



# RINA AFFAIRS

JULY/AUGUST 2014

The Newsletter of the Royal Institution of the Naval Architects

## CHIEF EXECUTIVE'S COLUMN



Last month saw the first anniversary of the Institution's move to its new Headquarters at 8-9 Northumberland Street. During the past 12 months, it has been a pleasure to welcome many members to the new Headquarters, all of whom have – they tell me – been most impressed by the building, the modern facilities which it now offers, and its location. Any member who has the opportunity is most welcome to call in at the Headquarters and meet the staff.

The meeting rooms at Headquarters – the Denny Room, the Scott Russell Room and the Froude Room – are described in more detail in this issue of RINA Affairs, as is the history of the Institution's Headquarters since 1860. The meeting rooms are used for the Institution's conferences and courses, as well as Board, Council and Committee meetings. They are also available for use by other organisations, for whom they provide a low cost (for London), well located (rail and underground links within 5 minutes' walk) meeting facility, offering full AV in all rooms, tele-conferencing and free WiFi. Catering can be provided at whatever level is required. The rooms may be hired by members for meetings etc at a discount. Members passing the time between meetings, trains, flights etc are welcome to do so at Headquarters, subject to the rooms not being used. Their opinion of the (free) coffee offered by the new coffee machines would also be welcome, although before being too critical, I would remind members of the cost of a coffee at Starbucks in London!

Members who have visited the new Headquarters will have seen the many pictures of ships and marine structures of all kinds which have been donated by companies, large and small, in the maritime industry. However, there remains plenty of space on the walls for more pictures. If you or your company would like to donate a framed picture, please contact me.

Updating of the facilities at Headquarters, and particularly IT, continues in the new Headquarters. An impending upgrade to the Membership Management System (MMS) which provides the common database and management of all this Institution's activities – membership, publications, events etc – will enable the Institution to be more customer (ie member) focussed. It will be matched by an improved interface between the Institution's website and the MMS. These changes will enable increased and more efficient online contact between members and Headquarters in accessing individual membership information, paying membership fees, subscribing to publications, registering for conferences etc. A RINA Events App for iOS and Android platforms will be provided soon, joining the RINA Publications App. The Institution will continue to strive to provide a better service to its members, constrained only by financial and staff resources. Members' views on how that service in its broadest sense can be improved are always welcome – by email, phonecall or meeting.

And finally, may I take this opportunity to commend the RINA group of the professional online network LinkedIn. This provides the Institution's technical forum in which the Institution and members of both the Institution and the global maritime community can seek or provide technical information, or to discuss matters of professional interest. The recent discussions on Peak Vertical Accelerations is a very good and interesting example.

*Chief Executive*

### IN THIS ISSUE

#### 2014 SGM

A Special General Meeting will be held on Monday 6 October 2014 at 1300 to consider, and if felt fit, approve a Resolution "To make such amendments to the Regulations as are necessary to allow full electronic voting at Council elections."

#### Headquarters

The names of the conference and meeting rooms at the Institution's new Headquarters provide a link with the Institution's past Headquarters. The Denny Room, the Scott Russell Room and the Froude Room are available for use by members and their companies.

All members are invited to visit the new Headquarters at 8-9 Northumberland Street.

#### Student Awards

The achievements of student members in the UK and Indonesia are recognised by the recent presentation of RINA Student Awards. The Institution congratulates all those who have received these Awards.

#### Letters to the Editor

Information is requested about a Mr "Steepy" Stapledon, a naval architect employed in the Malayan Government Service from 1938 – 1942. Information about the service he worked for and the work of other naval architects in Singapore at that time would also be welcome. Can you help?

#### Maritime Safety and Maritime Innovation Awards

Nominations are invited for the 2014 RINA – Lloyd's Register Maritime Safety Award and the RINA – QinetiQ Maritime Innovation Award.

#### 2014 Ship Efficiency Awards

Nominations are invited for the inaugural Ship Efficiency Awards.

