



RINA AFFAIRS

SEPTEMBER/OCTOBER 2011

The Newsletter of the Royal Institution of the Naval Architects

CHIEF EXECUTIVE'S COLUMN



Next month will see the start of the careers of many engineers as first year students at universities and colleges in the northern hemisphere join those in the southern hemisphere who have already started their naval architecture or related courses. A large number of students at the now 60 + universities and colleges where the Institution has links through membership of staff and students will benefit over the next 2 to 4 years from the Institution's policy of encouraging their membership and active involvement as Student Members.

As Student Members, some will enjoy free membership during their time at university or college and all will receive the Institution's journals. They will also enjoy many other benefits such as the increased number of free places at RINA conference, sponsored by both industry and the Institution. (The Institution continually seeks to increase the number of sponsored places – members who think that their companies would be willing to sponsor a place should contact the Chief Executive for further information) Some will receive the RINA scholarships, prizes and awards, including the RINA Student Awards. These Awards, which are sponsored by industry, recognise academic excellence of both undergraduates and postgraduates, and are now presented at 39 universities.

Having experienced the benefits of membership whilst at university or college, hopefully Student Members will recognise the value and importance of membership of the Institution to their professional development and future careers, and continue their membership when they start to receive annual fees notices as Associate Members. However, the Institution recognises the financial pressures on newly graduated members, and the first fee will not be due until 1 January of the year following graduation. Those who continue in full-time study as Associate Members will receive a 50% reduction in their membership fees.

Associate Members will find that employers worldwide recognise the added value which membership of the Institution as an Associate Member provides. They will welcome the early commitment to achieving the Institution's high professional standards which membership demonstrates, and in the longer term, both industry and the profession will benefit from members' implicit acceptance of the requirement to continue their professional development throughout their working lives.

The Institution's policy with regard to the younger members of the Institution continues to represent a significant investment in the future of both the Institution and the profession. However, I am sure that none would doubt its wisdom and necessity. The Institution is grateful to members of staff at the universities and colleges for encouraging students to become Student Members, and for their support of the Institution's various awards.

And finally, may I remind all members with sons and daughters (or nephews and nieces, grandsons and granddaughters) still at school and who may be contemplating a career in ship or boat design and construction, or just have an interest in maritime matters, that they would be most welcome as Junior Members. I am sure that their interest would be maintained by receiving the Institution's journals each month. Annual Fees of £26 can be charged to members.

Chief Executive

IN THIS ISSUE

International Journal of Marine Design

The Royal Institution of Naval Architects announces the publication of a new journal - the *International Journal of Marine Design* - the *IJMD*.

Webinar - "Titanic Revisited 1912-2011"

Dr. Stephen Payne OBE RDI FRINA, Past President the Royal Institution of Naval Architects, describes the ship and her loss and compares her to the modern day transatlantic liner Queen Mary 2.

University News

A recent collegium at Southampton University, funded by The Lloyd's Register Educational Trust, has produced four technical papers that the authors hope will spur discussion and further innovation as industry strives to find solutions to the challenges of carbon capture and storage.

Branch News

News from the Branches in Australia, India and Bangladesh.

Fifth Symposium on Thames Shipbuilding and Thames Built Ships

Members are invited to a Seminar to be organised by the Docklands History Group.

Insurance for members

Genesis Choice Ltd now offer members a range of insurance products in addition to travel insurance.

Climate Change and Shipping

Two papers have been launched recently by the UK Chamber of Shipping, covering how both an Emission Trading Scheme and an International GHG Contribution Fund (Levy) might work in practice.

Fishing Boat Seminar

The Institution recently held an international forum in London to look at what can be done to improve safety in small commercial fishing vessels.

Letters to the Editor

Letters include requests for information about Samuel and James Buchanan Crawford, moonpools, and the bulk carrier *Sheaf Mount*.

People in the News

People in the news include a Past President, the winner of two Science, Engineering & Technology Awards and the Maritime Attaché of the Spanish Embassy.

LRET funds collegium to provide innovative forum to find solutions for the carbon capture and storage industry

A collegium funded by the Lloyd's Register Educational Trust (The LRET) has produced four technical papers that the authors hope will spur discussion and further innovation as industry strives to find solutions to the challenges of carbon capture and storage (CCS).

A group of 19 young PhD or post-doctoral researchers were brought to the University of Southampton from countries as far afield as China, Australia, Korea and the US to collaborate on finding potential solutions to the technical and socio-political challenges currently slowing the global expansion of CCS activities.

