



THE CHINA LAKER

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60 YEARS AGO TODAY: USS NAUTILUS AND THE U.S. NAVY GET UNDERWAY ON NUCLEAR POWER

By Lt. Cmdr. Benjamin Amdur, Director, Submarine Force Museum and Officer-in-Charge, Historic Ship Nautilus



USS NAUTILUS (SSN-571), IN LONG ISLAND SOUND, OFF NEW LONDON, CONNECTICUT, DURING HER SHAKEDOWN CRUISE, MAY 1955.

For the cost of a laptop today, the Navy's nuclear propulsion program began 75 years ago.

It could only have been a Navy physicist who upon observing the energy created by the splitting of uranium atoms, would also wonder if that could be used for propulsion at sea. It was in 1939 when Naval Research Laboratory (NRL) scientists met to determine if a "fission chamber" could generate steam to operate a turbine to propel a submarine. Dr. Ross Gunn, head of the Mechanics and Electricity Division, asked for \$1,500 to pay for initial research. The funds were approved, and so began the Navy's nuclear fission program.

The research took a back seat in 1942 when members of NRL's nuclear program assisted with the Manhattan Project that would unleash the power of nuclear fission in the form of the atom bombs that would end World War II.

After the war, work on a nuclear propulsion system resumed in 1946 when then-Capt. Hyman G. Rickover, an engineering officer, joined the post-war Manhattan Project's power reactor program at Oak Ridge, Tenn. He had a reputation as an "acerbic" personality, but also the determination to bulldoze through bureaucracy. He berated a team of scientists at the Atomic Energy Commission's General Advisory Committee in Sept. 1946 after they determined it would be 20 years before there could be a demonstration of atomic power for practical uses.

A Jan. 9, 1947 report to Chief of Naval Operations Chester W. Nimitz stated submarines capable of operating submerged for unlimited periods could be possible by the mid-1950s, "provided nuclear power is made available for submarine propulsion."

The report was approved by Nimitz the following day. Rickover oversaw design of a nuclear -propelled submarine, and Congress approved it in the Fiscal Year 1952 shipbuilding program.

President Harry S. Truman would sign the keel for the future *USS Nautilus* on June 14, 1952. Rickover had been involved for a mere six years.

One of the biggest decisions with *Nautilus* was not that she would be powered by nuclear energy, but whether to make her an experimental, unarmed test vehicle or a fully operational warship. On Jan. 21, 1954, the massive 319-foot submarine with a 28-foot beam was launched with a crack of a champagne bottle wielded by First Lady Mamie Eisenhower. *Nautilus* was built for both comfort and speed. Accommodations included 2- and 3-berth staterooms for the 12 officers, a single room for the captain, and a wardroom. For the more than 90 enlisted men, each had their own rack, a mess that could seat 36 of the crew, or up to 50 for movies and lectures. A juke-box was hooked to the boat's hi-fi system, along with an ice cream machine and soda dispenser. Better yet, the nuclear-powered system would provide unlimited fresh water and air conditioning.

The business end of *Nautilus* featured six torpedo tubes and carried 26 torpedoes. She was also outfitted with auxiliary diesel generators and a battery to "bring home" the boat if needed.

Nautilus was christened into the fleet 60 years ago today, Sept. 30, 1954, at a pierside ceremony at the Electric Boat Shipyard in Connecticut. At 11 a.m. Jan. 17, 1955, *Nautilus* moved from the pier, and shortly afterward, *Nautilus*' commanding officer, Cmdr. Eugene P. Wilkinson, ordered the following signal sent: "UNDERWAY ON NUCLEAR POWER."

