

mecss

2017

MARINE ELECTRICAL AND CONTROL SYSTEMS SAFETY CONFERENCE

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FRIDAY 27 OCTOBER 2017
(2-day attendees only)

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Delivering integrated, dependable, safe and reliable systems

Wednesday 22 and Thursday 23 November 2017

Technology & Innovation Centre,
University of Strathclyde, Glasgow, UK

CPD APPROVED BY



MECSS at a glance

- Over 100 expert participants
- Over 18 peer reviewed technical papers
- International attendance
- Continuing Professional Development (CPD) approved by IMarEST
- Excellent networking opportunities
- NEW – Speakers' Corner for further debate and discussion



IMarEST LEARNED SOCIETY EVENTS

INDUSTRIAL VISIT:
Tuesday 21 November
*Power Networks
Demonstration Centre (PNDC)*

Supporters



SAFETY4SEA

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MECSS 2017 is organised by FIGS Events Limited on behalf of IMarEST

To register visit www.mecss.org.uk

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Welcome

Dear Delegate

On behalf of the Institute of Marine Engineering, Science and Technology (IMarEST), welcome to MECSS 2017 – the third in this biennial series of Learned Society events.

At the heart of the MECSS' conference series is the industry's fundamental responsibility – how can we make people at sea safer. As technical innovations get introduced into the marine industry, MECSS focuses on both the technologies and the human/system aspect of the technologies.

A constant theme which emerges from the conferences is that for all aspects of equipment and systems design in marine electrical and control applications, it is important that the requirements are clearly defined, captured and understood by all stakeholders at the initial stage so that the best design solution can be achieved to address the operational and safety needs.

The changes in thought process and expectations of the new generation of engineers and technologists will

have a profound impact not only on operators, but also maintainers and importantly designers – should we all attempt to evolve into 'digital natives'? Qualifications and experience can be accelerated through the clever use of virtual reality training – will a passion for gaming be essential for future training? The procurement framework of our marine industry is perceived as fragmented, and Cap-ex appearing to override Op-ex and possibly through-life safe operations – can safety and reliability ever override cost in the decision-making process?

Just a few of the questions to be debated over the two days; let's be instrumental in managing a positive change in our industry – join us at MECSS 2017!

Kevin Daffey
MECSS 2017 Conference Chairman



Conference Programme (subject to amendment)

WEDNESDAY 22 NOVEMBER 2017

0800 Registration and coffee

OPENING SESSION

Chair: **Kevin Daffey**, MECSS 2017 Conference Chairman

0930 Introduction

0945 Welcome

Professor Sir Jim McDonald, Principal and Vice-Chancellor, University of Strathclyde, UK

1000 Keynote address

Peter Deverill, Principal Engineer Marine Systems, Ships Operating Centre, Ministry of Defence, UK

PROMINENT HAZARDS

Chair: **J McCarthy**, Rolls-Royce, UK

1030 Arc flash hazard and mitigation through system design
S White, Atlantic Pacific Marine, UK

1100 Improvements and techniques for partial discharge monitoring on marine vessels

J Butler, **G Devine**, EA Technology, UK
(Presentation only)

1130 Coffee

1200 Paper to be confirmed

1230 Safe energy storage systems for hybrid electric marine vessels

Dr C Watts, Babcock Defence Systems Technology Ltd, UK; **J Marco**, Warwick Manufacturing Group (WMG) University of Warwick, UK; **P Faithfull**, Potenza Technology Ltd, UK

1300 Discussion

1330 Lunch

CYBER SECURITY

Chair: **S White**, Atlantic Pacific Marine, UK

1430 Myth of the air gap, you are under attack

W van der Zwan, **R Mastenbroek**, RH Marine Netherlands BV, the Netherlands

1500 Maritime cyber security analysis - understanding data sharing and separation requirements

P Irwin, QinetiQ, UK

1530 Maritime cyber security - hacking on the high seas

G Berner, **M Lutzhoft**, **J Scanlan**, UTAS (AMC), Australia

1600 Chains, links and lifetime: Robust security for autonomous maritime systems

Dr R Oates, **J Roberts**, **B Twomey**, Rolls-Royce, UK

1630 Discussion

1700 Tea

1730 Cyber security panel debate

1845 Close of day one

1930 Conference Reception

Hosted by the City of Glasgow at Glasgow City Chambers
With special thanks to The Lord Provost and Glasgow City Council

