

ASNE Day 2001

Technology Insertion in the 21st
Century Fleet

Arlington, Virginia, USA
30 April - 2 May 2001

ISBN: 978-1-5108-4911-2

Printed from e-media with permission by:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571



Some format issues inherent in the e-media version may also appear in this print version.

Copyright© (2001) by American Society of Naval Engineers
All rights reserved.

Printed by Curran Associates, Inc. (2017)

For permission requests, please contact American Society of Naval Engineers
at the address below.

American Society of Naval Engineers
1452 Duke Street
Alexandria, Virginia 22314
USA

Phone: (703) 836-6727
Fax: (703) 836-7491

asnehq@navalengineers.org

Additional copies of this publication are available from:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571 USA
Phone: 845-758-0400
Fax: 845-758-2633
Email: curran@proceedings.com
Web: www.proceedings.com

TABLE OF CONTENTS

TRACK 1 – ONR TECHNOLOGY INSERTION 1

Innovative Solutions for Enhanced Force Protection	1
<i>Peter Tabor, Mike Dorris</i>	

TRACK 2 – NEW SHIP CONCEPTS

Beyond Electric Ship	6
<i>Stuart Young, John Newell, Graeme Little</i>	
The Design of Visual Landing Aids for Shipborne Helicopter Operations	20
<i>A.J. Smith</i>	
STREETFIGHTER: Sampling Alternatives of Analysis for Future Small Combatants	34
<i>Kai A. Skvarla, Chris B. McKesson, Alan Barlow</i>	
Assessing New Technology for Naval Ships	49
<i>Thomas R. Sherman, Robert A. Wilson</i>	

TRACK 3 – ENVIRONMENTAL/LOGISTICS

A Statistical Method for Estimating the Life Expectancy of Certain Shipboard Equipment	67
<i>Dennis E. Smith, David A. Breslin, Gregory S. Toms</i>	
T-AKE: Acquiring the Environmentally Sound Ship of the 21st Century	75
<i>Stephen P. Markle, Sean E. Gill</i>	
Technology Advances and Tanker Spill Prevention	100
<i>George Rodgers</i>	
Topology Model Based Shipboard System Reconfiguration, Hierarchical Control and Integrated Information Management	108
<i>Kevin Russell, Robert Broadwater</i>	

TRACK 1 – ONR TECHNOLOGY INSERTION 2

Toward More Effective Technology Insertions for Chem/Bio Defense	118
<i>Christopher J. Vogt, Peter Novick</i>	
D-Day Mobile Fuel Distribution "Fuel From the Sea"	126
<i>Shujie Chang, Jonathan Geithner, Claude Thomas, Phillip Abraham</i>	

TRACK 2 – SHIPBOARD EQUIPMENT/DIAGNOSTICS

Theater Command and Control	139
<i>David B. Arnal, Dana L. Day</i>	
Navy Mobile Instrumentation System	144
<i>Michael R. Coussa</i>	
Gun Application in Naval Force Protection	156
<i>Andrew Bradlick</i>	
Structural Testing of Navy Vessels Using Bragg Gratings and a Prototype Digital Spatial Wavelength Domain Multiplexing (DSWDM*) System	170
<i>Chris Baldwin, John Niemczuk, Jason Kiddy, Peter Chen, Martin Christiansen, Kartik Vaithyanathan, Shiping Chen</i>	

TRACK 3 – NEW SHIP DESIGN/MODELING

Engineering AEGIS Cruiser Topsides: Enhancing the Design Capabilities and Life Cycle Support	179
<i>Dana L. Day, Donald C. Puglisi, Gary D. Gross, John A. Latimer, Kevin M. Mulkern, Ali Farsaie, Christine M. Korkalo</i>	
Enhanced Ship Structural Weight Estimating Methods, Using the Navy's "ASSET" Early Stage Surface Ship Design Synthesis Model	188
<i>James David McWhite, Bruce Wintersteen</i>	
Development of A Statistical Ship-Motion Model Using an Advanced Genetic Nonlinear Regression Algorithm	203
<i>Changben Jiang, Qingyun Duan, Michael Catelinet, David Lavis</i>	
To the Edge of the Possible: US High Speed Destroyers, 1919-1942 Part 2: Secondary Hull Form Parameters	221
<i>A. Steven Toby</i>	
Author Index	