



THE CHINA LAKER

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Special points of interest:

- Who Was:
Dr. Emory L Ellis
- President Ronald Reagan

Newsletter Editor - Bettye Moody

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WHO WAS: Dr. Emory L. Ellis

By Jack Latimer, Director Emeritus

Now overgrown in the once busy old duplex housing area at China Lake is a short three-block long Ellis Street, running between Parsons Road and North Lauritsen Road, named for Dr. Emory L. Ellis. Who was Ellis?



Early Years. Little information is available on Ellis' early life, but census records show that he was born in Grayville, Illinois on October 29, 1906, to Walter Ellis, a medical doctor, and his wife Bertha Ellis. By 1920 he was living with his mother and sister in San Diego, California. He applied in 1925 to attend California Institute of Technology (CalTech) and received his B.S. degree in Chemistry in 1930. He was involved in a variety of un-

dergraduate activities including the Chem Club and was the editor of the *California Tech* student newspaper. He went on to obtain his M.S. degree in 1932 and his Ph.D. in biochemistry in 1934. He worked for a year at the U. S. Department of Agriculture's Food and Drug Administration. Then, in 1936, he returned to CalTech and conducted postdoctoral research. He did basic cancer research under a grant, and chose viruses as a means to study carcinogenesis, specifically those that attacked bacteria known as bacteriophage. In 1938 he was joined by Max Delbrück (a subsequent Nobel Prize winner) who had been seeking an organism for the study of the structure of the gene. Ellis and Delbrück published a groundbreaking paper, *(continued page 2)*

President's Message

by Alice Campbell



We are ON THE MOVE ! We need lots of Volunteers! Some volunteer activities are eligible tax deductions. Consult your tax adviser for details for a 501(C)(3)

non-profit. **Committees needing your help: Greeters/Docents, Dinner Auction, Public Relations Events/Booth, Artifacts/Displays, Phase 1 Move, Operations/Volunteers,**

Pioneers Trading Cards, Development/Fundraising/Grants, Phase 1 Building/Landscaping, Membership/Facebook/Website, Written History, Lecture Series, Gift Shop, Newsletter.

Contact Nancy Kiren for more information, (760) 939-3530 or email

chinalakemuseum@mediacombb.net

WHO WAS: Dr. Emory L Ellis

(continued from page 1)

“The Growth of Bacteriophage.”

Navy Rocket Program. World War II intervened and Dr. Charles Lauritsen recruited Ellis to join the CalTech rocket project, sponsored by the Office of Scientific Research and Development. Ellis was put in charge of CalTech’s propulsion and explosive test facility located in Eaton Canyon near Pasadena. In 1943, as the rocket project began transitioning to testing at the newly approved Naval Ordnance Test Station at Inyokern, California, Ellis participated in planning the location of the rocket test ranges, and other facilities. He made site preparations for the first live rocket tests of 3-inch rockets at Inyokern in December 1943.

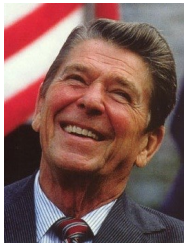
Ellis became the NOTS on-site representative for the CalTech team. Ellis and his wife, Marion, lived at the White Star Mine in the south end of the Indian Wells Valley and hosted many parties for the CalTech and NOTS leaders. Their home became an unofficial “Officer’s Club” for the new Station.

After the war, unlike many of his Caltech colleagues who returned to their careers at Cal Tech, Ellis stayed on as a member of upper management at NOTS.

Korean War Panic. As the U. S. became involved in the Korean War, intelligence reports were received that the Soviet Joseph Stalin (JS-3) tanks might be given to the North Koreans. These tanks were rumored to be heavily armored, and the Secretary of Defense, Louis A. Johnson, learned that we had no rockets capable of penetrating an estimated 18-inches of armor. On July 4, 1950 Johnson ordered that rockets be produced that would do the job and he wanted them to be shipped to Korea by August 4. On July 6th NOTS was given the job and Ellis, Head of the Rockets and Explosives Department, was assigned to supervise the project, called the Antitank Aircraft Rocket (ATAR) and informally known as the RAM Project. They decided to mate the existing 5-inch “Holy Moses” rocket motor with a to-be-designed 6.5-inch shaped-charge warhead. If the rocket hit the side-armor at an oblique angle it would have to penetrate 24-inches of armor. NOTS China Lake and Pasadena Annex turned to and working day and night designed and fabricated a rocket using readily available components such as clothespin springs and hearing aid batteries. During the frantic month Dr. Ellis’ mother died and he was encouraged to take a day off. He agreed, but was back on the job within 4 hours. Employees converted the hallways of Michelson Laboratory at night into production assembly lines to assemble the rocket and its components, and in an incredible 29 days the first 200 rockets were fabricated, tested and shipped to Korea; a feat that could only be accomplished at a facility with the technical and military personnel, laboratories, machine shops, aircraft test ranges and test aircraft all co-located at one facility.

