

Join Us for a Virtual Event with Arnie Streland

TRA is pleased to announce that we have arranged for a Zoom virtual event with Arnie Streland, Northrop Grumman Corporate Lead Executive for Los Angeles, who will talk and answer questions on the "Space Force Stand Up and Space Park Program Update."

The event will be on April 30th, 2021, at 1:00 to 2:30 PM Pacific Daylight Time.

Arnie will give a brief background on the actions that lead to stand up of the Space Force in 2019, and then talk about the status of the organization, including a review of the structure and how things have changed over the last year. He'll also provide an update on programs at Space Park and the current Northrop Grumman Space Sector organization.

Arnie currently serves as Northrop Grumman Corporate Lead Executive – Los Angeles where he focuses on the Northrop Grumman relationship with the U.S. Space Force's Space and Missile Systems Center (SMC). He has previously held industry positions as Director, Strategy and Business Development for Northrop Grumman Innovation Systems, Orbital ATK and ATK, and as Manager, Space Program Office for Parsons.



Arnie Streland

Prior to joining industry, he served 26 years active duty in the United States Air Force with a wide range of leadership assignments in space systems engineering and acquisition. Twenty of those 26 years were at Los Angeles Air Force Base including assignments as Deputy Director, Space Based Laser Project Office and Commander, Transformational Satellite Communications Space Group. His final Air Force assignment was as Director, Space Superiority Systems Directorate, at SMC.

He has a Bachelor's Degree in Aerospace Engineering from Boston University and Master's Degrees from the University of Southern California, the United States Air Force Air Command and Staff College and the United States Air Force Air War College.

Of interest to our TRW and Northrop Grumman retirees is that he was a customer on the Space Test Experiments Platform Mission 0 (aka TAOS), the Space Based Laser Integrated Flight Experiment, and the Transformational Satellite Communications System.

Online registration for this event is required and is available at our website, www.tra-spacepark.org. The Zoom meeting details will be provided by email upon your registration. You will be able to submit questions in advance or you will have an opportunity to ask questions at the end of his talk. We plan to record the event and the video will be available on our web site if you can't join us in real time.

Please plan to join us for what will be an interesting update.

HAPPENINGS AT NORTHROP GRUMMAN

NASA's James Webb Space Telescope Completes Final Functional Tests at Northrop Grumman Before Launch

Testing teams successfully completed two important milestones that confirmed the observatory's internal electronics are all functioning as intended, and that the spacecraft and its four scientific instruments can send and receive data properly through the same network they will use in space.

These milestones move Webb closer to being ready to launch in October.

These tests are known as the comprehensive systems test, which took place at Northrop Grumman, and the ground segment test, which took place in collaboration with the Space Telescope Science Institute in Baltimore.

Through the course of 17 consecutive days of systems testing, technicians powered on all of Webb's various electrical components and cycled through their planned operations to ensure each was functioning and communicating with each other.

"It's been amazing to witness the level of expertise, commitment and collaboration across the team during this important milestone," said Jennifer Love-Pruitt, Northrop Grumman's electrical vehicle engineering lead on the Webb observatory. "It's definitely a proud moment because we demonstrated Webb's electrical readiness. The successful completion of this test also means we are ready to move forward toward launch and on-orbit operations."

Webb's comprehensive systems test results confirm that the observatory will withstand the launch environment.

Following the completion of Webb's final comprehensive systems test, technicians immediately began preparations for the ground segment test. This test is designed to simulate the complete process from planning science observations to posting the scientific data to the community archive.

Webb's final ground segment test began by first creating a simulated plan that each of its scientific instruments would follow. Commands to sequentially turn on, move, and operate each of four scientific instruments were then relayed from Webb's Mission Operations Center (MOC) at the Space Telescope Science Institute (STScI) in Baltimore.

During the test, the observatory is treated as if it were a million miles away in orbit. To do this, the Flight Operations Team con-

TRA for Northrop Grumman Retirees

The Retirees Association (TRA) welcomes the retirees and the spouses of retirees of Northrop Grumman and TRW.

