Warship 2022 Conference

Designing Warships for the Future

Bristol, United Kingdom 8 - 9 June 2022

ISBN: 978-1-7138-8309-8

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© (2022) by The Royal Institution of Naval Architects All rights reserved.

Printed with permission by Curran Associates, Inc. (2024)

For permission requests, please contact The Royal Institution of Naval Architects at the address below.

The Royal Institution of Naval Architects 8-9 Northumberland Street London, WC2N 5DA United Kingdom

Phone: 020 7235 4622 Fax: 020 7259 5912

publications@rina.org.uk

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

CONTENTS

THE VIABILITY OF LOW-CARBON FUELS & GREEN TECHNOLOGIES FOR THE FRONT-LINE NAVAL VESSEL S Newman and T Beard, BMT, UK	1
EXAMINING THE IMPACT OF FUTURE ALTERNATIVE FUELS ON NAVAL VESSELS R J Pawling, UCL Department of Mechanical Engineering, UK	15
AN EVALUATION OF A COATING SYSTEM THAT DELIVERS TOP SPEEDS, SUPERIOR MANOEUVRABILITY AND LONG-RANGE CAPABILITIES FOR THE SUSTAINABLE FUTURE OF WARSHIPS M N van Ruiten, Subsea Industries, The Netherlands	31
FULL AND SEMI AUTOMATED EARLY-STAGE SHIP LAYOUT GENERATION N Hifi and M Courts, BAE Systems Naval Ships, UK	41
DESIGN FOR AN ALL-ELECTRIC DESIGN FOR SUPPORT IN INITIAL DESIGN USING THE NETWORK BLOCK APPROACH: A SUBMARINE EXAMPLE M H Mukti, R J Pawling, and D J Andrews, University College London, UK	51
PRACTICAL SHIP DESIGN CONSIDERATIONS FOR MISSION MODULARITY A C Kimber and L Griffiths, BMT Defence and Security UK	69
OBSOLESCENCE MANAGEMENT TO ENABLE SUPPORTABILITY FOR THE AUTONOMOUS WARSHIP T Flint, BMT Defence and Security Ltd, UK	81
SURVIVABILITY, ADAPTABILITY AND OFFBOARD SYSTEMS AUTONOMOUS AND OFFBOARD SYSTEMS AND THEIR IMPACT ON WARSHIP AND TASK GROUP SURVIVABILITY D Manley FRINA, RCNC, University College London, UK	89
COMPREHENSIVE NUMERICAL HYDRODYNAMIC CAMPAIGN TO EVALUATE FRIGATE CONCEPT HULLFORM F Gamboa, BAE Systems, UK	97
THE DESIGN AND HYDRODYNAMIC ASSESSMENT OF A SUBMARINE CONCEPT WITH OFF-AXIS RESOLVING THE IMPACT OF SHIP'S DESIGN ON DECK AND WELL-DECK LAUNCH AND RECOVERY OPERATIONS BY APPLYING OF QUIESCENT PERIOD PREDICTION (QPP) B Ferrier, Hoffman Engineering, USA R J Taylor, Royal Navy, UK M R Belmont, J Christmas, University of Exeter, UK	111

L Fedrick, MOD, UK

THE ZOOM YEARS: UCL MSC STUDENT WARSHIP DESIGNS THROUGH THE 133 PANDEMIC

R J Pawling, UCL Department of Mechanical Engineering, UK