## SPECIAL GENERAL MEETING

NOTICE IS HEREBY GIVEN THAT IN ACCORDANCE WITH BY LAWS 37 AND 77, A SPECIAL GENERAL MEETING WILL BE HELD AT 8-9 NORTHUMBERLAND STREET, LONDON, WC2N 5DA ON MONDAY 6 OCTOBER 2014 AT 1300 TO CONSIDER, AND IF FELT FIT, APPROVE THE FOLLOWING RESOLUTION:

### Changes to the Regulations

**Resolution:** "To make such amendments to the Regulations as are necessary to allow full electronic voting at Council elections."

Note:

1. All members have the privilege to attend the above meeting, but only Voting Members are entitled to vote on the Resolution.
2. Members entitled to vote on the Resolution may appoint the Chairman of the meeting as their proxy to vote on their behalf.
3. Members may register their proxy vote online at [rina.org.uk/sgm2014proxyform](http://rina.org.uk/sgm2014proxyform) or by post (proxy form at [www.rina.org.uk/p/1/proxyformagmprinted2013.pdf](http://www.rina.org.uk/p/1/proxyformagmprinted2013.pdf))
4. All proxy votes must be received not later than 1045 hours on 6 October 2014

## Electronic voting at Council elections

The most convenient and preferred method of voting at Council elections for most members is by electronic means. Software systems are available which allow votes to be cast online, automatically checked for validity and counted. However the use of such full electronic voting systems would conflict with the current Regulations which require all votes to be manually scrutinised and counted, regardless of the method by which the vote is cast. This imposes a not inconsiderable administrative load on the Secretariat and the scrutineers.

Whilst the option of postal voting at Council elections will continue for the foreseeable future, the Council proposes that the Regulations be changed to allow voting to be scrutinised in a manner determined by Council, thereby enabling the administrative benefits full electronic voting to be achieved.

## CHANGE OF ADDRESS

Each year, the Institution sends out over 170,000 copies of the journals and RINA Affairs, a total paper weight of over 35 tonnes. Unfortunately, a number of those are returned "not known at this address", usually because members have forgotten to inform the Institution of their change of address. In addition to the waste of postage, the Institution is charged for those returned from other than the UK. Additional cost is then incurred when members ask for the missing copies.

Members are requested to let the Institution know of a change of address as soon as possible, preferably before they actually change their address. Changes may be sent online from the Members' Only section of the RINA website at [www.rina.org.uk/members](http://www.rina.org.uk/members), by email to [membership@rina.org.uk](mailto:membership@rina.org.uk), by fax to +44 (0)20 7259 5912, or by letter to RINA Headquarters.

## Letters to the Editor

### Naval Architect "Steepy" Stapledon

Sir: As part of my research for the biography of a person who worked at Singapore Naval Base 1938 - 1942, I have come across the name of "Steepy" Stapledon, a Naval Architect employed in the Malayan Government Service. His wife left an excellent account of life in Singapore before the fall, and as an escapee in 1942 from which I am quoting, but only mentions her husband's nickname of Steepy. Mrs Stapledon's account is held in the Imperial War Museum Archives, documents.3678. I am trying to find out Mr Stapledon's correct name.

I would be most grateful for any information about Mr Stapledon and anything at all about the service he worked for, including the work of other naval architects in Singapore at that time. I have found much on the Singapore Naval Base over years of research but nothing on a civilian government naval architect's department.

*Mary Harris. [mary@maryeharris.plus.com](mailto:mary@maryeharris.plus.com)*

## Transactions

Sir: I am clearing my loft prior to moving and have come across a number of volumes of the above for years 1956 to 1961. If these are of any interest to members they are welcome but would need to collect from the Poole area (Dorset) or pay postage. These would need to go by the end of the month preceding my move. A nil interest by that time will consign them to the recycling bin!

*D C Dowst [vanddowst@gmail.com](mailto:vanddowst@gmail.com)*

# Corporate Partners

Does your company or organisation, be it large or small:

- Help and encourage its naval architects to achieve professional recognition through membership of RINA in the appropriate class of membership.
- Assist its naval architects to achieve the standards of professional development and responsible experience required for Corporate membership of RINA.
- Require and assist its naval architects to continue their professional development.
- Listing on the Corporate Partners page of the Institution's website with a link to the company's website.
- 'Welcome' advertisement in journal of choice. Other PR and promotional opportunities through RINA conferences and publications.
- Opportunity to present technical papers at RINA conferences or publish them in technical journals.

