

NAVAL SCIENCE AND TECHNOLOGY

ENGR 3109: Navy STEM Professional Development Seminar

Wednesday, October 10, 2018

5:00 pm to 6:00 pm

UCONN, Storrs Hall WW16 ~ Live Streaming to URI


“EVOLUTION OF SUBMARINE DESIGN AND CONSTRUCTION AT ELECTRIC BOAT IN THE NUCLEAR SUBMARINE ERA”


DESCRIPTION: The history of nuclear submarine design and construction at Electric Boat is summarized beginning with the USS Nautilus (SSN 571) authorization in 1952, through three generations of submarine development to the present that includes the Navy's latest submarine class, the Columbia SSBN, which will start construction in the Fall of 2020. The construction of each submarine is a daunting challenge. A Virginia Class SSN requires over 2,700 tons of structural steel, 31 miles of pipe, 142 miles of cable, 20,000 major components and more than 300,000 welds. This brief will include a discussion of the role of engineering from three perspectives: the operator, the ship design agent and lastly the shipbuilder. It will provide a perspective of how naval science and technology have supported the Navy's vision of undersea dominance through the continuous improvement of each class of submarine. The most recent submarine program, the Virginia Class Submarine Program began construction in 1998 and has been frequently heralded by the US Navy as a model DOD acquisition program. Electric Boat has been a pioneer in developing innovative nuclear submarine designs and their associated construction processes.


THOMAS PLANTE, DIRECTOR OF STRATEGIC PLANNING ELECTRIC BOAT, GROTON, CT


Tom is the Director of Strategic Planning at Electric Boat Corporation in Groton, CT. He is responsible for the development of the company's annual strategic plan and maintaining a comprehensive analysis of the business environment, focusing on the Navy, the Department of Defense and the defense industrial base. Plante, 59, graduated from Rensselaer Polytechnic Institute in Troy New York in 1980 and holds a Bachelor of Science degree in Mechanical Engineering. He served in the US Navy as a junior officer aboard USS Boston (SSN703) from 1981-1984 where his duties included Electrical Officer, Reactor Controls Assistant, Sonar Officer and Weapons Officer. He joined Electric Boat in September 1984 and has served in a variety of positions with increasing responsibility including: Systems Engineer for the TRIDENT Training Facilities in Bangor WA and Kings Bay GA; Project Manager for new business initiatives; and Principal Engineer for the VIRGINIA Class Submarine Program. Tom received a Master's of Science degree in Computer Science from Rensselaer Polytechnic Institute, Hartford Graduate Center in 1990. In 2001 he was promoted to Program Manager for Virginia Class Technology Insertion where he led the development of a number of technology insertion initiatives that included the Advanced Sail, Large Aperture Bow Sonar Array, Conformal Arrays and the Multi Mission Module design. More recently, Tom is responsible for developing an Integrated Enterprise Plan (IEP) which is a 20-year master plan to build 41 additional submarines starting in 2019 which will include 29 Virginia Class Submarines with a major upgrade known as the Virginia Payload Modules and 12 Columbia Class Ballistic Missile submarines.

Upcoming Distinguished Seminars

 **CONNOR LIGEIKIS**
Ph.D. Candidate,
Civil Engineering
UNIVERSITY OF
CONNECTICUT
October 17th @ 5pm
UCONN – STRS WW16

 **DAVE LUSSIER**
President
SEA CORP CONNECTICUT
October 24th @ 5pm
URI – AVD Hall 170

 **THOMAS WETTERGREN**
Navy Sr Technologist
for Operational &
Information Science
NAVAL UNDERSEA
WARFARE CENTER
October 31st @ 5pm
URI – AVD Hall 170

 **GREGORY JOHNSON**
Program Manager
ALION SCIENCE &
TECHNOLOGY
November 7th @ 5pm
UCONN – STRS WW16

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