requests can be fulfilled on-demand within minutes compared to existing processes that take weeks. The cloud environment also provides inherent capabilities that lower costs, increase availability and provide operational redundancy resulting in an architecture that meets the evolving Air Force needs to support

strategic initiatives such as Joint Information Environment (JIE).



"GCSS-AF is focused on continued affordability for its application customers," said Michael Clark, program director of GCSS-AF with the U.S. Air Force. "The cloud pilot enables us to assess the viability of achieving significant costs savings while also increasing warfighter efficiencies."

As the premier web gateway to the Air Force enterprise, the Air Force Portal hosted on the GCSS-AF infrastructure provides more than 800,000 worldwide users with a single point of entry and instant, secure access to the information they need – from the status of mission critical parts to the most recent USAF benefits information. Since Full Operational Capability (FOC) was declared in 2009, the program has increased the number of supported mission applications to over 200. GCSS-AF also recently launched a mobile capability to provide portal and application data to warfighters on their mobile devices, enabling higher productivity and flexibility.

"Migrating to a cloud-based environment introduces on-demand service requests and enables the warfighter to bring the capability to the frontlines with lower start up and maintenance costs," said Angela Heise, vice president of Enterprise IT Solutions with Lockheed Martin Information Systems & Global Solutions. "We are excited to continue exploring how the cloud environment can increase productivity and efficiency while reducing network capacity service costs."

The next evolution of this endeavor brings the Air Force Portal to the cloud

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in a production state and paves the way for mission application hosting and migrations.

Before the Big Bang

Robert Lamb, Staff science writer,
HowStuffWorks.com

It is difficult enough to imagine a time, roughly 13.7 billion years ago, when the entire universe existed as a singularity. According to the big bang theory, one of the main contenders vying to explain how the universe came to be, all the matter in the cosmos – all of space itself – existed in a form smaller than a subatomic particle.

Once you think about that, an even more difficult question arises: What existed just before the big bang occurred?

The question itself predates modern cosmology by at least 1,600 years. Fourth-century theologian St. Augustine wrestled with the nature of God before the creation of the universe. His answer? Time was part of God's creation, and there simply was no "before" that a deity could call home.



Armed with the best physics of the 20th century, Albert Einstein came to very similar conclusions with his theory of relativity. Just consider the effect of mass on time. A planet's hefty mass warps time – making time run a tiny bit slower for a human on Earth's surface than a satellite in orbit. The difference is too small to notice, but time even runs more slowly for someone standing next to a large boulder

than it does for a person standing alone in a field. The pre-big bang singularity possessed all the mass in the universe, effectively bringing time to a standstill.

Following this line of logic, the title of this article is fundamentally flawed. According to Einstein's theory of relativity, time only came into being as that primordial singularity expanded toward its current size and shape.

Case closed? Far from it. This is one cosmological quandary that won't stay dead. In the decades following Einstein's death, the advent of quantum physics and a host of new theories resurrected questions about the pre-big bang universe. Keep reading to learn about some of them.

Here's a thought: What if our universe is but the offspring of another, older universe? Some astrophysicists speculate that this story is written in the relic radiation left over from the big bang: the cosmic microwave background (CMB).

Astronomers first observed the CMB in 1965, and it quickly created problems for the big bang theory – problems that were subsequently addressed (for a while) in 1981 with the inflation theory. This theory entails an extremely rapid expansion of the universe in the first few moments of its existence. It also accounts for temperature and density fluctuations in the CMB, but dictates that those fluctuations should be uniform.

That's not the case. Recent mapping efforts actually suggest that the universe is lopsided, with more fluctuations in some areas than in others. Some cosmologists see this observation as supporting evidence that our universe formed out of a parent universe.

In chaotic inflation theory, this concept goes even deeper: an endless progression of inflationary bubbles, each becoming a universe, and each of these birthing even more inflationary bubbles in an immeasurable multiverse [source: Science News].

Still other models revolve around the formation of the pre-big bang singularity itself. If you think of black holes as cosmic trash compactors, they stand as prime candidates for all that primordial compression, so our expanding universe could theoretically be the white hole output from a black hole in another universe. A white hole is a hypothetical body that acts in the opposite manner of a black hole, giving off serious energy and matter rather than sucking it in. Think of it as a cosmic exhaust valve. Some scientists propose that our universe may have been born inside a black hole, and every black hole in our own universe could each contain separate universes as well.

Other scientists place the formation of the singularity inside a cycle called the big bounce in which our expanding universe will eventually collapse back in on itself in an event called the big crunch. A singularity once more, the universe will then expand in another big bang. This process would be eternal and, as such, every big bang and big crunch the universe ever experiences would be nothing but a rebirth into another phase of existence.

The last explanation we'll discuss also supports the idea of a cyclical universe, courtesy of string theory. It surmises that new matter and energy spring into existence every trillion years when two extra-dimensional membranes, or branes, collide in a zone outside our universe.

What existed before the big bang? It's still an open question. Perhaps nothing. Perhaps another universe or a different version of our own. Perhaps a sea of universes, each with a different set of laws dictating its physical reality.