Post NOTS. Ellis returned to industry from 1954 through 1957, then joined the Institute for Defense Analysis in Washington D.C., where he was first a project leader and later the senior liaison representative in London, England for the Weapons Systems Evaluation Group of the U. S. Department of Defense. In 1963 Ellis was invited back to CalTech to become the Executive Director of the Office of Industrial Associates, a position he held for two years. He completed his professional career as a consultant to the China Lake Naval Weapons Center (formerly NOTS), and retired in 1969. Ellis died on October 26, 2003.

Come check out the new location of the China Lake Museum— Ridgecrest
at 130 E. Las Flores Blvd.
Construction is underway!



COMMANDER - IN - CHIEF SUPPORT
FOR
Ronald Reagan
1981 - 1989

**Conflicts**

Cold War, Falkland War, Israel/PLO, Gulf of Sidra

Major Contributions of the Naval Weapons Center (NWC):

Problem: In 1982 two U.S. allies became involved in wars. Argentine forces invaded the English-claimed Falkland Islands, and Israel took action against the Palestinian Liberation Organization (PLO) artillery buildup in the Bekaa Valley in Lebanon.

Solution: The U.S. supplied England with **AIM-9L Sidewinder** missiles. The British are credited with 18 kills in 26 shots of Sidewinder at Argentine aircraft, a 69% effectiveness rate as compared with 10-20% effectiveness of earlier Sidewinder versions. **Shrike** missiles and launchers were also supplied, and used against Argentine radar sites. The U.S. supplied Israeli forces with **AIM-9L Sidewinders, Shrike, and Sparrow missiles**. In the first Israeli attack they destroyed 17 of the 19 Surface to Air Missile (SAM) sites in the Bekaa Valley as well as 29 Syrian fighter aircraft without a single Israeli loss. The following day they took out the other two SAM Sites and 35 more fighter aircraft. Israel eventually destroyed 87 enemy aircraft with the loss of a few helicopters, one RF-4E, and one A-4 Skyhawk.

Problem: New developments in sonar technology allowed detection of submarines well beyond the range of the Anti-Submarine Rocket (ASROC), the Navy's principal system to deliver a torpedo against a submarine from surface-ship launchers. The Navy needed a means to extend the range of the ASROC system.

Solution: NWC employed new China Lake-developed thrust-vector control technology to develop the **Vertical Launched ASROC (VLA)**. This allowed ASROC to be launched from the Mark 41 vertical launchers, use thrust vector control to turn the missile to the desired azimuth, and an on-board digital autopilot to ensure accurate extended-range delivery of the torpedo. VLA delivers both the Mk 46 Mod 5 and the Mk 50 advanced lightweight torpedo at intermediate ranges.

Problem: The Navy needed a support laboratory to manage improvement programs, upgrades and production of the Tomahawk Cruise Missile.

Solution: **China Lake became the principal support laboratory for the Tomahawk** missile and applied thrust vector control to the Tomahawk. China Lake also developed a second production source for the missile resulting in improved reliability and significantly reduced unit cost. China Lake also became the deputy production manager for rocket motors managing the rocket motor design and procuring the units for the All-Up Round Program Office. China Lake also developed a new lightweight warhead and fuze. Tomahawk became operational in 1983.

Problem: The Navy and Marines needed a means to emplace minefields on the ground rapidly from high-speed tactical aircraft.

Solution: China Lake helped adapt Army land mines to Navy and Air Force dispenser weapons (e.g., Rockeye and APAM) and created the **GATOR** anti-tank/anti-personnel mine system. A typical GATOR minefield is 650 meters long by 200 meters wide. The mines can be preset to self-destruct after a period of time, which permits a ground commander to counter-attack through the minefield. GATOR began production in 1982 and is still in the inventory. In the 1991 Gulf War the Air Force employed 1,105 weapons. One reported mission was to hamper the movements of Iraqi Scud missile launchers.

PUBLIC RELATIONS CORNER

by Tony Damiano

BLUE ANGELS AIRSHOW - In addition to a booth at the airfield, we provided docent guided tours from the airfield to the Museum. This tour serves as model for how the Board hopes to provide guided tours from our new Ridgecrest location to the Base Museum until the Phase 2 Museum is built in Ridgecrest.

RIDGECREST HOME SHOW - This exhibit is an example of how we use our CLMF portable booth to educate the public at major events, sometimes with Gift Shop sales.

