VOL 26 NO 3 May 2021

# President's Message

by Bob Campbell

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Welcome, New Members

You can find us at...

Facebook:

@ChinaLakeMuseum

Instagram:

@chinalakemuseum

Website:

www.chinalakemuseum.org

Whew! We are now open, and our team of volunteers and staff continue their work to make your visits safe and "almost" normal again. Please stop by and say hello.

Sadly, we suffered a great loss with the passing of our Historian, Jack Latimer. He provided many of the original stories captured in past Newsletters. He authored the short book on China Lake's involvement in the Manhattan Project (Project Camel). He succinctly summarized China Lake's role of addressing crises facing the nation linked to each Presidential term, providing a unique perspective that we continue to highlight in our exhibits. His charts



depicting China Lake's evolution and legacy provided a quick "snapshot" of our history over the past 75 years. We hope you will join his family and us at the informal social venue in honor of Jack between 1:00 pm and 3:00 pm Saturday, May 15 at the Museum. Refreshments and Jack's favorite libations will be provided by the family.

The article on the early history of the A-7 Aircraft Weapon Software Support Activity (WSSA) explains the beginning of a role China Lake continues to provide for the fleet that has spanned over fifty years. The F/A-18 Program is the current standard bearer in support of the Navy's primary fighter/attack capability. The booklet "What Have You Done for the Fleet Today?" provides a more detailed summary of the early innovation and accomplishments capturing the essence of the early efforts and will be available in our gift shop soon.

We placed the order for the 7,200 sq ft steel building and are in the process of finalizing the building contract with James Bell our local contractor and second-generation China Laker. We are moving forward one step at a time. Thank you for your continuing Building Fund donations to assure that we have sufficient funds to complete the new building by this Fall.



27 years strong

130 E. Las Flores Ave. Ridgecrest, CA 93555 www.chinalakemuseum.org (760) 677-2866



#### You're Invited!

Our beloved Jenn is off on her next adventure. Help us send her off with a great big *Thank Yow* and *Good Luck!* 

Grab a slice of pizza and wish Jenn well at the Museum on Friday, May 21 from 12:00 to 2:00 pm.

# ~ Remembering Jack Latimer ~

## Join us for a gathering in Memory of Jack

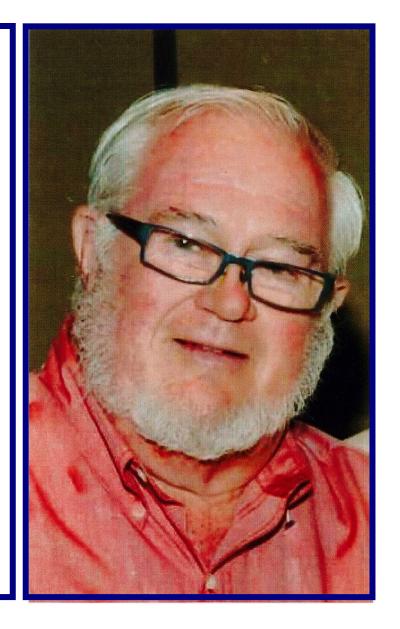
When: Saturday, May 15, 2021

*Time:* 1:00 to 3:00 pm

Where: China Lake Museum 130 E. Las Flores Ave. Ridgecrest, CA 93555

Please join us at the Museum to celebrate Jack. We will have a safe gathering with tables and chairs set up outside to share stories and socialize. The Museum and Gift Shop will be open. Masks are required inside the Museum, and social distancing is strongly encouraged while sharing memories outdoors.

Light refreshments and Jack's favorite beer will be served by Jack's family.





A memorial fund has been started in Memory of Jack. If you would like to donate to the fund, please fill out the form on the back of the newsletter and choose "Memorial Donation." Make sure to specify that it is for Jack Latimer's Memorial Fund.

# ~ Remembering Jack Latimer ~

## Jack Latimer A China Laker's China Laker By Burrell Hays, NWC Technical Director (Ret.)

Jack's official job at China Lake for much of his career was as a Senior Analyst in the Weapons Planning Group reporting directly to the Technical Director on the more sensitive security programs. Later in his career he became an invaluable advisor and friend of senior China Lake leaders, primarily the Executive Directors (ED).

