

Technology, Systems and Ships (TSS 2018)

Designing, Building and Sustaining the
Future Fleet

Washington, DC, USA
18 - 20 June 2018

ISBN: 978-1-5108-6882-3

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© (2018) by American Society of Naval Engineers
All rights reserved.

Printed by Curran Associates, Inc. (2018)

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



Title	Author
Improved Component Design with Additive Manufacturing Simulation.....1	Sunil Acharya, Christopher Robinson, Scott Marinus, Jeff Burdick
Impedance Measurement Techniques for PHIL Simulation Experiments in Noisy Environments.....10	Gunnar Chauncey, James Langston, Karl Schoder, Thiago Szymanski, Mischa Steurer
Making Risk Management Work.....23	Dr. Norbert Doerry
Inverted Bows on Military Ships.....34	Phi lippe Goubault
An Adaptable and Controllable Electromechanical Lateral Support System.....43	Christopher Rosa, Kyle Willens, Blake Muzinich, David Mar, and Barkan Kavlicoglu
Adaptive and Controllable Elastomeric Mount for Vertical Support Group.....51	Barkan Kavlicoglu, Huseyin Sahin, Yanming Liu, Bryce Wallis, and Michael McKee
Reusable Forward Closure System.....60	Bryce Wallis, Michael McKee, Barkan Kavlicoglu, Yanming Liu, and Huseyin Sahin
Supporting the Leap Forward with FFG(X).....69	Richard Partridge, Greg Steinrock, Robert (Tyler) Dawe, Andrew Martin
Cybersecurity Analysis of an IEEE 802.15.4 based Wireless Sensor Network for Smart Grid Power Monitoring on a Naval Vessel.....82	Xaime Rivas Rey, Thomas J. Halpin, Shantanu Hadgekar, Karen Miu, Kapil R. Dandekar
Reduced Order Multi-Domain Modeling of Shipboard Systems for Energy-Based Control Investigations.....91	Eddy H. Trinklein, Gordon G. Parker, Timothy J. McCoy, Rush D. Robinett III, and Wayne W. Weaver Jr.
Diesel Electric Propulsion Fuel Consumption and Emissions Performance: Fixed Speed vs. Variable Speed.....115	Josh T. Moothart, Dr. Daniel B. Olsen, Dr. Daniel M. Wise
Opportunities and Challenges of Integrating High Temperature Superconducting Power Cables into Navy MVDC Ship Systems.....122	Peter Cheetham, Harsha Ravindra, Chul Han Kim, Lukas Graber, Michael Steurer, Sastry Pamidi
Structure and Cost Features of Titanium Trimaran Hull Variants.....136	John Daidola and Declan Gaylo
Hydroelastic Assessment of Different High-Speed-Vessel Stiffened Panel Designs.....150	Jose Mesa and Kevin Maki
Digital Transformation Benefits for Australian Naval Shipbuilding.....161	Sunir Jain, Gary Gaudio, RADM Clarke Orzalli USN (Ret.)
Set-Based Design Impacts on Naval Ship Upgradability 170	Dr. Alexander W. Gray, Dr. Douglas T. Rigterink
Monitoring Network for Integrated Power Systems 184	Dr. Zareh Soghomonian, CDR Angel Salinas, U.S. Navy (Ret.), Dr. Anindo Bagchi, Dr. Sarry F. Habiby
A Framework for Rapid Additive Design & Manufacturing 200	Ravi Kunju
Applied Research Aboard the USNA YP Fleet 207	Dr. John Donnal, CDR Paul Frontera, Dr. Randy Broussard, ENS Michael Bush, Dr. Murray Snyder
Fatigue Life as a Variable in Assessing Naval Ship Adaptability 217	Teresa Magoga
Noise Control on US Navy Aircraft Carriers 228	J. Komrower, L. Boroditsky, R. Fischer, K. Yankaskas
Rapid Warship Acquisition: A Case for Fundamental Change in Design and Acquisition Policy 240	Robert G. Keane, Jr., Peter E. Jaquith, CAPT Barry F. Tibbits, USN (Ret.), Timothy Mierzwicki, Jeffrey J. Hough, Dr. Joseph T. Arcano, Jr.
Ship Design Challenges 253	Mark Vandroff