Obit — John DuWayne Dickson
February 8, 1932 - June 4, 2014
Resident of Campbell

John DuWayne Dickson of Campbell, CA died peacefully with his family on June 4, 2014 at the age of 82. John was born Feb. 8, 1932 in Pocatello, Idaho. He was a Veteran that served in the Navy on an ammunition ship during the Ko-

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rean Conflict. John worked at Lockheed Martin for 39 years retiring in 1997. John is survived by his loving wife Lois; his sons David of California and Stephen of Oregon and their families who adored him. Friends and family are invited to a visitation and sharing service on Wednesday, June 11, 2014 from 6-8p.m. at Darling Fischer Chapel of the Hills, 615 N. Santa Cruz Ave. in Los Gatos. In lieu of flowers please donate to The Salvation Army.

Trip to Paris & Normandy - June 2014

My wife, Mary, and I just returned from a "dream come true" magnificent trip to France. Arriving in Paris we spent three days seeing all the beautiful sights. Highlights were of course, the Eiffel Tower, which we could see from our hotel. Our pre-arranged tour guide showed us all the sites of the



city, then at noon ushered us into the elevator taking us up to the Eiffel Tower Restaurant. We had a delicious lunch with three new friends we met through our private tour. What a breath taking view. Later that day we toured historic Versailles. That evening we sat at a sidewalk cafe, enjoying our meal, along with "French Fries", directly across from the opu-

lent "Opera House" where a performance was in progress. We witnessed the audience, enjoying a break, watching a young man with a guitar on the steps of the Opera House singing Beatles songs. Meanwhile cars careened through the plaza interspersing with bicycles. All this happened at dusk which was 10:30pm, way past our dinner hour. The climax of this fun day was seeing the Eiffel Tower light up at midnight in brilliant gold lights then changing into sparkling white diamond lights. An incomparable sight.

The next day we boarded the beautiful Uniworld Boutique River Boat for our cruise up the Seine River. Our first stop was Monet's Giverny, a small village where Monet painted for 40 years. The colors of the garden were breath taking. Our next stop was Normandy Beaches. The 70th celebration of D-Day had just occurred. Although the world dignitaries had just left, many reenactments were still occurring. It was a beautiful warm sunshiny day as we toured the beaches and investigated the remaining bunkers. As we approached the American cemetery where 9,387 American soldiers are buried, the average age being 22, our hearts and minds were moved to see the "price of freedom." I was among 10 fellow veterans from our ship that laid a wreath of flowers, presented from Uniworld, to honor our day. I will never forget this occasion.



The remainder of our cruise offered many highlights along the river. We were spoiled by delicious food, impec-

cable attention to any need, new friendships formed and a desire to learn more about this wonderful world that we live in. Can't wait for our next adventure.

Coy Pierce (Design Specialist - Milstar Program)
Lockheed 1960 - 1996
Retired in Atascadero, CA

Note: Where did you go recently? What interesting things have you done? Send us your story. It probably will be of interest to your fellow LMMAR members. If you have something interesting email it to:

Jerry_vaughan@yahoo.com

Chikungunya Virus

Health officials are reporting a rise in U.S. cases of the mosquito-borne chikungunya virus, though they were quick to note that all of these infections have so far originated outside the United States.



"Thankfully, we have not seen any cases in the United States yet where the person got the disease here," said Dr. Erin Staples, a medical epidemiologist at the U.S. Centers for Disease Control and Prevention's National Center for Emerging and Zoonotic Infectious Diseases.

However, the virus is now widespread in the Caribbean and it's likely only a matter of time before it is found in mosquitoes in the United States, possibly as early as this summer, according to the CDC.

The chikungunya virus is spreading in the States with fever-like symptoms and chills that make people feel mis-

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erable. Dr. Holly Phillips reports.

Chikungunya – which triggers a very painful but seldom fatal illness – is already common in central and southern Africa, southern Asia and has recently spread to 17 countries in the Caribbean, the CDC noted. Cases have also been reported in Italy and France.

The virus has been reported as close to the U.S. mainland as Puerto Rico and the U.S. Virgin Islands, Staples noted. "So there is transmission of the virus between people and mosquitoes going on right now in both those locations," she said.

And, people traveling to those locales are definitely bringing the virus home.

"As of this week, we have seen a fair number of travel-related cases," said Staples. As of June 17, there have been 57 cases of travel-related chikungunya reported to the CDC this year. But, doctors don't have to notify the CDC of suspected chikungunya infections, so that number may be underestimated.

*Does not include countries or territories where only imported cases have been documented.

Lindsey, Nicole (CDC/OID/NCEZID)

"We do anticipate that there could be local transmission of the virus, particularly now as we are coming into summer when mosquitoes are active," said Staples. She said that few people in the United States have been exposed to chikungunya, "so no one is really immune. We anticipate that there could be some local transmission of the virus, so we could have small outbreaks."

Chikungunya (pronounced chick-en-gun-ye) virus causes high fevers, joint pain and swelling, headaches and a rash. For some people, the pain can last even after other symptoms disappear, Staples said. Chikungunya can be fatal, though that's quite rare, she added.