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The No Name Gazette is the official publication of TRA. It is published six times a year.

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By Phone:

310-813-7745 for voice mail.

By Email:

TRA@tra-spacepark.org - Your emails will be routed to the appropriate source. And, if we have your e-mail address on file, we send out special alerts to TRA members as the need arises. To get on the TRA email list, just send us a brief email requesting to be added to it.

By Web:

Our website is at www.tra-spacepark.org. It is an excellent source for the latest news, lists of the new retirees, travel details, party photos (more than get into the NNG), forms of all sorts, personal photographs, and much more. Register, log on, and browse.

For Membership:

TRA Membership is open to Northrop Grumman and TRW-legacy retirees at \$10 per calendar year. The application is available on the website.

TRW/NG Retirees Meetings Around the US

As everyone knows by now, Covid-19 protection protocols have affected meetings and get-togethers. E-mail or call the contact to make sure the event is occurring before you go.

If you have a group that you would like to have listed here, please contact us by email at tra@tra-spacepark.org.

GROUP	MEETING LOCATION	DATE & TIME	OTHER INFO	CONTACT
TRA Board Meeting	Zoom	3rd Wednesday, 9:30 AM, Monthly except December	Decisions, planning and actions on archives, events, NNG, coordination with NG	All members welcome. Contact TRA to receive meeting link
ATD Friends & Colleagues	Send ideas for meeting location	2 November 2021, 11:00 AM	Social, Nostalgia, Lunch	Jack Trost, Dena Bouskos, Cindy McCully 310-377-2194 cschamp@aol.com
Beach Cities Get-together	Grunions Restaurant, 1501 N Sepulveda Blvd, MB, CA	Last Monday, Even months, 11 AM to 2 PM	Social	Allen Parker 310-780-0712 777allendsp@gmail.com
Brevard Retirees	On hold due to Covid-19		Social	Tom and Vicki Moore 828-883-8080 seneca75@verizon.net, thistle33@verizon.net
Central Coast Chapter	Various Locations in the Central Coast Area	Various days: contact Zaiser for details	Social	George Zaiser 805-473-2105 gzais34@icloud.com
Houston Chapter	Baybrook Denny's, 19212 Gulf Fwy, Friendswood, TX	3rd Tuesday, 8:30 AM	Social	Gary Dinsmore 281-461-6270 samngary@att.net
Huntsville Chapter	Red Lobster	2nd Tuesday, 11:30 AM	Lunch and Social	Jim Troy 850-797-0044 jtroy28x@gmail.com
Northern Virginia	Zoom	3rd Friday, 11:30 AM	Social	Jim Miller 703-483-5448 jmiller158@gmail.com
Utah	Zoom	1st Thursday, 8:30 AM	Social	Charles Vono 801-745-5879 charlesvono@comcast.net
San Diego Chapter	Event Dependent	3rd Tuesday, Alternate Months	Social or Board Meeting	http://sandiego.tra-spacepark.org Jim Denton 858-385-0150 JWDenton@san.rr.com
Temecula Valley	On hold due to Covid-19		Social	Maureen Locken 951-818-6811 Maureen_Locken@yahoo.com
The Mountain Folks	On hold due to Covid-19		"We do have fun!"	Carl Winkelman 303-693-0034 winkelman@att.net
TRIN	Zoom	2nd Thursday, 1:00 PM, Optional lunch at 12:30	Investment info based on monthly newsletter reviews	Bob Eshbaugh 310-376-5880 eshonnet@yahoo.com
Ventura Romeos	Mimi's Cafe Thousand Oaks	1st Tuesday, Lunch	Social	Frank Yunger 805-444-1541, Harry Stroud 805-653-5117

New TRA Members

James Alcantara	Colorado Springs, CO
Maureen Byrne	Torrance, CA
Hunter Chang	San Marino, CA
Tom Glover	Bonita, CA
Mark Keller	Palos Verdes Estates, CA
Dan McClain	Redondo Beach, CA
Andrew Nelson	Springfield, VA
B.K. Richard	San Luis Obispo, CA
Evelyn Rollins	Manhattan Beach, CA
Robert "Bob" Scott	Cloverdale, CA

We hope these new members will send a note to us at mailpouch@tra-spacepark.org telling us a little about themselves and where they worked at Northrop Grumman/TRW.