"There is a growing industry consensus that CCS is part of the solution to global warming. What we also have come to realise is that the challenges facing its development are as much political and social as they are technical, if not more so," said Richard Sadler, Chief Executive Officer, Lloyd's Register. "In sponsoring the collegium, the LRET created an environment where the engineers of the future could begin addressing the

socio-technical challenges of today. The results were impressive and, as our mandate is to benefit the public, I can think of no better use for LRET funds."

The scholars presented their findings earlier this month to a panel of leading academics and industrialists chaired by Sadler.

Their subjects included examinations of the potential: to inject liquid CO₂ into the deepest ocean pockets off China's coast; design options for floating thermal power (gas to wire) infrastructure with CCS injection systems; for a 'Green Town' pilot city to showcase existing air extraction techniques to remove CO₂, transporting it to offshore injection sites and; to inject CO₂ into aging or depleted oil and gas reservoirs using offshore wind energy to power electric CO₂ injection machinery.

The projects addressed some of the biggest challenges currently facing the CCS industry.

The China project emphasised CCS development in the country which just recently became the world's biggest source of related emissions; the floating thermal power project potentially eliminated CO₂

transportation requirements, prominent centres of cost and risk in current models; the 'Green Town' initiative illustrated significant potential to enhance public understanding and support for CCS; and the final project promoted proven technology and exiting sites such as North Yorkshire's massive Drax power plant and depleted oil and gas reserves in the North Sea to offer pragmatic, lower cost solutions.

After deliberating, the panel chose 'Offshore Thermal Power With CCS: An Alternative To CO₂ Transportation' as the winning presentation.

The concept, which envisioned using Floating Production Storage and Offloading model infrastructure, was found to have several benefits, including the ability to exploit stranded gas reserves, generate power without having to purchase land and the mobility to help supply to meet demand. Its most important benefit was its potential to eliminate the need to transport CO₂ from the point of capture to the storage location.

LRET will fund the collegium for two more years.

Philipines

The Philippine Association of Naval Architecture and Marine Engineering Students (PANAMES), a newly formed nationwide student organization in the Philippines will be holding an event dubbed as "1st PANAMES National Convention" bearing the theme "BSNAME Students in Action!" on 4-7 January, 2012 at Olongapo City, Zambales.

The purpose of this event is to create camaraderie of BSNAME Students from all over the Philippines through interactive plenary sessions, academic contests and tours. Also, this event would give opportunity for the students representing their organisations to have linkages or partnerships with the National Council that could give technical assistance and alignment of activities/program.

**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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New South Wales Section

John Willy, Commander, Royal Australian Naval Reserve and Regional Operations Manager Australia, Orient Overseas Container Line, gave a presentation on *Counter-piracy Operations in the Gulf of Aden, Arabian Sea and Somali Basin* to a joint meeting with the IMarEST attended by 29 on 4 May in the Harricks Auditorium at Engineers Australia, Chatswood.

David Firth, Senior Design Engineer with SP-High Modulus, gave a presentation on *Design and Build of Composite Patrol Boats* to a joint meeting with the IMarEST attended by 26 on 1 June in the Harricks Auditorium at Engineers Australia, Chatswood.

John Lord, Chief Operating Officer at Solar Sailor Holdings Limited, gave

a presentation on SolarSails™ Applied to Catamarans, Ships and Unmanned Ocean Vessels to a joint meeting with the IMarEST attended by 32 on 6 July in the Harricks Auditorium at Engineers Australia, Chatswood. This was the highest attendance so far this year, and in the top 20% since Engineers Australia moved from North Sydney to Chatswood in mid-2006.

David Lyons, Principal of Seaflyer Pty Ltd, gave a presentation on *Keep your Keel On! Delamination Characterisation of Curved Composites Using Acoustic Emission and Fibre Bragg Gratings* to a joint meeting with the IMarEST attended by 26 on 3 August in the Harricks Auditorium at Engineers Australia, Chatswood.

Phil Helmore

Bangladesh Branch

The first technical meeting of The Bangladesh Branch of The Royal Institute of Naval Architects (BBRINA) was held on 18 August 2011 at Hotel Pan Pacific Sonargaon, Dhaka. Members of the BBRINA attended the meeting and the meeting was chaired by the BBRINA Chairman Dr. Abdullahel Bari. The meeting was followed by Iftar.

Two papers were presented in the technical session. The first presentation was on '*Concept Design of a Super yacht*' by a group of students (Mr. Abu Bakker Siddique, Mr. Haider and Mr. Anik Mahmud) of Level 4, Term 2 students

of Department of Naval Architecture & Marine Engineering, BUET. The second presentation was on '*Dynamics of Parallelly moving ships*'. The paper is presented by Professor Dr. Rafiqul Islam who is also the Vice Chairman of BBRINA.