We are continuing to advertise locally and in Kern County and Antelope Valley Tourist Guides. Our visibility with DART and honoring First Responders is a priority to show our Foundation and community ties.

Semper Fidelis, Dr. Anthony (Tony) Damiano



CLMF booth at RIDGECREST HOME SHOW March 12 & 13th featuring Tony Damiano

FUNDRAISING/GRANTS

by Laura Hickle

Founders Program - Seventy-six Founders Program Pledges have been fully paid, 15 of which are Benefactors at \$6,000.00 or above. We are now making payments to our building contractors for work being done in Phase 1. Future pledges, payments and donations will go to the Phase 2 building.

Dinner Auction 2017- Planning for the May 13, 2017 Dinner Auction is underway and Bob Campbell has agreed to chair this important fundraiser. He will be assisted by volunteers and you are encouraged to help out as well as attend. The Dinner Auction is the main event for covering Operations and Maintenance costs for the museum. As we move off Base these funds will be extra critical to cover increased utility costs and personnel to staff the Ridgecrest Museum and provide some continuing access to the China Lake location.

CHARITABLE IRA ROLLOVER - If you are 70 1/2 years and older with an IRA, the Charitable Rollover is worth doing to meet the IRS required minimum distribution and benefit the CLMF for tax-free purposes. Stock gifts should be directed to CLMF account at Edward Jones (760) 371-1271. **In summary:**

- **Must be 70 1/2 or older at the time of your gift**
- **Transfer must go directly from your IRA to the CLMF**
- **Total IRA gift(s) cannot exceed \$100,000.00**
- **Gift must be outright**

PLEASE CONTACT YOUR IRA FINANCIAL ADVISOR FOR MORE INFO.

Gift Shop News

by Acting Operations VP Alice Campbell

FACEBOOK - CHINA LAKE MUSEUM FOUNDATION Share our page with your friends. Look for upcoming events.

WEBSITE - You can purchase 2017 Dinner Auction Tickets now at our website chinalakemuseum.org

ONLINE GIFT SHOP - The Online Gift Shop is now Open. It is a start and we will be adding more items. Let your out-of-town friends know they can shop online at “chinalakemusuem.org”.

NEW ITEMS - Challenge coins, Blue Angel items, new magnet “WHAT YOU SEE HERE, WHAT YOU DO HERE, WHAT YOU HEAR HERE, WHEN YOU LEAVE HERE, LET IT STAY HERE”.

**Spotlight:
Business Membership**

BUSINESS \$1000

Altaone Federal Credit Union
The Boeing Company
Raytheon Company
Jacobs Naval Systems Group

BUSINESS SPONSOR \$500

Elks Club BPOE #1913
The Swap Sheet
Warren’s Automotive

**BUSINESS CONTRIBUTOR
\$100**

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Desert Valley
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Lone Star Aerospace
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Ridgecrest Area Convention
& Visitor Bureau
Ridgecrest Automotive, LLC
SpringHill Suites and Hampton Inn
TOSS and Service Master
Vincent Avalos, Edward Jones
Investments

Member Agency 13086



The newsletter is sent via USPS.

If you wish to receive the quarterly newsletter via email, please call (760)939-3530 or email us at chinalakemuseum@mediacomb.net. Place “Electronic Newsletter” in the subject line.

**CALENDAR OF
EVENTS**

APRIL

- 18 - Board Meeting

MAY

- 13 - 17th Annual Dinner and Auction
- 16 - Board Meeting

You may make a Donation to the Memorial Brick Fund in the name of China Lake Pioneers who have recently passed.

Bob Mills
Edwin Alden
Gwyn Jensen

Please send your Memorial Brick Donation to China Lake Museum Foundation, PO Box 217, Ridgecrest, CA 93556-0217

DONORS

**NEW FOUNDERS CLUB
MEMBERS**

FOUNDERS

Tim and Dr. Karen Higgins

Education Fund

**Boeing Employees Charitable
Donation**



**BOARD OF
DIRECTORS**

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Alice Campbell

Vice President Development/Fundraising

Laura Hickle

Vice President Public Relations

Dr. Anthony ‘Tony’ Damiano

Vice President Building

Wayne Doucette

Vice President Operations

Alice Campbell (acting)

Vice President Memberships/Webmaster/
Face book

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Secretary/VP Education/VP Exhibits/
Curator

Dr. Bob Smith

Building Fundraiser

Bob Campbell

Newsletter

Bettye Moody

Suzette Caufield
Leo Grosbjer
Elsa Hennings
Jim Sanders
Charlie White

Mick Gleason
(ExOfficio)
Dave Maxwell
Brian Siela

TRUSTEES

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Jon Gallinetti, USMC (Ret.)