Please Check Your Membership

Please take a moment and check your mailing label on this issue. If it says "Paid Thru" and the date is 2020, that means your membership has expired. This will be the last newsletter you will receive unless you renew.

If you have renewed in the last couple of weeks, don't worry. Due to the time it takes to get the NNG printed and mailed, our mailing list may not have been updated with your latest payment. Also, Covid-19 has impacted our ability to process mail, so if you have sent in a check by mail it may take a few extra weeks to get your check recorded and cashed.

TRA membership is a real bargain at just \$10.00 per year! The NNG provides you with happenings at Northrop Grumman, the Mail Pouch, special articles with information about our members, and sign-ups for the events we hold during the year.

You now have two choices on how to renew: on-line or by mail. We have tried to make renewing on line simple and easy, so if you haven't tried it, please give it a go and let us know how it works for you.

To renew on-line, go to our web site, www.tra-spacepark.org, and follow the prompts. We process your renewal dues securely through Paypal. To renew by mail, please cut out or copy the form below, fill out the requested information, and mail to TRA with your check.

Renewals for more than one year are welcome because they reduce our in-house paper shuffle. So, consider renewing for four years to save time. Thank you for your support!

HAPPENINGS - Continued from Page 1

nected the spacecraft to the Deep Space Network, an international array of giant radio antennas that NASA uses to communicate with many spacecraft.

One of the unique aspects of Webb's final ground segment test occurred during a simulated flight environment when the team successfully practiced seamlessly switching over control from its primary MOC at STScI in Baltimore to the backup MOC at NASA's Goddard Space Flight Center in Greenbelt, Maryland. This demonstrated a backup plan that isn't anticipated to be needed but is necessary to practice and perfect prior to launch.

Additionally, team members successfully sent multiple software patches to the observatory while it was performing its command-and-operations.

"Working in a pandemic environment, of course, is a challenge, and our team has been doing an excellent job working through its nuances. That's a real positive to highlight, and it's not just for this test but all of the tests we've safely completed leading up to this one," said Bonnie Seaton, deputy ground segment & operations manager at Goddard.

"This recent success is attributable to many months of preparation, the maturity of our systems, procedures, and products and the proficiency of our team."

When Webb is in space, commands will flow from STScI to one of the three Deep Space Network locations: Goldstone, California; Madrid, Spain; or Canberra, Australia. Signals will then be sent to the orbiting observatory nearly one million miles away once on orbit.

Additionally, NASA's Tracking and Data Relay Satellite network – the Space Network in New Mexico, the European Space Agency's Malindi station in Kenya, and European Space Operations Centre in Germany – will help keep a constant line of communication open with Webb.

The team is now preparing for the next series of technical milestones, which will include the final stowage of the sunshield and primary mirror, prior to shipment to the launch site.

The James Webb Space Telescope will be the world's premier space science observatory when it launches in 2021. Webb will solve mysteries in our solar system, look beyond to distant worlds around other stars, and probe the mysterious structures and origins of our universe and our place in it. Webb is an international program led by NASA with its partners, ESA (European Space Agency) and the Canadian Space Agency.

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MEMBERSHIP RENEWAL FORM

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Annual dues are \$10 per year. I would like to renew for:

\$10 for one year \$20 for two years \$30 for three years \$40 for four years

Mail with a check payable to "TRA" to the following address: TRA, P.O. Box 1276, Redondo Beach, CA 90278

And, please, include a note for the Mail Pouch about yourself, your family, and your doings!

HAPPENINGS - Continued from Page 3

Northrop Grumman Clears First Design Review of Next-Generation ICBM

Northrop Grumman's design of a new intercontinental ballistic missile for the U.S. Air Force passed its first review.