If so, your company or organisation may be eligible to become a Corporate Partner of the Royal Institution of Naval Architects and enjoy the following benefits:

- The right to show this "corporate professional qualification", including the RINA Corporate Partner logo, on company literature, thereby providing an internationally recognised demonstration of the professional quality of the company's employees and its commitment to maintaining that quality.
- Advice on the development on Company Professional Development Schemes and free accreditation of Schemes.
- A discount on RINA international conferences and training courses attended by all employees of the company or organisation, giving them the opportunity to network with other professionals in the global maritime industry.
- Use of the Institution's headquarters facilities at preferential rates, including the meeting rooms, lecture theatre, conference facilities and library.
- Complementary copies of the Institution's leading technical journals, and a discount on the purchase of other RINA publications.
- Discount on exhibition stands and sponsorship at RINA conferences.
- Access to national branch meetings, giving opportunity to meet with professionals in the local maritime industry.
- Complementary invitations to the Annual Dinner and President's Invitation Lecture.

In addition to these benefits, Corporate Partner membership of the Royal Institution of Naval Architects will enhance the reputation and image of a company with its customers and the industry generally. Also, both prospective and existing employees will value more highly an employer who is committed to the high professional standards and personal development demonstrated by Corporate Partner membership, thereby benefiting both recruitment and retention.

*Further information on becoming a Corporate Partner may be obtained from the RINA website at [www.rina.org/corporatepartners](http://www.rina.org/corporatepartners), including a list of those companies who have already become Corporate Partners, or from the Chief Executive at [hq@rina.org.uk](mailto:hq@rina.org.uk) or tel: +44 (0)20 72354622.*

## DESIGNATORY LETTERS

Members may signify their membership of the Institution by the letters FRINA, MRINA, AMRINA or AssocRINA after their names. In doing so, they demonstrate that they have achieved or are working to achieve the high standards of professional competence demanded by the requirements for membership, and which are recognised as such by the international maritime industry. By doing so, they also demonstrate their commitment to maintaining those standards through their continuing professional development, and their acceptance of the Institution's Code of Conduct. Membership of the Institution does not come easily and is surely an achievement to be proud of.

However, when meeting members, I am surprised how many do not demonstrate their achievement by displaying the appropriate letters on their website, correspondence and business cards. This also serves to promote the Institution. May I therefore invite such members when next having stationary or business cards printed or updating their website to ensure that their membership of the Royal Institution of Naval Architects is proudly displayed.

*Chief Executive*

# People in the News

## RINA – MTPC Award

The RINA – MTPC Award for the best paper at the 2014 Marine Technology Postgraduate Conference was presented to Laura Marimon Giovannetti from Southampton University. The title of her project was “Data-rich Experimental Fluid Structures Interaction of Composite Structures Under Wind Loading”.

## RINA – PT BKI Student Awards

The RINA – PT BKI Student Awards were presented to the following students, who were adjudged by the Royal Institution of Naval Architects and PT BKI to be the outstanding students in 2014.

### University of Diponegoro

- Department of Naval Architecture and Shipbuilding Engineering  
*Reza Adrian Saputro*

### Hasanuddin University

- Department of Marine Engineering  
*Bernadetha Ta’bi*
- Department of Naval Architecture and Shipbuilding Engineering  
*Asrul La Sapiri*
- Department of Ocean Engineering  
*Andi Darmawansyah Akm*

### University of Indonesia

- Department of Naval Architecture and Shipbuilding Engineering  
*Achmad Zuhdi*

### University of Pattimura

- Department of Naval Architecture and Shipbuilding Engineering  
*Rifnia Anugrah Utama*

### Sepuluh Nopember Institute of Technology

- Department of Marine Engineering  
*Moh Herbram Arya Pranata*

- Department of Naval Architecture and Shipbuilding Engineering  
*Muhammad Kharis*
- Department of Ocean Engineering  
*Ainu Fita Aulia*

## RINA – BAE Systems Student Awards

### Southampton Solent University

The RINA – BAE Systems Student Awards for the best presentation of final year projects at Southampton Solent University were presented to the following students

### BEng Yacht Production and Surveying Course

- *Harry Cook*  
“RNLI Tyne Class Conversion Project”

### BEng Yacht & Powercraft Design Course

- *Tobias Laux*  
“40’ Scow Performance Cruiser”

# Branch News

## New South Wales Section

Professor Hugh Durrant-Whyte of the ARC Centre of Excellence for Autonomous Systems gave a presentation on Automation in Container-handling Operations to a joint meeting with the IMarEST attended by 25 on 4 August in the Harricks Auditorium at Engineers Australia, Milsons Point.