Nautilus would achieve a number of firsts during sea trials, including the fastest submerged transit undertaken by a submarine: 90 hours from New London, Conn., to San Juan,



ADM. HYMAN G.
RICKOVER



COMMANDER WILLIAM R. ANDERSON, USN,
COMMANDING OFFICER OF USS NAUTILUS
(SSN-571), FAR RIGHT, ON THE BRIDGE DURING
A PERIOD OF LOW VISIBILITY AS THE
SUBMARINE PREPARES TO PASS UNDER THE
NORTH POLE, AUGUST 1958. NATIONAL
ARCHIVES PHOTOGRAPH, USN 1037145

Puerto Rico at an average speed of 16 knots (the previous record for that speed had been for a single hour). In exercises and war games with the fleet, *Nautilus* was nearly invincible. She could easily maneuver to either close on an enemy or escape one, all while remaining submerged. And she could outrun many of the Navy's destroyers and all of the anti-submarine homing torpedoes at that time.

Refueled four times during her 25 years in commission, *Nautilus* would sail more than a half-million nautical miles, most of them submerged. In 1958, *Nautilus* completed a secret mission requested by President Dwight D. Eisenhower to prove American technology had not taken a backseat to the Soviet space program. In a mission called Operation Sunshine, the nuclear-powered submarine passed under the North Pole on Aug. 3, 1958 – the first watercraft to reach the geographic "top" of the world – during a trip from Pearl Harbor to England and under the Soviet's collective noses through the Bering Strait.

Nautilus and her crew earned the Presidential Unit Citation (PUC), the first-ever awarded in peace time. Her commanding officer, Capt. William R. Anderson, was whisked away from *Nautilus* when she resurfaced near Iceland, brought to a White House ceremony, where Eisenhower would announce the success of Operation Sunshine. The president then presented Anderson with a Legion of Merit to go with his crew's PUC.

Nautilus' first deployment was with the Sixth Fleet in the Mediterranean Sea, departing from New London Oct. 24, 1960. Upon her return, she operated in the Atlantic, participating in NATO exercises and in Oct. 1962, the naval quarantine of Cuba during the Cuban Missile Crisis.

For the next 13 years, she would be involved in a variety of developmental testing programs while continuing to serve alongside many of the more modern nuclear-powered submarines.

Decommissioned and stricken from the Navy rolls in 1980, *Nautilus'* future was assured when the Secretary of the Interior designated the submarine as a National Historic Landmark May 20, 1982. After a historic ship conversion, *Nautilus* opened to the public April 11, 1986, to continue her service as an example of the Navy's pioneering role in harnessing nuclear power, as the first in a fleet of nuclear-powered ships, and as steward of the American submarine force's reputation for and history of operational excellence.



**REAR ADM. EUGENE
P. WILKINSON**

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Join the "Founders Club"

The China Lake Museum Foundation is currently in conversation with the property owners of the Springhill Suites to look at purchasing the Marriott professional building on China Lake Boulevard. We believe this building and adjacent lot represent the best opportunity we may ever have to establish a Museum in the City of Ridgecrest and we are seeking your financial support to make this a reality.

Our goal is to find 500 China Lake "Founders" willing to pledge \$5000 (contingent upon the Museum Foundation executing a purchase agreement for the building). Instalment payments are acceptable. As a Founder, your name will be added to a permanent Founder's Plaque in the new Museum. You will also be given an opportunity to document your China Lake story, which will be incorporated as a permanent part of the Museum history, thus insuring that you will forever be a part of the "China Lake Legacy".

Living and working at China Lake was an incredible experience for so many of us! We now have an opportunity to establish a first class Museum, open to the public, that will display and document the many significant contributions that China Lake has made over the last 70 years to the defense of our great Nation.

We are offering tours of the building to anyone who calls and is interested. The tour takes 20 minutes of your time and provides you with the insight regarding our enthusiasm about this opportunity and provides you with an opportunity to ask any questions. We will also be opening up the building for viewing, just prior to our Members meeting on October 28, between 5 and 5:45pm. We will also be advertising other viewing opportunities.

Join the "Founders Club" and help make the China Lake Museum a reality!