The review took place in November, two months after the Air Force awarded Northrop Grumman a \$13.3 billion contract to develop the Ground Based Strategic Deterrent (GBSD). GBSD is the follow-on to the Minuteman 3 ICBM that has been in service since 1970.

Northrop Grumman said the Air Force approved the company's plan for the engineering and manufacturing of GBSD which is also the first step in transitioning ownership of program data to the government. The review was a three-day event held virtually with more than 100 people.

According to current plans, Northrop Grumman has to deliver a new ICBM by 2029. ICBMs make up the ground-based portion of the nation's nuclear forces.

Because of its huge price tag — projected to reach \$100 billion over the next decade — the GBSD program could come under scrutiny in the next round of Pentagon budget reviews. Critics have argued that the Pentagon could continue to modernize the Minuteman 3 to save money, but the Air Force has insisted that the aging missiles cannot be kept in service much longer.

The Biden administration intends to conduct a review of U.S. nuclear forces and the outcome could determine the long-term future of GBSD. "There will be a relook, as there is in every administration, at the various aspects of nuclear policy and modernization. I think that's appropriate. The Trump administration did that as well," said Deputy Defense Secretary Kathleen Hicks during her confirmation hearing.

Any attempt to curtail GBSD is likely to face strong pushback in Congress. The program employs thousands of workers across the United States. Northrop Grumman is the prime contractor and built a large team of subcontractors that includes Aerojet Rocketdyne, Bechtel, Clark, Collins Aerospace, General Dynamics, Honeywell, Kratos Defense and Security Solutions, L3Harris, Lockheed Martin and Textron Systems.

Northrop Grumman's CEO Kathy Warden said the company's space business "will continue to be our fastest growing sector based on GBSD and the planned recapitalization of our nation's space assets." The GBSD program is projected to generate \$800 million to \$900 million in annual revenue.

NASA Awards Northrop Grumman Contract to Power Mars Ascent Vehicle

NASA has awarded Northrop Grumman a contract to provide solid propulsion systems and controls for the Mars Ascent Vehicle (MAV) that will be launched in 2026. The cost-plus, fixed-fee contract has a maximum potential value of \$84.5 million.

MAV will be launched along with a Sample Fetch Rover. Once the vehicles land on Mars, the Sample Fetch Rover will transfer soil samples from NASA's Perseverance Rover to MAV. Then, MAV will launch into Mars' orbit to rendezvous with the Earth Return Orbiter.

"We are committed to help build the rockets that will orbit the samples Perseverance collects so they can be returned to Earth," said Rebecca Torzone, vice president, missile products, Northrop Grumman.

Video Available of Scott Willoughby's Zoom Event

By Stephanie Sundius

On Friday, February 19, 2021, TRA sponsored an on line Zoom event with Scott Willoughby, Vice President and James Webb Space Telescope (JWST) Program Manager, who talked about the status of the program. We had 250 TRW/NG colleagues registered for the event, and 165 people attended live for this on line presentation. A video recording of the event is available to registered members on the TRA website at www.tra-spacepark.org.

The observatory is being built by Northrop Grumman at our Space Park facility in Redondo Beach. JWST will be the largest, most powerful, and complex space telescope ever built and launched into space. It will fundamentally alter our understanding of the universe.

Currently, JWST is in final preparations before being packed for transport by barge to Arianespace's ELA-3 launch complex located near Kourou, French Guiana. Launch is currently scheduled for October 31, 2021. After launch, JWST goes through a 30-day coast and deployment sequence before ending up at its final operational orbit around the second Lagrange point, 1.5 million kilometers directly "behind" the Earth as viewed from the Sun.

Scott shared some key points about this telescope, in particular how much the edge of "what is possible" is being pushed by this program. Imagine being able to "see" the first galaxies and stars being formed! Challenges include the science, the engineering, producibility, logistics, financial and schedule constraints, required government and international interactions and agreements, and more.



Some of the attendees from our Zoom event with Scott Willoughby.

Benefit Contacts for Retirees

The Northrop Grumman Benefit Center (NGBC) is the main contact for Northrop Grumman employee and retiree benefits. Here you can report a change of address, report a death, or apply for a pension. See the "Retirement" menu item on the NGBC home page for retiree services.