*Phil Helmore*

### QUOTES OF THE MONTH

“The behaviour of ships on stormy seas is so hard to be understood and so important to be predicted, that it is worth any amount of hard thinking, and painstaking observation, and subtle reasoning we can expend on it”.

*J. Scott Russell, 1863.*

## Cochin Branch

The Council has approved the formation of the Cochin Branch, India. All members in the State of Kerala will be automatically become members of the Branch.

## Chennai Branch

A Technical Meeting was held on 24 July, at which Professor P. Ananthakrishnan, Department of Ocean and Mechanical Engineering, Florida Atlantic University, gave a presentation.

The meeting was held in the Seminar Hall, Department of Ocean Engineering, IIT Madras.

## 2014 SHIP EFFICIENCY AWARDS

The inaugural Ship Efficiency Awards, to be held in October alongside Fathom’s annual conference ‘Ship Efficiency: The Event’, will recognize excellence in efficient operations, technological innovation and energy efficiency within the maritime industry.

There six different categories; the Energy Efficiency Solution Award, the Environmental Technology Award, Initiative of the Year, Sustainable Ship Operator of the Year, The One to Watch and the Outstanding Contribution to Ship Efficiency Award (to be judged via public vote).

The official awards ceremony will be held on 2nd October 2014 at the Queen Elizabeth II Conference Centre in Westminster, London.

The awards are now open for nominations with the deadline for entries the 1st August 2014. More details can be found at:

[www.fathomshippingevents.com/ship-efficiency-the-event](http://www.fathomshippingevents.com/ship-efficiency-the-event)



## RINA-QinetiQ Maritime Innovation Award

Innovation is key to success in all sectors of the maritime industry, and such innovation will stem from the development of research carried out by engineers and scientists in universities and industry, pushing forward the boundaries of design, construction and operation of marine vessels and structures.

The Royal Institution of Naval Architects - QinetiQ Maritime Innovation Award seeks to encourage such innovation by recognising outstanding scientific or technological research in the areas of hydrodynamics, propulsion, structures and material which has the potential to make a significant improvement in the design, construction and operation of marine vessels and structures.

The Award is made annually to either an individual or an organisation, in any country. Nominations for the Award may be made by any member of the global maritime community, and are judged by a panel of members of the Institution and QinetiQ. The Award will be announced at the Institution's Annual Dinner (tbc).

Nominations are now invited for the 2014 Maritime Innovation Award. Individuals may not nominate themselves, although employees may nominate their company or organisation.



### QinetiQ

- Nominations may be up to **750 words** and should describe the research and its potential contribution to improving the design, construction and operation of maritime vessels and structures,

- Nominations may be forwarded online at [www.rina.org.uk/MaritimeInnovationAward](http://www.rina.org.uk/MaritimeInnovationAward)

or by email to

[MaritimeInnovationAward@rina.org.uk](mailto:MaritimeInnovationAward@rina.org.uk)

- Nominations should arrive at RINA Headquarters by **31 December 2014**
- Queries about the award should be forwarded to the Chief Executive at [hq@rina.org.uk](mailto:hq@rina.org.uk)

## RINA - Lloyd's Register Maritime Safety Award

The safety of the seafarer and protection of the maritime environment begins with good design, followed by sound construction and efficient operation. Naval architects and engineers involved in the design, construction and operation of maritime vessels and structures can make a significant contribution to safety and the Royal Institution of Naval Architects, with the support of Lloyd's Register, wishes to recognise the achievement of engineers in improving safety at sea and the protection of the maritime environment. Such recognition serves to raise awareness and promote further improvements.

The Maritime Safety Award is presented annually to an individual, company or organisation that in the opinion of the Institution and Lloyd's Register, is judged to have made an outstanding contribution to the improvement of maritime safety or the protection of the maritime environment. Such contribution may have been made by a specific activity or over a period of time. Individuals may not nominate themselves. Nominations are now invited for the 2014 Maritime Safety Award.

