



# inec 2024

17TH BIENNIAL INTERNATIONAL NAVAL ENGINEERING CONFERENCE



## Lean, Mean and Green

### SUMMARY

It has a universality about its application, and defies a single genre, so for INEC2024 we will apply it to Naval Engineering to demonstrate how we can meet the contemporary challenges we face. Lean in cost and people as competition for these resources grows; Mean as we seek an increase in lethal effect from platforms that are more survivable as they deliver their missions; Green as we look to the ever-closer decision about the acceptability of our power sources and inevitable transition to meet the challenges of Climate Change. These themes will run through INEC24, which provides a platform to share ideas, for the designers, engineers, and researchers who plan, build, operate, maintain and recycle maritime assets. The Spine in Liverpool will provide a professional environment in which we can develop our common enterprise and showcase the excellence in our global and diverse domain.

We remain multi-dimensional by the need to operate under, on, above and around the sea, with the growing influence of space, especially satellites, cyber and data on our once disconnected maritime domain. We are glad to incorporate the International Ship Control Systems Symposium (iSCSS) to bring its exciting focus on the area that will continue to increase its influence over our increasingly connected seagoing platforms. As the competitive advantage sought by designing for leaner crews, with more integrated and remote control, and non-traditional fuel sources change the fundamental architecture of the maritime platforms, our continued partnership provides a breadth of technical view that remains unique in the naval sector. I hope you will be inspired to share your work within our naval engineering community at INEC24.

5 – 7 November 2024 / THE SPINE, PADDINGTON VILLAGE, LIVERPOOL, UK



Image: © BMT

### INEC KEY POINTS

- Continuing inclusion of International Ship Control Systems Symposium
- Excellent facilities at the The Spine, Royal College of Physicians, Liverpool, UK
- International audience from 25 countries
- CPD-approved by the IMarEST
- Awards for best entry from those 35 years old or younger

*INEC 24 is our flagship event to share, debate and consider how we develop the solutions and we are excited to bring you together with colleagues from across the world to be part of our collective success*

**RAdm JJ Bailey**



# THEMES AND SUB THEMES

## AUTONOMY

- 'Optional' crewing
- Safe navigation
- Simulation
- Standards and certification

## SUPPORT

- Supporting the deployed autonomous fleet
- Predictive maintenance
- Remote diagnostics
- Infrastructure for autonomy
- Additive manufacturing
- Alliancing and partnering – pooling of spares
- Zero maintenance for autonomy

## COMBAT SYSTEMS

- Upgradeability through life
- Pace of innovation adoption
- System of Systems approach
- Swarming technology
- Anti-Drone Systems
- Ethical AI

## KEEPING IN THE FIGHT

- Management of threat survivability through-life
- Afloat repair of autonomous assets
- Human Factors
- Skills for emerging technologies
- High energy weapons with small footprint

## NET ZERO CHALLENGE

- Through-life Net Zero
- Alternate fuels architectures
- Recycling, reusing and repurposing
- Military and commercial coherence

## CREWING

- Lean damage control
- Operability / minimum crew
- AI / AR decision support
- Maintaining command and control

## EFFICIENCY

- Modularity – many ships, 1 hull?
- Financial or environmental efficiency?
- Multi-skilled minimal crewing

## SIGNATURES AND COMMUNICATIONS

- Signature management
- Human in/on the loop
- The satellite revolution
- Edge processing and bandwidth management
- Wireless, 5G, 6G and beyond
- Communication and network resilience

## SUBMARINE AND SHIP BUILDING

- Built for spiral development
- Designing for fewer crew
- Modularity and survivability
- Programme management
- Quantity vs quality tradeoff
- Readiness for Adapting Alternate Energy Sources

## PRIME MOVERS

- Alternative fuel technologies
- Efficiency gains
- Hybrid approaches
- Reliability for autonomy

## SUBMISSION PROCESS

The Technical Advisory Committee encourages synopses from all areas of industry, academia, and government. Prospective authors are invited to submit titles, keywords, and synopses of between 250 and 500 words, with text only to the INEC & iSCSS 2024 Technical Advisory Committee. The synopsis should introduce the topic and its relevance, the proposed method or approach to be discussed in the paper and the expected results and (direction of the) conclusions. Successful authors will be asked to develop their abstract and submit a full technical paper of up to 4000 words. All papers will be reviewed based on technical quality, relevance, and their potential for generating interest and discussion and published in the Scopus indexed conference proceedings. Authors may be invited to publish an extended article to the naval engineering and ship control special editions of the Journal of Marine Engineering and Technology after the Conference.

## SPONSORSHIP AND EXHIBITION

With typically over 300 international attendees from across the naval and maritime enterprise, INEC and iSCSS provide a compelling platform to promote your company and products. The exhibition is at the heart of the conference throughout the 3 days with plenty of opportunity to network with potential decision makers from government and business contacts. The conference also attracts a wider audience through the website, promotional material, and online content posted during the event. Please contact: **TOLA ONASANYA** Think Publishing Phone: +44 (0)20 3771 7187 Email: [tola.onasanya@thinkpublishing.co.uk](mailto:tola.onasanya@thinkpublishing.co.uk)

## AWARDS

By kind permission of the Sir Donald Gosling Foundation, the INEC and iSCSS 24 Technical Advisory Committees are delighted to announce the continuation of the Sir Donald Gosling Award for authors under the age of 35 at the time of the conference. All named authors on the paper, must be under 35 to qualify. To enter, authors must submit proof of date of birth, such as a passport copy, during synopsis submission. The first prize is £5,000, the second prize is £2,500, and the third is £1,500. Awards will be shared between named joint authors and all will receive a certificate. There is also a special Patron's Award for merit from the broader conference papers and presentations.

# How to submit your abstract on [EasyChair](https://www.easychair.org)

Dear Author(s),

Please follow these steps to update and submit your abstract by the deadline of **22 JANUARY 2024**

If you need any assistance with this, please contact [events@imarest.org](mailto:events@imarest.org)

## 1. Create an EasyChair account and log in at [www.easychair.org](https://www.easychair.org)

To submit your abstract, you need an EasyChair account. If you do not have an EasyChair account, you should create one. [This help article](#) explains how to create an account.

If you already have an EasyChair account, ignore this step. You do not need a separate account for each conference to which you submit.

## 2. Enter the conference(s) as an "author"

Then click on "make a new submission".

## KEY DATES

Abstract submission **22 January 2024**

Notification to successful authors **7 March 2024**

Receipt of full technical paper **13 May 2024**

## VENUE THE SPINE, LIVERPOOL, UK



FOR FURTHER INFORMATION: [www.imarest.org/inec](https://www.imarest.org/inec)