Northrop Grumman Benefits Center (NGBC)

www.benefits.northropgrumman.com

Phone: 800-894-4194

Fidelity administers pension payments and the Northrop Grumman savings plan.

Fidelity NetBenefits

www.netbenefits.com/northropgrumman

Via Benefits handles Medicare supplemental insurance and open enrollment.

Via Benefits (a Tower Watson Company)

www.viabenefits.com

Phone: 855-832-0976 (M-F 8AM-9PM Eastern)

A small number of TRW retirees receive their medical benefits through the Northrop Grumman Benefits *Service* Center. This center is staffed by Benefits Outsourcing Solutions, Inc. Their number is 800-410-6605.

Metlife administers your life insurance if, after you retired, you continued your coverage under the Northrop Grumman group plan.

Metlife

www.metlife.com/NGC

Phone: 866-492-6983

If you were employed by TRW and retired before January 1, 2006, you may be eligible for an insurance benefit, payable on your death. Contact the NGBC for more information.

TRW Bull Bar Reunion - A Gathering of Pine Gap Alumni

Jim Fariss, Kirk Burlew, Rod Preble, Jim Alcantara, and Mike Leblanc announce that they are planning a gathering of TRW Pine Gap alumni on September 13th to 15th, 2022, in Colorado Springs, CO, USA.

You can check out their plans at <https://sites.google.com/view/trw-bull-bar-reunion-2022/home>.

They selected the dates in anticipation of the current pandemic being in the rear view mirror, while also considering that none of us are getting any younger. They expect on the order of 200 people to attend and are looking for early expressions of interest. Several distinct events are planned and you can attend one or all.

They are looking for commitments by way of payments for the dinner and the riverbed breakfast in the May 2022 time frame.

Accommodations and transportation will be on your own - please see the Travel page on their web site for information. If you are wondering who is attending, please see the most current list of attendees on the FAQ page on their web site. A number of dignitaries, including former Site Managers and Contract Office Technical Representatives, have already indicated plans to be there.

Finally, they are collecting photos of good times in the Outback to share on the Memories page and welcome your contributions.

Please forward this message to anyone who qualifies as a TRW Pine Gap alumnus, and save the date!

IN MEMORIAM

Pete Blankenship, January 23, 2021.

Robert Huang, 89, January 10, 2021. Bob joined TRW in 1962 as a Systems Engineer and served many roles until his retirement around 1990. He was Systems Engineering Lab manager, eventually promoted to Vice President of the Electronic Technology Division. In 1985, he became president of Aertech Industries in Palo Alto, a subsidiary of TRW. After his formal retirement, he was the MIMIC Proposal Manager, enabling TRW to capture a vital microelectronics program. He also served as Chairman of the Technology & Communications Advisory Committee for NASA.

Howard Korman, 78, unexpectedly passed away on December 16, 2020 from cardiac arrest. Howard started at TRW in 1968, where he worked for 38 years until retiring in 2006. His career encompassed the ICBM program from the V&H Lab's Ground Systems Department at Space Park to the Peacekeeper and Small Missile program offices at Norton AFB. After retirement he was involved with the Palos Verdes Symphony Band.

Tulin Mangir, February 2021.

Donna Sherry Marchette, 74, December 22, 2021. Donna served in the US Air Force and landed in Hill Air Force Base in Ogden, UT where she then worked as a civilian in the Missile Systems Industry for TRW and Northrop Grumman.

Dwight Moberg. While working for Marquardt Corp., Dwight managed the program that made the LEM attitude control descent engines. He joined TRW in 1972 in ATD. He worked on the Airborne Laser program and before his retirement was program manager of the MIRACL high energy laser program. He was active on the TRW track team.

Bernard Peter Randolph, 87, January 4, 2021. General Bernard Peter "Randy" Randolph (ret.) passed away due to complications from Covid-19. Randy had a distinguished career in the United States Air Force serving his country for 35 years. He retired as Commander, Air Force Systems Command. In 1990, Randy began a civilian career at TRW as Vice President, Requirements Analysis. He retired from TRW in 1995.