Nominations of up to **750 words** should describe the nominee's contribution to:

- safety of life or protection of the marine environment, through novel or improved design, construction or operational procedures of ships or maritime structures
- the advancement of maritime safety through management, regulation, legislation or development of standards, codes of practice or guidance
- research, learned papers or publications in the field of maritime safety
- education, teaching or training in maritime safety issues



Lloyd's  
Register

**The closing date for nominations is 31 Dec 2014. The Award will be announced at the Institution's 2015 Annual Dinner.**

Nominations may be made by any member of the global maritime community and should be forwarded online at [www.rina.org.uk/MaritimeSafetyAward](http://www.rina.org.uk/MaritimeSafetyAward) or by email to [MaritimeSafetyAward@rina.org.uk](mailto:MaritimeSafetyAward@rina.org.uk)

Queries about the Award should be forwarded to the Chief Executive at [hq@rina.org.uk](mailto:hq@rina.org.uk)

## Linkedin

- Peak Vertical Accelerations on High Speed Craft
- Equivalency of Classification Societies' Notations - The notion of 'Common Class Notations'
- In an age where litigation is rife, there appears to be a tendency to over engineer ships. Has the move to risk based design slowed this trend.?
- Integration of Propulsion System on Ships – Whose responsibility?
- Reducing Risk and Increasing Reliability Through Simulation Driven Design.
- Recent IMO Legislation
- Mitigating the Skills Gap in the Maritime and Offshore Oil & Gas Market
- Rig motion factor
- Guidance on how to design protection for a mooring line snapping

Just some of the topics discussed recently by the members – over 10,500 – of the RINA group on the online professional networking site LinkedIn. The group provides a forum for members of the group to seek or provide technical information, or to discuss matters of professional interest. The group has a no product, company or recruitment advertising policy.

To join the LinkedIn group, go to:

<http://www.linkedin.com/groups?mostPopular=&gid=3077992>

or follow the link from the RINA website home page at

[www.rina.org.uk](http://www.rina.org.uk)

## RINA AFFAIRS

The Institution is not, as a body, responsible for opinions expressed in RINA Affairs unless expressly stated that these are Council's views.

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## 2014 EVENTS PROGRAMME

### Marine Design

3-4 September 2014, Coventry, UK **Registration Open**

Building on the success of the first International Conference, RINA Marine Design 2014 will provide a forum for reporting and discussing the design practice and technical issues associated with aesthetic design. The full spectrum of marine design from small craft to super yachts, including commercial and specialist vessels, will be examined.

### Intellectual Property Rights Seminar

16 September 2014, London, UK **Registration Open**

The one-day Seminar on IPR and the Small Craft Designer will provide designers and others involved with the small craft sector with an understanding of IPR law and the extent to which it protects inventions and designs. The seminar will consist of a number of sessions in which presentations on various aspects of IPR will be given by experts and practitioners, followed by discussion.

### Influence of EEDI on Ship Design

24-25 September 2014, London, UK

**Early Bird Registration Open (Until 25 August)**

The EEDI will enter into force in a number of phases that increases the restriction on CO<sub>2</sub> emissions. The current phase has led designers and operators to retrofit existing technologies and make operational changes that make slight gains in hull and engine efficiency. However as later phases introduce tougher restrictions, more fundamental changes in ships design will be needed in order for a vessel to comply. The EEDI will become an ever more important design parameter.

### Contract Management for Ship Construction, Repair & Design

7-9 October 2014, London, UK **Registration Open**

Dr Kenneth W. Fisher FRINA is regularly engaged by owners, government agencies, shipyards and vendors and as a consultant and expert witness in contract management. Dr Fisher has directed numerous arbitration and analyses to identify the weak points and failures of contract management staffs which led to 'contractual disasters' in shipbuilding and ship repair.

### HSMV 2014

15-17 October 2014, Naples, Italy **Call for Papers**

The 10th HSMV Symposium will be held in Naples in October 2014. As in previous years, the Symposium will provide an opportunity to present and discuss developments in the design, construction and operation of high speed marine vessels.

### Marine Heavy Transport & Lift IV

29-30 October 2014, London, UK **Call for Papers**

This conference, the fourth in the series from RINA, aims to

bring together naval architects, operators, project engineers, warranty surveyors and designers to examine the various design and operational issues associated with this industry.