The committee of The Bangladesh Branch of RINA took a few important decisions during the meeting. At the end the general secretary of the BBRINA Lt. Cdr. Mahbubar Rashid asked for vote of thanks and briefed the members about the guidelines for the upcoming technical meeting to be held at Coxs Bazar, Bangladesh.

Chennai Branch

Recent technical meetings of the Chennai Branch included the presentation "*Supply Chain Sustainability – Its Relevance in the Maritime Area*" by Mr.N.R.Krishnakumar, Director of Operations, DNV-Business Assurance, Region India and Middle East and the presentation "*Marine Renewable Energy*" by Prof. M. Arockiasamy, Director of Centre for Infrastructure

and Constructed Facilities, Dept of Civil, Environmental & Geomatics Engineering, Florida Atlantic University.

Both meetings were held at Seminar Hall, Department of Ocean Engineering, IIT Madras.

Future technical meetings will include presentations on "*Ship Impact on Berths*" and "*BP well disaster in the gulf of Mexico – what happened?*"

HEADQUARTERS FACILITIES

The Headquarters of The Royal Institution of Naval Architects at 10 Upper Belgrave Street, London, offer a high-quality, low-cost venue for conferences, meetings, examinations and exhibitions for any number up to 80, within 5 minutes walking distance of Victoria tube, rail and bus station. AV facilities are available and catering can be provided. Members enjoy a 10% discount on booking rates.

The Weir Lecture Hall will seat up to 80, and can be set out in conference, classroom or seminar style.



Weir Lecture Hall

The Denny Library will accommodate up to 50 in lecture room style, or seat 30 at the conference table.



Denny Library

The Members' Room will sit up to 30 in lecture room style, or seat 14 at the table.



Members' Room

For further information or to book the Headquarters' facilities, contact Luci Pham, Tel: +44 (0)20 7235 4622; Email: lpham@rina.org.uk

Moonpool

Sir: I am an Engineering Superintendent working with a fleet of Offshore Drilling vessels, all of which are fitted with Moon Pools. The question has come up several times, and despite a bit of research, I am unable to find a suitably sound answer as to where the term is derived from, particularly in relation to our drilling vessels.

I suspect it relates to some form of spyglass / hull aperture (possibly for

fishing or diving) used in an open hull vessel whereby the moon's reflection could be seen in the flat level water surface created by the hole in the hull, but cannot find any proof of this or evidence of when the term was first used.

Our current fleet of 98,000 tonne twin derrick DP3 Drill ships & Semi-submersible Rigs have moonpools fitted to allow for safer drilling operation, but given the amount of Topside structure

above and the size of these moonpools, there can be considerable swells inside and no chance of sighting the moon!!!

Given as this is a Naval Architectural term relating to an important structural area of a vessels hull, can any member provide a suitable explanation as to the origins of this term?

Damien Shine

Damien.Shine@Stena.com

Sheaf Mount

Sir: Students of the Marine Institute at the University of Haifa would like to build a model of the 34,650 tons bulk carrier *Sheaf Mount*, built by J J Thompson & Sons of Sunderland in 1965 for the Sheaf Steam Shipping Company. I would be grateful if any of your members could advise where we could obtain a GA plan of the ship.

Scetman Moshe
moshe000@netvision.net.il

VISITORS TO HEADQUARTERS

Recent visitors to the Institution's Headquarters included Professor Wang Jie, President of the Zhejiang International Maritime College.

Professor Wang Jie with the Chief Executive.



Samuel and James Buchanan Crawford

Sir: I wonder if I could trouble your members with a family research enquiry. I am seeking any information on my great grandfather, **Samuel Crawford** and my grandfather **James Buchanan Crawford**, both of whom were Clyde-based naval architects. I have a small medallion bearing the words "Institution of Naval Architects founded 1860" on a blue ribbon with white stripe. I think this is likely to belong to James but I am not sure.

Samuel Crawford (1838-1903) shows in the various censuses as a shipwright and Shipyard Manager. However on his son James' marriage certificate Samuel is shown as a Naval Architect. Up to 1877 he was working for the Fairfield Shipbuilding Yard (they gave him a handsome gold watch when he left, though he clearly

wasn't retiring). He then became Shipyard Manager for J & G Thomson of Clydebank (and records show he disposed of land to the staff bowling club, so I assume he must have been very senior).

I think it likely that Samuel worked his way from humble "tradesman" beginnings but his son **James Buchanan Crawford** is different. James (1872-1928) graduated from the University of Glasgow sometime in the late 1890s. I understand this was the first university department course in naval architecture and had been established only some 20 years. I believe he went on to work at Lithgows in Port Glasgow before dying young. His son James was also a naval architect working for the admiralty in bath until his death in 1962.

