**NPS Defense Energy Program Presents:** 

# DEFENSE ENERGY SEMINAR

## Zero Buoyancy Impact on Energy Density for AUV Power Systems

17 April 2013 = ME Auditorium = 1200

### With Guest Lecturer William Kirkwood

Senior R&D Engineer Monterey Bay Aquarium Research Institute (MBARI)

This presentation will enable the audience to understand what makes the Monterey Bay Aquarium Research Institute (MBARI) unique in ocean exploration and technology development for science and society.

### **Topics will include:**

- MBARI's application of robotics and instrumentation on local oceanographic problems
- A review of past technologies, current efforts and future directions of technology development at MBARI for Ocean Exploration and Scientific Study
- Oceanographic studies, including studies of the effects of greenhouse gases on the ocean, with such notable projects as: The Laser Raman (DORISS) Project; The High CO2 Initiative; and The Free Ocean CO2 Enrichment (FOCE).

#### **Abridged Biography:**

Bill Kirkwood is an internationally respected expert in the field of AUV design at the Monterey Bay Aquarium Research Institute, and graduated from the University of California Los Angeles (UCLA) in 1978 with his BSME and received an MSCIS in 2000 from the University of Phoenix. His predominant focus has been in the area of electromechanical design. Bill joined MBARI in 1991 as the lead mechanical designer and project manager for several technology efforts including the remotely operated vehicle (ROV) Tiburon and the autonomous underwater vehicle (AUV) Dorado. Prior to joining MBARI he was a group leader at Lockheed Missiles and Space Company (LMSC) in the Advanced Systems Division working on a variety of applied design projects for communications, satellites, and active optics for high-energy laser systems as part of the Strategic Defense Initiative.



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