#### **ICSOT Indonesia: Developments in Ship Design & Construction**

4-5 November 2014, Makassar, Indonesia **Call for Papers**

The next conference is planned to be held at Hasanuddin University Makassar by cooperating with the Naval Architecture Department, Engineering Faculty, UNHAS Makassar. The main objective of this event is to give a chance for members of the international maritime industry to present and discuss the latest developments in marine research and technologies which could provide improvements and solution to the problems and challenges related to ship building and offshore applications. Besides that, it also could become a way to increase a number of international publications of researchers from local universities and institutions.

#### **Presidents Invitation Lecture & Dinner**

20 November 2014, London, UK **Registration Open**

The annual Presidents Invitation Lecture is a major event in the Institution's calendar, which aims to present important and topical maritime themes and issues by leading individuals in their sector of the maritime industry. The 2014 President's Invitation Lecture will be presented by Dr Bas Buchner, President of the Marine Research Institute Netherlands. The title of his Lecture will be 'Research for Future Ships and Offshore Structures: Bridging the Gap Between Design and Operation', addressing an issue of the utmost importance to the global maritime industry.

#### **Historic Ships**

25-26 November 2014, London, UK **Early bird Registration Open**

The Historic Ships conference returns for a fourth instalment that will not only focus on the restoration and preservation of historic vessels, but also the research and investigation into the engineering and efficiency of historic design through modern naval architecture techniques.

#### **International Conference on Experimental & Computational Marine Hydrodynamics**

3-4 December 2014, Chennai, India **Call for Papers**

The aim of the conference and the pre-conference workshop is to provide a venue for disseminating recent advances made in computational and experimental marine hydrodynamics and explore outstanding and frontier problems in marine hydrodynamics for further research and applications.

### **2015 EVENTS PROGRAMME**

#### **Design & Operation of Offshore Wind Farm Support Vessels**

28-29 January 2015, London, UK **Call for Papers**

The two day conference aims to cover all aspects of design, navigation, communication & controls,

classification & statutory requirements, sea keeping & manoeuvring, crew safety & comfort fatigue, health & safety, environment, operation, powering & propulsion, construction, machinery & equipment.

#### **Structural Load & Fatigue on Floating Structures**

25-26 February 2015, London, UK **Call for Papers**

Floating structures have been deployed in offshore oil developments since the 1970s. As these systems are being deployed in more remote and harsher environments, and sometimes beyond their original design life. Investigation into through life structural analysis and the effects of fatigue on a structure is important not only in the assessment of risk, but the potential in extending the life of a structure.

#### **Damaged Ship III**

25-26 March 2015, London, UK **Call for Papers**

Recent incidents at sea have shown that investigations and understanding of the behaviour of damaged ships are as important as ever. This event will focus on the assessment and analysis of stability, strength, sea worthiness of a ship damaged by collision, grounding, etc. It will also consider procedures to minimise risks for passengers, crew, ship, and environment and to develop safe countermeasures.

#### **Ice Class Vessels**

28-29 April 2015, London, UK **Call for Papers**

Many kinds of Vessel operate near the poles, all of which are exposed to a number of unique demands. Ice exerts structural loads on the hull and propeller when keeping station, sea spray and atmospheric conditions can create an accumulation of icing on important deck equipment, and the safety and wellbeing of the crew when exposed to below freezing temperatures, not only in normal operation but also in emergency conditions, all have an impact on how a vessel is designed to operate.

#### **Basic Dry Dock Training Course**

26-29 May 2015, London, UK **Registration Open**

DM Consulting's Basic Dry Dock Training is a 4-day course that covers the fundamentals and calculations of dry docking.

#### **ICCAS 2015**

29 September - 1 October 2015, Bremen, Germany

**Call for Papers**

The 17th International Conference on Computer Applications in Shipbuilding (ICCAS) will review operational experience from existing computer applications in the design and build of ships and offshore structures and will cover a full range of topics including; engineering analysis, data modelling, PLM, CAD, CAM, integrated systems, knowledge management, systems engineering, simulation, visualisation, processes and standards.