Jack was well liked and admired by those he had contact and interaction with because his management style was predominately that of a teacher, friend, and coach. He genuinely cared about his colleagues and their needs, which made his approach to problem resolution all-encompassing. Jack was a man before his time - or maybe more accurately a man before his gender in his support for women rising in their careers at China Lake.

His intellect was not limited to his technical field but rather was broad; encompassing human and organizational behavior and the sharing of the application of those concepts with other engineers, scientists, and the total organization. His support of women in Code 12 and throughout China Lake led the way to China Lake being less of a male dominated organization and ultimately increasing morale and productivity.

In Jack's role as Advisor to the ED, Sterling Haaland stated the following: "I got to know Jack when he came to work for me when I was ED. He became my primary staff person when Bob Glenn retired in 1993. First of all, Jack was an excellent writer who could defend China Lake when attacked. He was a quiet, calm guy who never panicked no matter the urgency. He had a broad technical background plus an awareness I could present to the intended audience. Jack made me look like I was always on top of things to the people of China Lake and the leaders in NAVAIR".

A few months after working with Jack I discovered that this professional, calm guy liked to play pool and drink beer. On an occasional Friday we left work early and went to his house near Inyokern where he had a great pool table with a refrigerator stocked with cold beer. Jack saved my bacon many a time.

In summary, Jack was an incredibly special China Laker who contributed his talents in many areas and made China Lake an even better and more productive place to work.



### China Lake gets into the WSSA Business

The China Lake Naval Ordnance Test Station (N.O.T.S.) had been working with weapons delivery, analog computers and control devices nearly since its inception in 1943. A more complete history is well chronicled in a China Lake Naval Weapons Center (NWC) document entitled "What Have You Done for the Fleet Today?". Initially China Lake got involved in the Navy's A-4 aircraft Shrike missile Project and the A-7A aircraft CP-741 analog computer. China Lake's Bob Freedman had been tasked by the Naval Air Systems Command (NAVAIR) to coordinate an operation known as "Operation Brushup". The goal of this effort was to make A-7 aircraft, coming from the factory to the fleet, mission operational. Previously Navy aircraft were designed as a single entity and weapons were a distinct, separate entity. With the introduction of computers, the systems became integrated and therefore much more complicated.

Organizationally, "Operation Brushup" gathered fleet aircraft and personnel with several Navy laboratory engineers and technicians and civilian contractor organizations to "brush up" the systems. This highly successful effort resulted in an awareness of two new concepts to be considered in any modern aircraft design, development, operations and maintenance programs.

The first concept was to recognize that modern aircraft with their weapons delivery and navigation systems were singularly integrated and had to be operated and maintained as such. In other words, "all the parts had to work together".

The second concept was the recognition that these systems required aircrews and maintenance personnel to perform across all work specialties as a team. The aircrew, the avionics technician, the ordnance man, etcetera, were combined into a single unit to identify problems for a successful resolution.

The success of "Operation Brushup" made principals at NAVAIR aware of the fact that the US Navy was vulnerable to a dependency on civilian contractors for the soon to be acquired A-7E Corsair II light attack bomber.

As a result of this the NAVAIR A-7 Project Manager, Navy Captain Tom Gallagher, told Bob Freedman that he wanted China Lake to officially come onboard as an insurance policy for the Navy. Shortly thereafter a NAVAIR Task Order was accepted by NWC and we were designated a Software Support Activity (SSA), subsequently, we became a Weapons System Support Activity (WSSA). Although, to my knowledge, NAVAIR never officially adopted or accepted the WSSA designation, they quickly began contacting, funding, and authorizing all types of WSSA work.

The SSA official task was to develop, test and release software programs to the A-7 fleet. The first new A-7s delivered to the fleet had a digital computer with a Ling - Temco - Vought (LTV) developed software program installed in them. The software program was called number 02-05-1. All subsequent programs, called Operational Flight Programs (OFPs), were developed by the China Lake SSA and were designated as Naval Weapons Center OFPs, ie; NWC-1 through NWC-6. The OFP effort quickly resulted in the formation of an all-inclusive organization that did everything required for full system integration of weapons, hardware and associated systems and equipment. Thus, the Weapons Systems Support Activity (WSSA) was born.

