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From research to railgun: Revolutionary weapon to debut at Future Force EXPO

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One of the two electromagnetic railgun prototypes on display aboard the joint high speed vessel USS Millinocket (JHSV 3) in port at Naval Base San Diego. The railguns are being displayed in San Diego as part of the Electromagnetic Launch Symposium, which brought together representatives from the US and allied navies, industry and academia to discuss directed energy technologies. Credit: Mass Communication Specialist 2nd Class Kristopher Kirsop/Released

The Electromagnetic Railgun—a weapon that will play a significant role in the future of the U.S. Navy—will be on display to the public for the first time on the East Coast Feb. 4-5 at the Naval Future Force Science and Technology (S&T) EXPO in Washington, D.C., officials at the Office of Naval Research (ONR) announced Jan. 13.

With Chief of Naval Operations (CNO) Adm. Jonathan Greenert set as the event's keynote speaker on Feb. 4, the EXPO promises to be a window into the future of the U.S. Navy, showcasing the latest advances in power projection and force protection.

"This year's Expo will showcase the naval portfolio of innovative breakthrough technologies that are shaping our warfighting tactics today and changing the way our Sailors and Marines will operate in the future," said Chief of Naval Research (CNR) Rear Adm. Mat Winter. "The Electromagnetic Railgun is among several disruptive capabilities that the Naval Research Enterprise is championing to ensure a dominant, capable and relevant naval force for the future."

Experts from ONR, Naval Sea Systems Command and BAE Systems, Inc., will be on hand at the display and in breakout sessions to address the technical developments of the weapon.

The Railgun program continues to move swiftly toward scheduled at-sea testing in 2016. Its revolutionary technology relies on electricity instead of traditional chemical propellants, with magnetic fields created by high electrical currents launching projectiles at distances over 100 nautical miles—and at speeds that exceed Mach 6, or six times the speed of sound.

That velocity allows the weapon's projectiles to rely on kinetic energy for maximum effect, and reduces the amount of high explosives needed to be carried on ships. It also minimizes the dangers of unexploded ordnance remaining on the battlefield.

"The Electromagnetic Railgun brings significant technological advances to our Sailors and Marines," said Roger Ellis, program manager at ONR. "As the system moves forward along its planned schedule from the laboratory launcher, we've achieved breakthroughs in compact power and gun design, and will test the next phase of prototype at both sea- and land-based sites in 2016 and 2017."

The Naval Future Force S&T EXPO is the Navy's premier event to share information, discuss research opportunities and build science and technology partnerships between the Navy and Marine Corps, industry and academia. Formerly titled the Science and Technology Partnership

Conference, the biennial event draws thousands of attendees from around the world.

In addition to the CNO and CNR, speakers will include Dr. Robert Ballard, acclaimed discoverer of the Titanic; Assistant Secretary of the Navy (Research, Development and Acquisition) the Honorable Sean Stackley; Nobel Prize winners; leaders from the Defense Advanced Research Projects Agency, the Office of the Secretary of Defense, the Air Force, Army and many more.

More information:
www.onr.navy.mil/en/Conference... ture-Force-Expo.aspx

Provided by Office of Naval Research

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