The pain from the virus can be debilitating. Pediatrician Dr. Jennifer Halverson was infected with chikungunya during a trip to Haiti where she was providing charitable care in a local hospital, she reported to the Minnesota Star Tribune.

She said she was immobilized by the pain and bedridden for a week. "I've broken a bone. I've had other medical issues. I don't think I've ever been in so much pain," Halverson told the newspaper.

Those most at risk of a severe infection include newborns, adults 65 and older, and people with chronic medical conditions, such as high blood pressure, diabetes and heart disease, according to Staples.

The virus is spread to people by certain types of mosquitoes that pick up the virus by biting an infected person, Staples explained. Someone infected outside the United States who brings the virus back will likely, at some point, be bitten by a mosquito and then the virus will be passed on to the next person that mosquito bites.

The mosquitoes that carry the chikungunya virus are active during the day, unlike those that carry West Nile virus, which are most active from evening to dawn. "These mosquitoes are predominately in the South and southeastern United States, and they have been found in pockets in the western United States," Staples said.

No treatment or cure exists for the chikungunya virus. Doctors can treat individual symptoms, but then can only wait for the illness to pass. The infection generally runs its course in about a week.

Like other mosquitoes, those that carry chikungunya breed in standing water, Staples said. So, it's a good idea to get rid of any sources of standing water around your home, she advised.

People should also use insect repellent when they go outdoors. And, wear pants and long sleeves outside whenever possible. Staples also recommended making sure window screens

are in good condition to keep mosquitoes out of the house.

Dr. Marc Siegel, an associate professor of medicine at NYU Langone Medical Center in New York City, said there are a "bunch of reasons not to be concerned about chikungunya here. It has the potential to cause small outbreaks, but it is likely to be limited, and I don't expect it to be a major problem."

LMMAR Bridge

Jun 3 - Individual Duplicate - 1st Place – Ted Hinshaw; 2nd Place – Doug Gordon, and 3rd Place - Bob Vigeant.

Jun 5 - Pairs Duplicate – 1st Place – 1st Place – Chet Hayes & Ted Hinshaw and 2nd Place – Dave Himmelblau & Dave Topka.

Jun 10 - Individual Duplicate - 1st Place – (tie) Alex Fucile and Ted Hinshaw and 3rd Place – (tie) Dave Himmelblau, Don Kies, Angie Schynert , and Dave Topka.

Jun 12 – Pairs Duplicate – 1st Place – Gary Bea & Chuck Schmidt and 2nd Place - Chet Hayes & Ted Hinshaw.

Jun 17 – Individual Duplicate - 1st Place – Dave Himmelblau , 2nd Place – Chuck Schmidt, and 3rd Place - Bob Vigeant.

Jun 19 – Pairs Duplicate – 1st Place – Gary Bea & Chuck Schmidt and 2nd Place - Angie Schynert & Bob Vigeant:

Jun 24 – Pairs Duplicate - 1st Place - Angie Schynert & Bob Vigeant and 2nd Place - Dave Himmelblau & Dave Topka.

Jun 26 – Pairs Duplicate – 1st Place – Gary Bea & Chuck Schmidt and 2nd Place – (tie) Dave Himmelblau & Dave Topka and Angie Schynert & Bob Vigeant.

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JULY 2014

Activity Calendar

- **LMMAR Executive Board Meeting.** First Monday of each month unless holiday conflict, then second Monday. 9:30 a.m. Bldg. 157-Satellite Room (off the cafeteria).
- **LMMAR Newsletter Mailing Session.** Volunteers needed. Second Thursday of each month. 9:30 a.m. Bldg. 157-Litrium. Contact Norm Dhom (408) 732-2742.
- **LMMAR Barbecue.** August 15 at Central Park In Santa Clara. Contact Lucille Wilson at 408.225.9566
- **LMMAR Luncheon.** October 31, 2014 at Michael's at Shoreline in Mt. View. Contact Lucille Wilson at 408.225.9566
- **LMMAR Luncheon.** December 5, 2014 at Michael's at Shoreline in Mt. View. Contact Lucille Wilson at 408.225.9566
- **LMMAR Bridge Card Players.** Join the fun! Every Tuesday and Thursday, 12:00 noon at the Willow Park Condominiums located at the NE corner of Moffet Blvd. and Middlefield Road in Mountain View. Entrance is from Moffet Blvd. Contact Dave Himmelblau, 'phone No. 650 968-1121.
- **Lockheed Martin Blood Bank Drive.** Second Wednesday of each month. 8:00 a.m.- 3:00 p.m. Bldg. 163. LMMAR Contact Norm Dhom (408) 732-2742.
- **Lockheed Martin Retirees Investment Group (LMRIG).** Meets last Thursday of each month, 1:00-2:00 p.m. in B163 at the corner of J Street and 1st Ave. (Employee Connection Building). Dues are \$2. Contact Don Kinell (650) 948-1520 or Martin Abelow (408) 253-6924. Join us for lunch in the B-157 cafeteria prior to the meeting between 11:40-12:40.

For your financial needs, please contact Star One Credit Union at www.starone.org or (866) 543-5202 toll free.

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