International Conference on Ship and Offshore Technology (ICSOT India 2015)

Coastal and Inland Shipping

Kharagpur, India 10 - 11 December 2015

ISBN: 978-1-5108-2296-2

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[©] (2015) by The Royal Institution of Naval Architects All rights reserved.

Printed by Curran Associates, Inc. (2016)

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

VESSEL STERN FEASIBILITY AND GRILLAGE DESIGN FOR FLOAT-OVER DECK LOADOUT OPERATION Saisushank Botu, Mahesh D. Kulkarni, and Rudranath Banerjee, Technip India Ltd., India	1
FLUID STRUCTURE INTERACTION AND FREE VIBRATION FREQUENCY ANALYSIS OF A FLOATING PLATE ON WATER Bhagirathi Tripathy and P K Pani, Indira Gandhi Institute of Technology, Dhenkanal, Orisso India	9 a,
A MULTI-MODAL APPROACH TO NATURAL GAS TRANSPORTATION P. Hariraj and Vivek Ramanath, Smart Engineering & Design Solutions, India	15
SOME STATISTICAL RELATIONSHIPS AMONG DREDGER PARTICULARS OBSERVED IN THE INDIAN DREDGING FLEET Arun Kishore Eswara, Indian Maritime University Kolkata (MERI), India U. S. Ramesh, Indian Maritime University Visakhapatnam (NSDRC), India	25
ANALYSIS OF ANTIFOULING PAINTS USING DRUM-TEST APPARATUS M. Joshi, S. C. Misra, U. S. Ramesh, Indian Maritime University (Visakhapatnam Campus), Visakhapatnam, India A. Mukherjee, Gayatri Vidya Parishad College of Engineering, Visakhapatnam, India	33
NUMERICAL CAPTIVE MODEL TESTS AND TRAJECTORY PREDICTION FOR SHIP MANEUVERABILITY IN SHALLOW WATER D. B. Poojari, A. V. Saj and A. R. Kar, Indian Register of Shipping, India	39
WATER COLUMN MOVEMENT CHARACTERISTICS IN FLNG TURRET MOONPOOL AND ANNULAR SPACE DURING FREE OSCILLATION AND TOW CONDITIONS K. Hariharan and P. Krishnankutty, Indian Institute of Technology Madras, India	47
SPECIFICS OF DESIGN AND CONSTRUCTION OF SMALL COMPOSITE CRAFT FOR INDIAN MARKET Hiten Ghelani, Mahindra Marine, India Tosapol Lathapreecha, Albatross Marine Design, Thailand Albert Nazarov, Albatross Marine Design, Thailand	57
GUIDANCE PLAN FOR SHIP RECYCLING BASED ON DISASSEMBLY CONCEPT S. Jayaram, Dept. of Ship Technology, CUSAT, Kochi, India. K. Sivaprasad, Dept. of Ship Technology, CUSAT, Kochi, India C.G. Nandakumar, Dept. of Ship Technology, CUSAT, Kochi, India	63

ICSOT India: Coastal & Inland Shipping, 10-11 December 2015, Kharagpur, India

UNSTEADY FLOW ANALYSIS OF MARINE CYCLOIDAL PROPELLER BLADES

J. Joseph Prabhu, Dept. of Ocean Engineering & Naval Architecture, IIT Kharagpur, India. V. Nagarajan, Dept. of Ocean Engineering & Naval Architecture, IIT Kharagpur, India. O.P.Sha, Dept. of Ocean Engineering & Naval Architecture IIT Kharagpur, India.

A COMPUTATION STUDY OF MODIFIED TTCP/SFS SHIP AIRWAKES

Shrish Shukla, Sidh Nath Singh, and Balaji Srinivasan, IIT Delhi, India

THE "NALLUKETTUMARAN" DESIGN CONCEPT - EMBRACING ECO-FRIENDLY TECHNOLOGY WITH TRADITIONAL AMBIENCE AND **ARCHITECTURE FOR THE KERALA INLAND WATERS**

K. Sivaprasad, Dept. of Ship Technology, CUSAT, India C.G. Gautham Krishnan, ALE Heavylift Middle East LLC, Abu Dhabi, UAE

WAVE INTERACTION WITH A VERTICAL PARTIAL BARRIER NEAR A WALL

P. Mohapatra, Dept. of Ocean Engineering & Naval Architecture, IIT Kharagpur, India. R.K.S.R.Mishra, Dept. of Ocean Engineering & Naval Architecture, IIT Kharagpur, India. J. Bhattacharjee, Dept. of Ocean Engineering & Naval Architecture, IIT Kharagpur, India.

IMPROVING EFFICIENCY OF MARINE CYCLOIDAL PROPELLER FOR **COASTAL SHIPPING**

S. Nandy, Dept. of Ocean Engineering & Naval Architecture, Indian IIT Kharagpur, India. V. Nagarajan, Dept. of Ocean Engineering & Naval Architecture, IIT Kharagpur, India. O.P.Sha, Dept. of Ocean Engineering & Naval Architecture, IIT Kharagpur, India.

COASTAL NAVIGATION SAFETY AND TRAFFIC PATTERN ANALYSIS **USING AIS DATA**

S. Mandal, Dept. of Ocean Engineering & Naval Architecture, IIT Kharagpur, India. V. Nagarajan, Dept. of Ocean Engineering & Naval Architecture, IIT Kharagpur, India. O.P.Sha, Dept. of Ocean Engineering & Naval Architecture, IIT Kharagpur, India.

VORTEX-INDUCED VIBRATION OF A TENSION LEG PLATFORM TENDON: MULTI-MODE LIMIT CYCLE OSCILLATIONS

P. Sinha, Dept. of Ocean Engineering & Naval Architecture, IIT Kharagpur, India. N. Datta, Dept. of Ocean Engineering & Naval Architecture, IIT Kharagpur, India. A. Kannamwar, Dept. of Ocean Engineering & Naval Architecture, IIT Kharagpur, India.

ANALYSIS OF CFRP FLIGHT INTERFACE BRACKETS UNDER **RANDOM LOADS**

N Tilakpure, BITS Pilani Hyderabad Campus, India S Ingale, BITS Pilani Hyderabad Campus, India V. Narayanamurthy, Research Centre Imarat, India S.M. Hussaini, BITS Pilani Hyderabad Campus, India

73

83

93

127

135

107

119

103

INVITED TALKS

A FUNDAMENTAL STUDY ON THE SHIP HANDLING SIMULATION OF TUG-BARGE AND PUSHER-BARGE SYSTEMS FOR RIVER SERVICE 141

Masaaki Sano, Hiroshima University, Japan Kazuhiko Hasegawa, Osaka University, Japan

COASTAL AND INLAND SHIPPING IN INDIAN CONTEXT 151

S. C. Misra, Director (Retd.), IMU, Visakhapatnam