



2nd International

MARINE

Conference on
“All Electric Ship”

February 12-13, 2014

Metropolitan Hotel
385 Syggrou Av.
Athens

final program

final program program • Wednesday, February 12, 2014

08:30 – 09:15	Registration	
09:15 – 09:30	Welcome by Prof. J. Prousalidis	
09:30 – 09:35	Opening by the Dean of the School of Naval Architecture and Marine Engineering, Professor C. Spyrou	
09:40 – 10:15	Keynote paper Title: An H-Bridge Circuit Breaker Design for MVDC Shipboard Applications Presenter: Prof. C. Cooke (MIT, USA)	
10:15 – 10:30	Coffee Break	
Special Session A1: Electric Propulsion : The next steps beyond the enthusiasm (Chairmen: Prof. J. Prousalidis, Prof. L. Kaiktsis)		
10:30 – 11:30	Presentations by maritime companies with ships with electric propulsion (GASLOG, MARANGAS)	
11:30 – 12:00	Coffee Break	
	Session A2: Electric Machinery- Propulsion and Generation (Chairman: Prof. C. Cooke)	Session A3: Combustion (Chairman: Prof. C. Papadopoulos)
12:00 – 12:20	K. Nikolaou, M. Beniakar, C. Patsios, A. Kladas <i>“Design Considerations in Induction Motors for Ship Thruster Propulsion”</i>	P. Kontoulis, L. Kaiktsis <i>“CFD Modeling of Heavy Fuel Oil Sprays in the Context of Marine Engines”</i>
12:20 – 12:40	G. Potiriadis, M. Beniakar, A. Kladas <i>“Multi-objective Optimization of a Surface Mounted PM Motor for Marine Propulsion Applications”</i>	D. Kazangas, P. Kontoulis, L. Kaiktsis <i>“Simulation of Flow and Combustion in a Two-Stroke Marine Diesel Engine Operated with Heavy Fuel Oil”</i>
12:40 – 13:00	N. Dimopoulos, A. Sarigiannidis, A. Kladas <i>“PSO optimization algorithm development and implementation in Permanent Magnet Motor for a valve actuation system”</i>	K. Aivalis, E. Efstathiou, L. Kaiktsis <i>“Mixing Time Estimates in Marine Diesel Engines”</i>
13:00 – 13:20	E. Nasioulas, G. Tsekouras, F. Kanellos <i>“Bottom-Up Reliability Analysis of an Intermittent Load Diesel Engine Driven Electric Power Unit”</i>	D. Grekas, L. Kaiktsis, K. Aivalis <i>“ Method for Calculating the Optimal Free Form Fuel Injection Profile of Marine Diesel Engine, Using Variational Calculus and Multiobjective Optimization”</i>
13:20 – 13:40	M. Corongiu, M. Ippolito <i>“Reducing vessel’s environmental footprint: deployability of on board technologies which exploit renewable energy sources for traction or auxiliary services powering purposes”</i>	

TOPICS

- 🌊 Propulsion Systems
 - 🌊 Electric Machines and Power Converters
 - 🌊 Prime Movers
 - 🌊 Ship Automation and Control
 - 🌊 Ship Electric Grids
 - 🌊 Ship Power Management Systems
- Special Session 1: Electric Propulsion : The next steps beyond the enthusiasm*
- Special Session 2: Young People in AES research*
- Special Session 3: AES Related ESPA(NSRF) Projects*

LOCAL ORGANIZING COMMITTEE

John Prousalidis
Christos Papadopoulos
Eirini Efstathiou
Nikolaos Ventikos
Stefanos Dallas
Lambros Kaiktsis
Konstantinos Aivalis
Gerassimos Politis
Dimitrios Lyridis
Christos Frangopoulos
Dionysios Grekas
Gregory Grigoropoulos
Fotios Kanellos
Andreas Skoufis
George Antonopoulos
George Tsourakis
Mary Georgiou

13:40 – 14:30	Lunch Break	
14:30 – 15:30	Keynote paper Title: Effects of Artificial Surface Texturing on the Frictional Characteristics of Hydrodynamically Lubricated Thrust Bearings Presenter: Prof. M. Fillon (<i>University of Poitiers/ CNRS, France</i>)	
15:30 – 15:45	Coffee Break	
	Session A5: Exploiting Other Research Results in AES (electric vehicles, electric aircrafts, micro-grids) (Chairman: Dr M. Corongiu)	Session A6: Tribology (Chairman: Prof. M. Fillon)
15:45 – 16:05	E. Psyridis <i>"Principles of electric railways propulsion"</i> (e-presentation)	A. Charitopoulos, D. Fouflias, C. Papadopoulos, L. Kaiktsis, M. Fillon <i>"Thermohydrodynamic Analysis of a Textured Sector-Pad Thrust Bearing: Effects on Mechanical Deformations"</i>
16:05 – 16:25	E. Tatakis <i>"Contribution of Electromechanical Conversion Laboratory of the University of Patras to the electric vehicle"</i>	D. Fouflias, A. Charitopoulos, C. Papadopoulos, L. Kaiktsis, M. Fillon <i>"CFD Thermohydrodynamic Analysis of Textured, Pocket and Tapered-land Sector-pad Thrust Bearings"</i>
16:25 – 16:45	A. Kladas <i>"NTUA - Laboratory of Electrical Machines and Power Electronics: An overview of projects on electric aircrafts"</i>	A. Zavos, P. Nikolakopoulos <i>"On the Cylinder Honing and Wavecut Effects against Piston Ring Artificial Texturing on the Friction in Marine Engines"</i>
16:45 – 17:00	Coffee Break	
	Session A7: Young People in AES research (Chairmen: Prof. P. Nikolakopoulos, Prof. J. Prousalidis)	
17:00 – 17:15	Th. Koutsouris <i>"Investigation of energy efficiency indicators in ships with electric propulsion"</i>	
17:15 – 17:30	E. Filis <i>"Investigating the SEEMP for modern ships"</i>	
17:30 – 17:45	A.Thimo <i>"Performing studies of ship electrical installations"</i>	
17:45 – 18:00	T. Kourmpelis, G. Tsourakis, J. Prousalidis, S. Dallas <i>"Analysis of DC Distribution Architectures for Shipboard Power Systems"</i>	
18:00 – 18:15	P. Bourdakos, P. Nikolakopoulos <i>"Parametric Design of Ship Hull Using NURBS in the CATIA Design Software"</i>	
19:00	Conference Cocktail	

