

NAVAL SCIENCE AND TECHNOLOGY ENGR 3109: Navy STEM Professional Development Seminar

Tuesday, March 3, 2020

5:00 pm to 6:00 pm

URI, AVD Hall 240 ~ Live Streaming to UConn

“THE ADVENTURE OF A LIFETIME”

DESCRIPTION:

For over 30 years, Dr. Tucker has been conducting research uniquely relevant to Navy needs for specialized materials and material performance in marine applications. Early on, the transition of advanced composite materials by NASA presented daunting challenges for Navy fleet applications. Dr. Tucker’s research characterizing the performance of graphite/polymer composites in seawater identified crucial issues with metals contacting this highly noble material. The success of the Composite Capsule Launching System for Tomahawk Missiles is due, in part, to the innovative solutions that evolved from Dr. Tucker’s research.

Collaborating with other Scientists at NUWC, NSWC and NRL, Dr. Tucker went on to assist in identifying the cause and finding solutions to the de-bonding of protective polymer coatings from underwater cables and connectors. Further significant work, currently ongoing, includes replacing toxic heavy metals used in corrosion protection systems and for biofouling control. Most notably, the challenge to replace tri-butyl-tin oxide (TBTO) as an anti-biofoulant banned by the International Maritime Organization (IMO) was met, and approved by EPA.


DR. WAYNE TUCKER, S&T MARINE MATERIALS, TOMAHAWK

ENGINEERING

NAVAL UNDERSEA WARFARE CENTER, NEWPORT, RI


The Naval Undersea Warfare Center offers a wide range of opportunities for new scientists and engineers graduating from college or graduate school. The presentation to be given by Dr. Wayne Tucker will describe how he came up from a Commercial Diver inspecting underwater structures and foundations to returning to graduate school to do research. Funded by the Office of Naval Research (ONR) and the American Society for Engineering Education (ASEE), Dr. Tucker did his PhD research on the effects of a deep-sea environment on Carbon Fiber Reinforced Plastics (CFRP) at URI. He worked with the Experimental Diving Unit at the Naval Coastal System Center in Panama City Beach FL. during summers analyzing life support systems; and attended classes at URI during the school year. After finishing his work under ONR/ASEE, Dr Tucker went to work for the Naval Undersea Warfare Center under a “Sphere of Excellence Program in Marine Materials” This lecture briefly describes some of the programs Dr. Tucker has worked on in Industry, Graduate School and the Navy since 1971.


Upcoming Distinguished Seminars

 **John Evans**
Director of special
Projects & Innovation
RDSI
MARCH 10TH @ 5PM
UConn – ITE 336

SPRING BREAK
March 15th–21st



 **Dave Medeiros**
Senior Strategic
Defense Analyst
RITE SOLUTIONS
MARCH 24TH @ 5PM
URI - Avedisian Hall 240

 **Tom Plante**
Director of Strategic
Planning
GENERAL DYNAMICS
ELECTRIC BOAT
MARCH 31ST @ 5PM
UConn – ITE 336

WEBSITE:
<https://navy-stem.uconn.edu/>

EMAIL:
[ENGR-
NavySTEM@uconn.edu](mailto:ENGR-NavySTEM@uconn.edu)

CONTACT:
Stephanie Wanne
Navy STEM Program
Administrator
stephanie.wanne@uconn.edu

PHONE:
860.486.2429



UConn
SCHOOL OF ENGINEERING