John Freeman, Building Fundraising Director, CLMF

(760) 382-7776



From the President

As the saying goes "Time flies when you are having fun". This will be my last report as President of the China Lake Museum Foundation. The By-Laws have established term limits, and I hit them head on. I can't attest to the fun part over all these years, but I can personally attest to the satisfaction of sharing the history of the accomplishments of the Navy and China Lake over the past seven decades, along with the stories of the individuals and teams that made it all happen! We were unsuccessful in electing a new President, so until we do my wife, Alice Campbell is the next in line as Operations VP as acting President in my place. Adding to the excitement Bruce Auld was called away to a new job to resolve an urgent asbestos abatement problem in Orange County Schools, so we no longer have his services as CEO.

I am excited about the possibility of purchasing the Marriott Office Building and relocating the Museum into it. We should know within six months if we can pull it off based on the response to our Founder and other fund raising initiatives. You have to see the building, and after seeing it, you hopefully will find a way to help us with the finances—large or small—it all makes a difference. China Lake has done a lot for us, and the nation, and it is only fitting that we be able to share with the public. If you would like to see the building, give us a call and we will meet you there to show you around.

For the next six months I will be actively engaged in helping to raise the monies required to purchase, complete construction, relocate existing exhibits, develop new exhibits for both the plaza and inside the Museum, and expand the education outreach opportunities. I must confess that I really look forward to the day that my friends and others no longer turn around when they see me coming with my hand out--they have been patient and supportive, I might add.

My passion from here on out is to help pull together the story, fill in the voids, and enhance the overall experience for those who visit the Museum. I want them to all leave with a better understanding of what is required to preserve Peace in the World and how the integrated military/scientist/industry team here at China Lake made a real difference.

Thanks for all of your support and encouragement over these many years.

Bob Campbell



Pictured: Christian Raley in the Harpoon Penetration Test

Want to Golf?
Call Teri Raley
(760) 939-3530

From the VP of Operations

Sometimes you have to wonder why a task or a project is so difficult to accomplish. This is my first column because Bruce Auld has moved on from being CEO and is no longer leading daily Operations. I originally agreed to fill the position of Operations Vice President since Bruce said he could take care of the daily leadership role. Then, at the last Board of Directors meeting, we were to elect a new BOD President to fill Bob Campbell's position since he is "termed out" as of our Annual Membership Meeting October 28 and must step down, but were not able to accomplish that task. I was shown the BOD Manual by Tony Damiano, a new member of our Board of Directors, which labeled my position as BOD VP and VP of Operations, indicating I was first in line as Acting President. Meanwhile, Teri Raley, our Office Manager hired to take care of the Museum on a daily basis, had to have emergency gallbladder surgery last week, and is now thankfully back home recuperating. We fortunately have two of our part time staff, Margaret Cornelius and Guy Stewart, who stepped right up and are keeping the Museum doors open for Teri in her absence.

I had all along been praying, asking God to lead this organization since it has been so difficult all these years to get volunteers and the needed funding to grow the Museum. Now we have no obvious leadership and yet we have wonderful new BOD members, and are in this marvelous transition of actually being able to buy the nicest building in town already built (but not finished, so that we can finish it to meet the Museum's needs). We have a groundswell of interest and funding support we have never before seen, so the timing must finally be right. God seems to be truly in charge, and strangely, I feel a real peace about it. Our staff is now praying together for His leadership, and we ask for your prayers also, so that we can finally realize "The Dream" after all these years.

Alice Campbell

Annual Membership Meeting

Tuesday, October 28th, 2014

New Building Tours 5:00-5:45pm

Dinner at 6 pm at Clarion Inn

\$25 for dinner No Host Bar.

Please RSVP (760) 939-3530 or

chinalakemuseum@mediacombb.net, so we have enough seats.