## RINA Headquarters 2014 8-9 Northumberland Street, London

### *The Scott Russell Room*

One of the meeting rooms in the new Headquarters at 8-9 Northumberland Street is named after John Scott Russell, a founding member of the Institution.



The Scott Russell Room

John Scott Russell graduated from Glasgow University in 1825, aged just 17, going on to teach mathematics and natural philosophy at Edinburgh University. In the 1830s he began research into wave-generation and its effects, which resulted in his discovery of the 'solitary wave'. He moved to London in 1844 and, in collaboration with Isambard Kingdom Brunel, built the pioneering iron steam ship the Great Eastern (1856). He also designed HMS Warrior (1860), the largest and fastest ship of its day, which revolutionised warship construction. He was Secretary of the Society of Arts from 1845-1850, and Secretary to the Committee behind the Great Exhibition of 1851. He was one of the founders of the Institution of Naval Architects in 1860.

### *The Denny Room*

Used for meetings, conferences and housing the Institution's library, the main public room at the new Headquarters is the Denny Room, named after Sir Archibald Denny.

Archibald Denny was a member of the Denny family who had been involved in shipbuilding in Dumbarton from the early 19th century. William Denny & Sons of built over 1500 ships at their Dunbarton yard between 1844 and 1963. They built all types of ships but were particularly well known as builders of fine cross-channel steamships and ferries. Always innovators they were responsible for a number of firsts, including Rotomahana (1878) - the first all steel merchant ship; King Edward (1901) - the first commercial turbine steamer; Robert the Bruce (1834) - the first all welded vessel. Denny's was the first commercial yard to use a Ship Model Experiment Tank. In charge of technical developments at the shipyard, Archibald Denny was closely associated with Denny's international reputation for innovation and high quality ship design.



Conferences in the Denny Room



Board meetings in the Denny Room

### *The Froude Room*

One of the meeting rooms in the new Headquarters at 8-9 Northumberland Street is named after William Froude – a name familiar to all naval architects.

William Froude's work in identifying the most efficient shape for the hull of ships, as well as predicting ship stability with reference to reduced-scale models, had a significant influence on ship design.



The Froude Room

In 1861, he wrote a paper on the design of ship stability in a seaway, published by the Institution of Naval Architects, recognised today as a major advancement in ship design theory. Between 1863 and 1867, through a series of experiments using models to determine the physical laws governing full-scale ships, he discovered the laws

by which the performance of the model could be extrapolated to the ship when both have the same geometrical shape. The Froude number, expressed as the ratio of a vessel's velocity to the square root of the product of its waterline length and the acceleration of gravity, is still used today by naval architects to predict the behaviour of ships from scale models.

### *Foyer*

Visitors to the Headquarters are greeted by the splendid model of the Cutty Sark, on loan to the Institution.

### *Foyer*





## RINA Headquarters 1860 - 2014

### *Adelphi Terrace: 1860 – 1928*

Following its formation in 1860, the Institution settled in rooms at Adelphi Terrace, first at No. 7, then at No. 9 and finally at No 5. The proximity of Adelphi Terrace to the Royal Society of Arts where John Scott Russell, a founder member of the Institution of Naval Architects, had been Secretary, and where for many years meetings of the Institution were held, made the choice of the Institution's first headquarters very convenient.



Adelphi Terrace - early 19th Century

### *Adam Street: 1928 - 1938*

With the reconstruction of Adelphi Terrace after the 1914-1918 war, in 1928 the Institution moved its Headquarters to the south corner of Adam Street nearby.



Adam Street – circa 1920

### *Upper Belgrave Street: 1938 - 2013*

In 1938, the Institution moved to 10 Upper Belgrave Street, and in 1955, the Headquarters were extended to include a Lecture Hall, the building of which was greatly facilitated by the generosity of the late Viscount Weir of Eastwood, an Honorary Vice-President of the Institution, after which the hall was named. The wood paneled Denny Library was named after Sir Archibald Denny, an Honorary Vice-President of the Institution.

Upper Belgrave Street – circa 1930



### *Northumberland Street: 2013 –*

In 2013, the Institution moved to 8-9 Northumberland Street, not far from both Adelphi Terrace and Adam Street. Maintaining the links with its previous Headquarters, two of the meeting rooms were named the Denny Room and the Scott Russell Room.

Northumberland Street