In support of this new tasking ability the WSSA designed, built and operated an aircraft cockpit Simulation Laboratory (Sim Lab), a Weapons Systems Integration Laboratory (WEPSIL) and a Navigation System Integration Laboratory (NAVSIL). Additionally, a full scale operational Forward Looking Radar Laboratory (RADAR LAB) was built.

The first WSSA became close partners and associates with the A-7E Fleet Aircraft Squadrons and major contractors like LTV, the A-7 aircraft manufacturer, International Business Machines (IBM), the digital computer manufacturer, and more. Problems and solutions to the problems were quickly identified because of the relationship developed within the A-7 community.

The development of a new computer Operational Flight Program (OFP) usually was predicated by a requirement to add a new capability to the aircraft system. The new requirement could be to add a new software capability, a new weapon or weapon enhancement, or even a totally new system to the aircraft.

Periodically, the China Lake WSSA would hold an A-7 community conference to collect and discuss potential new OFP requirements. Following the conference, the WSSA team would examine the feasibility of each requirement and make recommendations to NAVAIR, along with the approximate time and cost of implementing them. NAVAIR would then send an AIRTASK to NWC authorizing the acceptable changes.

With the acceptance of the AIRTASK, the WSSA would then develop the software and implement the appropriate hardware installations, if required. Extensive laboratory testing would be done in the SIMLAB and other labs, if appropriate. Simultaneous with lab testing the OFP would also be flight tested for both navigation and weapons delivery. Most of the weapons delivery flights were conducted on China Lake ranges.

Near the end of the extensive laboratory and flight-testing program, the WSSA team would deploy with aircraft for a series of tests aboard an active-duty aircraft carrier (CVA). NWC's requirement for going aboard ship was to test and evaluate the critical need to ensure the OFP worked with the Ship's Inertial Navigation System (SINS). The SINS would transfer the ship's actual geographical location to the onboard aircraft prior to its launch for a mission. In other words, the aircraft needed to know where it was before it could launch and navigate to the location required to complete its mission. Global Positioning System (GPS) was not available at this time.

Once the aircraft carrier work was completed successfully, the OFP was finalized and ready to be released to the fleet

Fleet release of the OFP was accomplished by the WSSA Team who delivered the software to the fleet squadrons at Naval Air Station (NAS) at Lemoore, California, and NAS, Jacksonville, Florida.

A classroom brief on the new OFP was given to pilots and maintenance personnel. The WSSA Team would then remain for a day or two to answer questions after the new OFP had been flown.

The success of the A-7 WSSA/SSA, the first of its kind, has been validated by the fact that the US Navy has continued to maintain them for the A-6E, AV-8B, AH-1, F/A-18, etcetera. I never forget that the success of these programs is the direct result of the efforts of <u>ALL</u> the people who have worked on them.



#### Thank You to our Supporters!

#### The following individuals have made donations since the March 2021 Newsletter:

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# We Need Your Help!

The Museum is OPEN! That means we have more opportunities for you to Volunteer! We are looking for cheerful, motivated, organized, and reliable individuals to fill a variety of needs. Greeters, office help, and Gift Shop help are just a few of the areas for volunteering.

Call the Museum at (760) 677-2866 or stop by to inquire and fill out an application. We look forward to seeing you!

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#### **Looking For Collectors!**

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The Museum has access to some unique collections that need forever homes! If you are interested in any of the following collections, call the Museum at (760) 677-2866 to inquire.

**Aviation Magazine Collections** Scale Modeler Magazine Collections Stamp Collection

## News from the Gift Shop

The Gift Shop is moving and grooving right along. We have had GREAT sales since we have been able to open the museum back up on March 24th. Thank You to all of those that have came out to visit both the Gift Shop and the Museum!! We Greatly Appreciate your support!!

For those that have not been able to visit yet, there are over 200 goodies on our website! You can buy T-Shirts, Ornaments, Cups, Hats, Books, DVDs, Magnets, Postcards, Jewelry, Home Décor items, STEM items, and coming soon the new WSSA book with DVD. Make sure you check the website often to see what is in the new item list.

#### Welcome to our new **China Lake Museum Foundation Members**

Michael & Kate Hutnik Bill Lattimer John Lightburn Jim & Jean Michaels Karen Ribultan Henry Serna Dewane Wilkie

Did you know that your Membership helps keep our doors open and our lights on? Thank You!



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