Dr. Karen Higgins, ED (Ret.)

RADM Bert Johnston, USN (Ret.)RADM

Mike Mathis, USN (Ret.)

Don McLean

VADM David Nichols, USN (Ret.)

VADM Mark Skinner, USN (Ret.)

CAPT Glenn Tierney, USN (Ret.)

CDR Stu Witt, Test Pilot USN (Ret.)

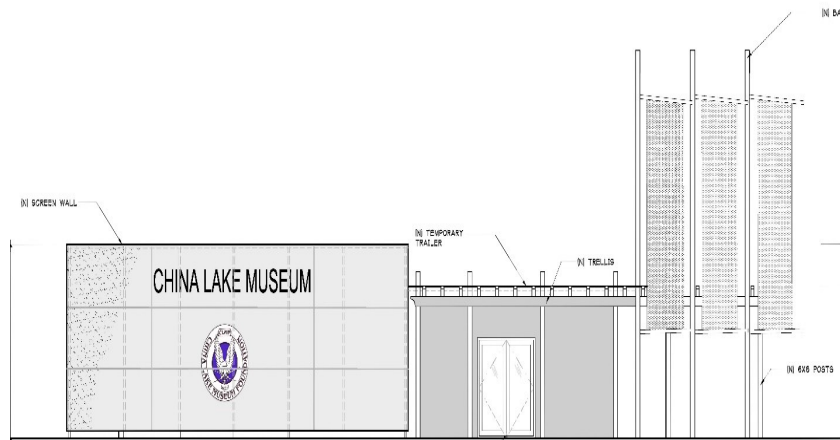
Building Committee

by Laura Hickle and Wayne

1. The National Pollution Discharge Elimination System (NPDES) was not as simple to obtain as originally predicted. The Permit required a State Water Resources Control Board Storm Water Pollution Prevention Plan from which a Waste Discharge Identification Number is issued. After receipt of the number our NPDES was approved by Kern County on 13 February. The Grading Plans were approved and the grading permit was issued by Kern County on 13 Feb 2017. The permit was picked up in Bakersfield on 16 Feb and copies were distributed to our Contractor, PVC Plumbing, Chuck Cordell. Most of the old dog park concrete and fence poles were removed starting the week of 28 February. The overall Building permit is waiting on certification of the modular building from the State of CA. Grading continues in the meantime.

2. A 4 ft. X 8 ft. sign announcing the Future Home of the China Lake Museum- Ridgecrest was designed, sent to A-Z Graphics for production and placed at the site. Construction signage includes the California Cultural & Historical Endowment (our grant) logo, as a requirement of our grant.

3. The final revisions to the Modular building from Mobile Modular have been completed, thereby ensuring the proper windows, colors, finish materials etc. Plans have received state approval, are being integrated into the construction plans and construction will start in two weeks.



The China Lake Museum Foundation

17th Annual Dinner & Auction



Saturday, May 13, 2017 at 4:30 pm



**Live
Auction**



Raffles



**Silent
Auction**

(Winners must be present)

Auction and Raffle
Donations Needed

\$35 Per Ticket, \$60 Per Couple

\$250 Reserved Seating for 2

\$1,000 Family/Small Business Table for 8

\$2,500 Corporate Table for 8

Tickets sold at the Museum, Ridgecrest Chamber of Commerce,
or online at www.chinalakemuseum.org

CALL (760) 939-3530

Program Sponsors

\$500 Full Page

\$250 1/2 Page

\$150 1/4 Page

\$50 Business Card

Coming Soon!

Phase 1

China Lake Museum, Ridgecrest



CHINA LAKE MUSEUM FOUNDATION
P.O. BOX 217, RIDGECREST, CA 93556-0217



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ADDRESS SERVICE REQUESTED



China Lake Museum Foundation

I want to help support the Museum!

Preserving the Legacy of Naval Armament and Technology

CLMF
P.O. Box 217
Ridgecrest, CA 93556-0217

Please accept my payment of:

YES!

- \$10
- \$200
- \$500
- \$1,000
- \$5,000
- _____

Your gift is tax deductible to the fullest extent of the law for a 501(C)(3) organization.

For checks intended for the new building "Founders Program", please note on your check "Founders Program"

Name: _____

Address: _____

City: _____

State: _____ Zip: _____

Phone: _____

Email: _____

Enclosed is my Check Visa MasterCard Other _____

Card Number: _____

Expiration Date: _____ CVC: _____

Signature: _____

Or call (760) 939-3530 to make your credit card donation.