Victor Resendez, January 12, 2021. Victor retired from Northrop Grumman a few years ago.

Albert "Al" Sorenson, 88, July 7, 2019.

Billie Dotte Voelker, 94, March 10, 2020. Billie was a long-term TRW employee and retiree.

The first step in notifying Northrop Grumman of a retiree's death is to call the Northrop Grumman Benefits Center. If the deceased was a member of TRA, please notify TRA whether you want the NNG continued or you want to be removed from future mailings.

If you know of a person that should be included in the "In Memoriam" column, please inform us by either email or mail to the TRA office. As a minimum, we need the name of the deceased, date of death, and the name of the person submitting the information. If more information is available and desired, include age, position and years at NG/TRW, any notable programs, and special skills.



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The next NNG will be
mailed in May.

THE MAIL POUCH

By Pam Overton

◆◆◆ From **Steve and Lorna Salem** – After 30+ years at TRW/NG, I have been retired in Torrance with my wife Lorna for 8 years now. Our 15-year-old daughter, **Lizzy**, is a high school senior in the middle of applying to colleges all over. Our older daughter **Le**, her husband **Marvin**, and 7 and 1-year old daughters **Ely** and **Izzy** are living with us while Le completes her RN requirements (she's currently an LVN). So, while they're at work we have 2 girls on line at school and a 1-year-old running us ragged! I thought things were supposed to slow down during retirement! ◆◆◆ From **Barbara "Bobbie" Smith** – Still completely living independently at 86. So, I decided to renew for 2 years! I take my walker out regularly to hike the neighborhood. I have worked up to ~2 miles. Have my trusty HELP button around my neck – just in case! ◆◆◆ From **Pearl Cadwell** – Thank you for all that you do to keep the retirees informed. I am enjoying life in Florida. A few Northrop Grumman retirees are here. I am enjoying the time I have to do my watercolor and visit with friends and relatives. Again, thank you! ◆◆◆ **Andy and Susie Bobby** are enjoying retirement to its fullest. After meeting at STL/TRW many years ago, we have enjoyed our life in California, Colorado, No. Virginia and now in Phoenix, AZ. Hello to everyone out there and continue to stay safe. ◆◆◆ From **Carl Torrelli** – Since the coronavirus my body is operating out of control – my feet smell and my nose runs. **Bev** and I are fine like a good wine, red with a good bouquet. Kudos to all. ◆◆◆ From **Dee Tomsic** – **Steve** and I are still living in Green Valley, AZ, a retirement area with lots of activities and amenities.

The weather is beautiful most of the year (except for 2020) and it is a safe place away from big cities during this terrible virus. We are both doing pretty good for our age (83 and 87), still have our feet on the ground and taking care of ourselves pretty good. We don't travel anymore, keep in contact w/friends/relatives, and stay away from the virus. Yay, the vaccine is coming soon. Hello to our TRA friends. We always enjoy the "Mail Pouch". ◆◆◆ From **Hortensia Craigwell** – Dear TRA former co-workers, it was very nice hearing from you. I am OK, just getting older, but still remembering the good old TRW days. I'm now retired and enjoying old age with family and friends. I still have fond memories of the time we shared together in the Health Services Department. ◆◆◆ From **Marilyn Laden** – To all of you very hard workers on the TRA staff, I applaud you for the well laid out membership directory. I love the name section AND the zip code section AND the patches of so many missions. You have provided a wonderful gift to all of us. I retired from TRW/NG in 2006, still live in Redondo Beach in the same house for 56 years. I sadly lost my husband seven years ago. Even though TRW was so good to me for 36 service years and I enjoyed working there, I love retirement! ◆◆◆

Mail Pouch Items

Pam needs your help! She needs Mail Pouch items! Let us know what you are up to by e-mailing the Mail Pouch at mailpouch@tra-spacepark.org or by mail to Mail Pouch, P.O. Box 1276, Redondo Beach, CA 90278.