2030 Reception concludes

Conference General Information

Venue: MECSS 2017 will be held at the Technology & Innovation Centre (TIC), University of Strathclyde, 99 George Street, Glasgow G1 1RD, UK; this venue is located close to the centre of Glasgow. All delegates are responsible for making their own travel and accommodation arrangements.

Industrial visit: An industrial visit to the University of Strathclyde's Power Networks Demonstration Centre (PNDC) has been arranged for Tuesday 21 November 2017. Please note that pre-booking is required when registering and further details regarding transportation etc will be sent to you closer to the event.

Technical papers and programme: Papers will be presented in English, with time allocated for questions and discussion. Each registered attendee will receive a hard copy of the proceedings in colour together with access to electronic copies of the papers, where available.

Dress code: All delegates both civilian and military are requested to wear business/lounge suits for the Conference including the Conference Reception. For those attending the

industrial visit, warm clothing is recommended as part of the visit could be outside.

MECSS 2017 Technical Advisory Committee:

Chairman: Kevin Daffey, Rolls-Royce; Prof Campbell Booth, University of Strathclyde; Paul Eaton, GE Power Conversion; Andrew Edmondson, BAE Systems Submarines; Duncan Gould, Disney Cruise Line; Pim Janse, Damen Schelde Naval Shipbuilding; Jamie McCarthy, Rolls-Royce; Dr Bob Meggs, BMT Defence Services; Kees Posthumus, Defence Materiel Organisation, the Netherlands; Jeremy Richardson, Shell Shipping and Maritime Technology; Helen Rickerby, BP Shipping; Derek Robinson, Babcock International Group; Peter Rogers, Wärtsilä SAM Electronics GmbH; C/O (SE) Mark Royston-Tonks RFA, Ministry of Defence, UK; Mel Scott, QinetiQ; Bernard Twomey, Rolls-Royce; Richard Vie FREng; Shaun White, Atlantic Pacific Marine

For further information and to register online visit www.mecss.org.uk

Conference Programme (subject to amendment)

THURSDAY 23 NOVEMBER 2017

0800 Registration and coffee

WHOLE SYSTEM

Chair: P Eaton, GE Power Conversion, UK

0930 What is system integration?

K Høglund, Høglund Marine Automation A/S, Norway

1000 Risk and reward, the business of compliance

S J Nicholas, Rorqual Maritime Consultants Ltd, UK

1030 Probabilistic-based design of ship electrical energy systems for enhancing safety

K Sfakianakis, Royal Caribbean Cruises Ltd, UK;
G Theotokatos, D Vassalos, University of Strathclyde, UK

1100 Coffee

1130 Use of goal structured notation

R Bridgeman, Lloyd's Register, UK; A Whitehead, B Twomey, Rolls-Royce, UK; T Kelly, University of York, UK

1200 Distributed sensing for marine electrical system monitoring and protection applications

Prof C Booth, Dr P Niewczas, University of Strathclyde, UK; Dr P Orr, Dr N Gordon, Synapteck Ltd, UK

1230 Active vibration and shock mount for naval ships

S McCue, University of Bath, UK

1300 Discussion

1330 Lunch

WHOLE SYSTEM CONTINUED

Chair: R Meggs, BMT Defence Services Ltd, UK

1430 Delivery of safe naval electrical systems that embed commercial-off-the-shelf (COTS) components

J McCarthy, Rolls-Royce, UK

1500 Testing marine electrical engineering systems at the Power Networks Demonstration Centre

Dr K I Jennett, Prof C Booth, Dr F Coffele, University of Strathclyde, UK

1530 Discussion

1545 Tea

OPERATIONAL

Chair: A Edmondson, BAE Systems Submarines, UK

1615 Development of a test set-up for exploring the potential of haptic feedback for tug operations

F Hoeckx, Dr A Vrijdag, Dr D A Abbink, Technical University of Delft, the Netherlands

