

USS Fitzgerald Sailor develops innovative SONAR system



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YOKOSUKA, Japan – Chief Sonar Technician (Surface) Benjamin Lebron has helped improve the Arleigh Burke-class guided-missile destroyer USS Fitzgerald’s (DDG 62) anti-submarine warfare capabilities by developing and implementing an innovative new program that assists in locating and tracking submarines.

The program, known as Single Leg Bearing Range (SLBR), is a passive target-motion analysis tactical decision aid which calculates the algorithms and formulas used in tracking submarines in seconds and can be used on any computer.

“When dealing with SONAR, in addition to looking at all the acoustics, you also have to deal with all the bearing information. SLBR allows Sailors to input all the information and it draws out the lines of sound geometries and presents the information for you,” said Lebron. “So instead of being 10 or 15 minutes behind the problem, the program can solve it seconds after you take the measurements.”

SLBR has resulted in Lebron being awarded Enlisted Innovator of the Year as part of the Secretary of the Navy's initiative to recognize Department of the Navy (DON) individuals who made significant innovative achievements in calendar year 2015 in effort to help create a culture of innovation across the DON.

"From non-state actors, to rising powers, today's threats to our national security and our interests are not just becoming more numerous, they are also accelerating," said Secretary of the Navy Ray Mabus. "Establishing Task Force Innovation will help us develop the best ways to improve our systems and ensure that we are also able to embrace our innovative ideas at a pace that keeps us ahead."

Fitzgerald began implementing SLBR ship-wide during its 2015 patrol cycle where it played an essential role in improving the ships anti-submarine warfare capabilities in several high profile exercises such as Talisman Sabre 15 and multiple routine patrols in the South China Sea.

"SLBR takes SONAR out of the Stone Age and provides watch standers the ability to process data as fast as they can receive it," said Lt. Jg. Ridge Alkonis, Fitzgerald's anti-submarine warfare officer. "It has aided the Fitzgerald SONAR team in tracking several real world contacts at an unprecedented proficiency."

Lebron developed SLBR over a two year period and said the catalyst for the idea was when the Pohang-class Republic of Korea Navy ship ROKS Cheonan (PCC 722) was sunk off the coast of the Yellow Sea killing 46 sailors in 2010.

"Anti-submarine warfare is a game of the fast fishing eating the slow fish, and we have been using many of the same tools since World War II, so I thought to myself that there has to be a better way to do this," said Lebron. "One of my passions is graphic design and web design and I started combining that with all I have learned from my Navy career to come up with this product."

Due to its ability to be operated on any computer, SLBRs' ability to be modified and adapted as it continues to be tested by Sonar Technicians around the fleet has led to Lebron describing it as a continually evolving product that can quickly adapt to meet the needs of the fleet.

"It's taking so much of the multi-tasking away from us and it's given us the opportunity to focus more on the analysis portion and being able to relay more information of what we are pursuing and help maintain a better picture of what's going on," said Sonar Technician 2nd Class Jesus Arguello. "Overall, it has made all of our jobs easier and seeing my Chief win enlisted innovator of the year for it was inspiring to me because it encouraged me to do what I am passionate about."

Fitzgerald is forward deployed to the U.S. Navy's 7th Fleet in support of security and stability in the Indo-Asia-Pacific.