China Lake Museum Foundation

GOLF

TOURNAMENT

Saturday, November 1,
2014 at 9AM

@China Lake Golf
Course

\$70 per person includes:

- ◆ Full Field Shotgun Start
- ◆ 18 holes with Golf Car
- ◆ Course Lunch & Drinks
- ◆ Prizes, raffles and contests
- ◆ VIP Partner with photo

For More Information Contact:

(760) 939-3105

chinalakemuseum@mediacombb.net

www.chinalakemuseum.org

Base access for day of event*

TOURNAMENT REGISTRATION FORM

Team Name: _____

Team Captain: _____

Address: _____

City: _____

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Method of Payment

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CW

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Expiration Date: _____

Signature: _____

*Contact us for base passes 3 weeks prior to tournament!

Tee time will begin at 9AM on November 1st, with drink opportunities and a meal preceding awards and winnings.

To help us properly plan for this event, please pre-register by phone, mail or in person. Contact us for base access and shirt sizes by October 17th.

Mission

The China Lake Museum is the United States Navy's premier science and technology history and heritage exhibit. The Museum's purpose is to inspire, educate, and encourage our present and future generations to achieve success through innovation and exploration and obtain peace through strength. Because of what China Lake did and does, American citizens are free to innovate and create new vistas across the full spectrum of American life. "China Lake is where America comes for defense."

Vision

China Lake Museum Foundation has a vision to create a self-sustaining, historical, educational, entertaining museum that:

- ◆ Shares history of China Lake and the development of Naval Armament and Technology
- ◆ Nurtures curiosity in science and engineering in youth
- ◆ Is a tourism draw for the Indian Wells Valley
- ◆ Is a community resource for social and networking events

Player 1 Name: _____ Cell:() _____

Handicap: _____ Shirt Size: _____

Player 2 Name: _____ Cell:() _____

Handicap: _____ Shirt Size: _____

Player 3 Name: _____ Cell:() _____

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Player 4 Name: _____ Cell:() _____

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Single Registration Available!

China Lake Museum Foundation
P.O. Box 217
Ridgecrest, CA 93556-0217

Shirt Sizes are now on a first come first serve basis

We could save a lot of money by sending you your newsletter electronically...and you'd get it in **color!**
 If you would like to receive your newsletter electronically please send an email, from the email address to which you would like your newsletter sent, to chinalakemuseum@mediacombb.net. Please put in the subject line "Electronic Newsletter."



China Lake Museum Foundation

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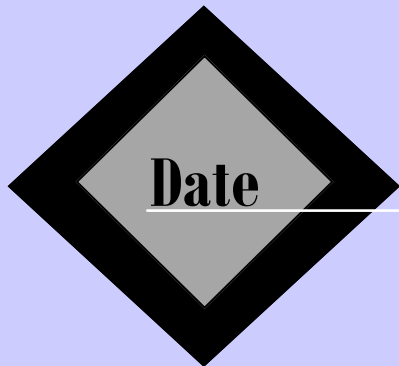
Marriott - Maturango Room



Where

Donor Awards Celebration!

Please join us in recognizing our donors and volunteers who have been continuously supporting The China Lake Museum Foundation With their treasure and time for the past 5 plus years



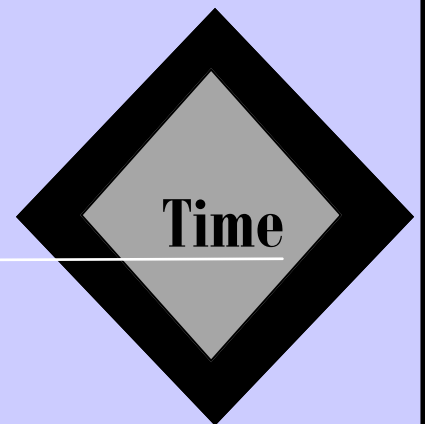
Date

14 Nov. 2014



Join us for fun, wine & hors d'oeuvres!

6 pm to 9 pm



Time

CLMF Honorees Free (by invitation)

\$60 per ticket

\$50 per ticket for CLMF members

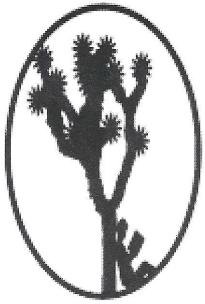
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