1645 Making the case for safe autonomous marine cyber physical systems

G Gunny, B Twomey, Rolls-Royce, UK

1715 Discussion

1730 Conference Summary

Kevin Daffey, MECSS 2017 Conference Chairman

1745 Close of conference

MECSS 2017, Wednesday 22 and Thursday 23 November 2017

TIC, Glasgow, UK

Priority code: ME17/VIPv1

4 easy ways to register

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www.mecss.org.uk

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London N1 7GU, UK

Delegate details

Please print clearly or attach business card – your details may appear incorrectly listed if this part of the form is unclear.

Surname/family name _____
 Title (Prof, Mr, Dipl Ing, Cdr) _____
 Initials _____
 Name for badge _____
 Job title _____
 Organisation/company _____
 Address _____

 Postcode _____
 Country _____
 Tel _____
 Mobile _____
 Email _____
 IMarEST member Yes No
 Membership no: _____

Registration fees including 20% standard UK VAT

TWO DAY ATTENDANCE

1. IMarEST Member **£1,080**
 2. IMarEST Marine Partner* **£1,320**
 3. Non-member **£1,560**

ONE DAY ATTENDANCE

Please circle which day(s) you will be attending:

Wednesday Thursday

4. IMarEST Member **£600**
 5. IMarEST Marine Partner* **£720**
 6. Non-member **£840**

AUTHORS

Please circle which additional day you will be attending:

Wednesday Thursday

7. IMarEST Member **£480**
 8. IMarEST Marine Partner* **£600**
 9. Non-member **£720**

* The IMarEST Marine Partner rate includes: IMarEST Marine Partners, Sponsoring organisation employees, Supporting organisations' members, Academics and Navy personnel

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Registration fees continued including 20% standard UK VAT

GRADUATE TRAINEE/APPRENTICE

Limited number of places available; application to be supported by the employee's Head of Department

10. Graduate/Apprentice **£480**

CONCESSIONS

Includes retired and student members of IMarEST

11. Retired/Student Members **£180**

INDUSTRIAL VISIT

12. Tuesday 21 November **£0**

EARLY BIRD DISCOUNT (registrations received before Friday 27 October 2017; fees 1-3 subtract £180)

TOTAL PAYABLE £

Payment

Upon receipt of your completed registration form, you will be sent an electronic invoice which will enable you to click a 'Pay now' button which links directly to an online SagePay system allowing you to pay by either debit or credit card, alternatively, the BACS information is detailed if this method is preferred. A cheque in Sterling may also be sent to the address given above made payable to 'FIGS Events Limited'.

Cancellations

Cancellation of a registered place must be received in writing no later than 27 October 2017; a charge of £100 plus VAT will be made for cancellations received before this date. It is regretted that no refunds will be issued after this date but substitute delegates are welcome.

Registration

To register, please access the online registration portal at www.mecss.org.uk/register or complete and return this form together with your cheque. The completion of the registration form constitutes a confirmed booking. The Conference fees cover participation in the technical sessions, administration, hard copy colour proceedings, access to electronic proceedings and refreshments including lunch and the Conference Reception. You will receive a confirmation email together with further information following receipt of your registration form.

Group discounts

Group bookings of 5 or more delegates will receive a discount of 10% and applies to full 2-day delegates only. Please contact FIGS Events for the appropriate discount code: mecss@figsevents.co.uk.

Continuing Professional Development (CPD)

All delegates will be sent a CPD certificate after the event.

Who attends MECSS?

Senior international electrical power and technical engineers from the marine electrical control supply chain, design and technical authorities, merchant, commercial and navy industry personnel, ship owners and operators, class societies, safety assurance providers, automation systems manufacturers plus consultants and academia.