



April 19th Luncheon Meeting



AT THE CROSS ROADS: SHIP DESIGN AND SYSTEMS ENGINEERING

SPEAKER: **MR. . Bob Keane**, currently Chair of the Ship Design Committee of the Society of Naval Architects and Marine Engineers (SNAME) and President of Ship Design USA, Inc., his consulting firm in Keedysville, MD.

LOCATION: Northrop Grumman Building (B520), 6th Floor, Jamestown Room, 2707 Washington Avenue, Newport News, VA 23607, Parking is in the pay lots.

SCHEDULE OF EVENTS:

11:30 – 12:00 – Arrival and lunch

12:00 – 12:30 – Presentation

12:30 – 12:45 – Question & Answer Period

12:45 – Adjourn

Reservations are required

To make a reservation and order your lunch, please make a reservation with Andy Schuster at 757-380-3411 or email him at: andy.schuster@ngc.com. The \$6.00 lunch choices are: (a) Roast Beef & Cheese, (b) Turkey & Cheese, (c) Chicken Salad sandwich. You must have a Northrop Grumman identification badge, or make arrangements when you make reservation to attend the meeting. **RSVP by noon April 14th**

ABSTRACT: Over the past decades of changing DOD acquisition policies, Naval Ship Design has faced many cross roads in terms of which direction to take. These cross roads forced the Navy to decide how far to go down the road of more systematic design as opposed to the road of more creative design. Many cross roads also involved changes in approaches to managing the Naval Ship Design process and what organizations perform the ship design work at the various stages of the process. The decisions of which directions we need to take now in Naval Ship Design are challenging the traditional roles of the Naval Architect and introducing the emerging roles of the Systems Engineer. The expanding capabilities of Computer Aided Design (CAD) and Computer Aided Engineering (CAE) are also having a substantial impact on these decisions of direction. Systems Engineering is now required by DoD Acquisition documents, but there is little guidance in how to apply the general principles of Systems Engineering to a complex system like a warship. The critical role of ship design integration whether it be done by someone with the job description of a Naval Architect or Systems Engineer requires a thorough understanding of the product - the total ship as a system of systems and a system within a larger system like a battle group or a commercial enterprise. The

many possible directions of Naval Ship Design are becoming clearer and will be reviewed at the lunch time presentation with a likely way ahead At the Cross Roads: Ship Design and Systems Engineering.

BIOGRAPHY: Bob Keane has nearly 40 years of naval ship design experience including a number of senior leadership positions at the Naval Sea Systems Command (NAVSEA), where he was also a member of the Federal Government's Senior Executive Service (SES). His last position before "retiring" from NAVSEA in 2002 was Executive Director of Surface Ship Design and Systems Engineering, serving as the Navy's Central Technical Authority for Total Ship Systems Engineering (TSSE) for all surface ship designs. His previous position was that of Associate Director for Total Ship Systems from 1996 to 2000 at the Naval Surface Warfare Center, Carderock Division (NSWCCD). From 1985 to 1996, he was the Navy's Chief Ship Design Engineer at NAVSEA; and from 1983 to 1985, he was the Director of Ship Survivability at NAVSEA. He was selected into the SES in 1981, when he was appointed as the Navy's Chief of Naval Architecture at NAVSEA.

Bob was awarded the SNAME Admiral David W. Taylor Medal for 2003 and "...has profoundly affected not only the way naval ships are designed but also those who design them," the Taylor Medal citation reads in part, including the career development of hundreds of ship design and systems engineers. He received the Michigan-Rosenblatt Alumni Award for 2001. In 1996, the Secretary of the Navy awarded him the Navy's highest award, the Distinguished Civilian Service Award, for his visionary leadership and outstanding management as the Navy's senior civilian responsible for Ship Design R&D Programs leading to the acquisition of approximately 200 naval ships.

Bob was the first civilian elected as chair of NATO's Ship Design Group. He is a Life Fellow of SNAME, a Life member of ASNE and ASE, a former member of SAWE, and the first Chair of SNAME's SD-1 Weights Panel. Active in all, he has also been elected to a number of senior leadership positions and has published numerous papers on naval ship design. He has also been an adjunct professor for naval architecture and ship design at Virginia Tech and a senior lecturer in the Summer Naval Surface Ship Design Program (NSSDP) at the University of Michigan. In addition, he served as the Principal Advisor for TSSE at the Advanced Marine Center of Computer Sciences Corporation (CSC) in Washington, D.C. before starting his own consulting business. He is a BES graduate from Johns Hopkins University, a graduate from Stevens Institute of Technology with a master's in ship hydrodynamics, and a MSE NA&ME graduate from the University of Michigan.