

Smart Ship Technology 2018

London, United Kingdom
23 - 24 January 2018

ISBN: 978-1-5108-8321-5

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 The Royal Institution of Naval Architects
All rights reserved.

Printed by Curran Associates, Inc. (2019)

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: 44 207 235 4622

Fax: 44 207 259 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

Exploiting Machine Learning for Ship Systems Anomaly Detection and Healthiness Forecasting1

C Gkerekos, I Lazakis & G Theotokatos, University of Strathclyde, UK

On-board Monitoring Data Analysis Based on Kernel Regression Model: Analysis of Shaft Power Component7

M Minoura, Osaka University, Japan

Ship Machinery Fuzzy Condition Based Maintenance15

F Cheliotis, University of Strathclyde, UK

Autonomous Marine Navigation in GNSS Denied Environments22

M Carter and G R. West, Sonardyne International Ltd, UK

Implementing unsupervised learning algorithm for marine engine data clustering applications28

Y Raptodimos and I Lazakis, University of Strathclyde, UK

User Interface for Big Data Analytics in Shipping36

Prabjot Singh and G Umamaheshwar Reddy, SeaPlus InfoNautics Pte Ltd, Singapore

Gaming Technologies; Are We on the Brink of a New Age of Human Interaction with Naval Ships?45

N Mitchell, BAE Systems Submarines, UK

A Risk-Informed Decision Support Tool for Holistic Management of Fatigue Design, Inspection and Maintenance53

Guang Zou, Lloyd's Register, UK

The Path to Real World Autonomy for Autonomous Surface Vehicles61

D Hook, Senior Director – Business Development, ASV Global, UK

Data Management for Smart Ship or How to Reduce Machine Learning Cost in IoS Applications66

Rodrigo Perez, Arturo Benayas & Francisco Perez-Arribas, Universidad Politecnica de Madrid, Spain

No time for downtime73

I Kelsall 3M UK Plc, UK

Riding the Wave of IoT: Strengthening Regulations, Improving Safety and Implementing Safeship79

Adrian Saw, Coltraco Ultrasonics, UK

Maritime Energy Management System: from Automatic Data Logging and Diagnostics to Operations Support Tool88

Seyong Jeong, Donghoon Jeong, Jinmo Park, Jinhyoun Park, Boram Kim, and Kyoungsoo Ahn, Hyundai Maritime Research Institute, South Korea

Automated/Controlled Storage for an Efficient MBOM Process in the Shipbuilding Managing the IoT Technology95

Arturo Benayas Ayuso and Rodrigo Perez Fernandez, Universidad Politécnica de Madrid, Spain