SCIENTIFIC COMMITTEE

A. Alajbegovic (Germany)
K. Boulouchos (Switzerland)
L. Guzella (Switzerland)
G. Korres (Greece)
N. Papanikolaou (Greece)
E. Tatakis (Greece)
J. Wills (UK)
M. Benatmane (UK)
R. Bucknall (UK)
C. Hodge (UK)
S. Manias (Greece)
S. Papanathanassiou (Greece)
G. Tsekouras (Greece)
J. Bohbot (France)
P. Georgilakis (Greece)
A. Kladas (Greece)
P. Nikolakopoulos (Greece)
G. Sulligoi (Italy)
C. Vournas (Greece)

INFORMATION

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final program • Thursday, February 13, 2014

08:30 – 09:30	Registration	
09:30 – 10:00	Keynote paper Title: Potential Marine Applications for the Vanadium Redox Flow Battery e-Presenter: Prof. M. Skyllas-Kazacos (UNSW, Australia)	
10:00 – 10:15	Coffee Break	
	Session B1: Technical/Economical Studies of Power and Telecommunications Systems (Chairman: Dr A. Greig)	Session B2: Measurements and Protection (Chairman: Prof. J. Dermentzoglou,)
10:15 – 10:35	E. Sofras, J. Prousalidis <i>"Design Principles of Electromechanical Installations of Ships with Electric Propulsion"</i>	E. Nicolopoulou, V. Kontargyri, I. Gonos, G. Tsekouras, E. Pyrgioti, I. Stathopoulos <i>"Lightning strikes on ships: an initial application of the similarity theory through scaled experiments"</i>
10:35 – 10:55	A. Skoufis, P. Mavridi, E. Sofras <i>"Technoeconomical Comparison Between Conventional and Electric Propulsion for the Cumana Case Study"</i>	T. Sourlagkas, F. Assimakopoulou <i>"Electrical Surge Protection in Maritime Applications"</i>
10:55 – 11:15	E. Karagianni <i>"The Effects of RFI Sources and the Complex Nearby Navy Ship Environment (EMC) on the VSWR of a Broadband HF Antenna System"</i>	G. Champeri, E. Mitronikas, D. Spyropoulos <i>"Controller Area Network in Modern Ship Applications"</i>
11:15 - 11:35	N. P. Ventikos, S. D. Chatzinikolaou <i>"Ship Life Cycle Assessment - Case Studies"</i>	D. Papathanasopoulos, D. Spyropoulos, E. Mitronikas <i>"Quadratic optimal control of a low power Brushless DC motor"</i>
11:35 – 11:55	P. Michalopoulos, A.K. Antoniou <i>"Building a Homemade VoIP System for Ships"</i>	S. Dallas, A. Skoufis, A. Charitopoulos, S. Giannoutsos, J. Prousalidis <i>"Analyzing The Electrical Magnitudes Of An On Board Power Quality Monitoring System"</i>
11:55 – 12:10	Coffee Break	
	Session B3: AES Related ESPA(NSRF) Projects (Chairmen: Dr. A. Kyritsis, S. D. Chatzinikolaou)	
12:10 – 12:30	J. Dermentzoglou, J. Prousalidis <i>"Implementation of Variable Hysteresis Band Current Control Technique in a Ship's Doubly-Fed Induction Machine System"</i>	
12:30 – 12:50	D. Agriostathis, M. Beniakar, A. Kladas <i>"Analytical modeling of eddy current losses in permanent magnet brushless AC machines for marine propulsion applications"</i>	
12:50 – 13:10	M. Loupis, N. Papanikolaou, J. Prousalidis <i>"Fuel consumption reduction in marine power systems through thermoelectric energy recovery"</i>	
13:10 – 13:30	A. Kyritsis, N. Papanikolaou, J. Prousalidis, M. Loupis <i>"Incorporating commercial inverters in the low voltage network of ships for energy saving applications"</i>	
13:30 – 13:50	J. Pallis, I. Georgakopoulos, E. Tatakis <i>"Electric machinery design considerations of ship electric propulsion systems"</i>	
13:50 – 14:10	T. Mountaneas, G. Politis <i>"Estimating torque demands of electric driven pods and thrusters"</i>	
14:10 – 14:30	G. Tsourakis, C. Patsios, T. Kourmpelis <i>"Implementation of a DC-Grid into an AC-Grid Emulator"</i>	
14:30 – 15:00	Lunch Break	
15:00 – 15:15	Closure of the 2nd MARINELIVE Conference	
15:15 – 17:30	H2020 Networking Meeting	