Ian Crawford
iancrawford@chhmail.com

James Buchanan Crawford was a Member of RINA from 1895 to 1903, but no information is held on Samuel Crawford.

Chief Executive

THOUGHT FOR THE MONTH

He who loves practice without theory is like the sailor who boards ship without a rudder and compass and never knows where he may cast.

Leonardo da Vinci

RINA News – Webinars

Webinar – short for Web-based Seminar – a presentation, lecture, workshop or seminar that is transmitted over the Web.

For many members, the opportunity to meet with other local marine professionals and hear of developments in the industry at conferences, Branch meetings and other events are one of the most valuable benefits of their membership. Unfortunately, not all members are able to attend such meetings.

Reading conference papers or meeting notes are no substitute for listening to and viewing the presentation, and having the opportunity to ask questions of the speaker. The Institution is therefore introducing Webinars to enable members to participate in Branch meetings and conferences, at times convenient to them.

Speakers at Branch meetings and conferences will be invited to record their presentations as Webinars. Members will be able to view the Webinars online using Windows Media Viewer, or other such media player. The online Webinar



Forum will enable members to email questions to the speaker (if willing to accept such questions). The Forum will normally remain open for one month after publication of the Webinar.

Webinars will also be used to amplify guidance information on the website, eg a presentation by the Chief Executive on The Route to Graduate Membership. Appropriate presentations made by members at non RINA events or commercial presentations may also be accepted as Webinars. Further details can be obtained from the Chief Executive.

“Titanic Revisited 1912-2011”

When RMS *Titanic* departed from

Southampton on 10 April 1912, no one could imagine the drama that would unfold over the next four days. The sinking of the ship was a severe blow to Edwardian prestige and pride and brought into question the rules that regulated passenger ship design, construction and operation.

One hundred years on, Dr. Stephen Payne OBE RDI FRINA, past President of the Royal Institution of Naval Architects, describes the ship and her loss and compares her to the modern day transatlantic liner *Queen Mary 2*.

“*Titanic Revisited 1912-2011*” was first presented at the 2011 Annual General Meeting, in April 2011, and may be viewed at www.rina.org.uk/Webinars.

Webinar Forum

Comments and questions for Dr Payne may be posted in the online Webinar Forum at www.rina.org.uk/Webinars/Forum The Forum for “*Titanic Revisited 1912-2011*” will remain open until 30 November 2011.

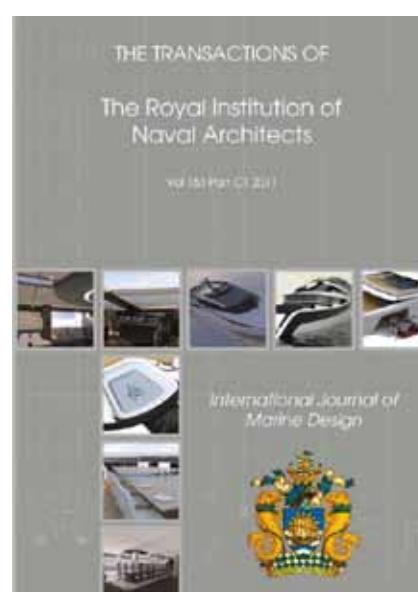
International Journal of Marine Design

Institution publishes new journal

The Royal Institution of Naval Architects announces the publication of a new journal – the *International Journal of Marine Design* – the *IJMD*

The *IJMD* will provide a forum for the reporting and discussion on design practice and technical issues associated with the aesthetics of marine design, covering the full spectrum of marine vessels from small craft to superyachts, including commercial and specialist vessels.

The *IJMD* will cover all aspects of aesthetic marine design, including Design visualisation; Ergonomics and domotics; Sustainability in construction; Sustainability in



operation; Implementation of regulations in the design process; and Virtual work/learning environments.

The *IJMD* will publish peer-reviewed papers, design reviews and invited articles. It will also invite discussion and comment.

Forming Part C of the Transactions of The Royal Institution of Naval Architects, the *IJMD* will published twice per year, in online format only, making full use of multimedia. The first two issues will be free, and thereafter available on subscription.

The Institution welcomes comment to hq@rina.org.uk on the first issue of the *International Journal of Marine Design*.

Fishing Boat Seminar

The Institution recently held an international forum in London to look at what can be done to improve safety in small commercial fishing vessels.

Although the meeting specifically addressed the question of what naval architects could do to make small fishing boats safer, it developed into a wide-ranging look at the whole issue of safety in small fishing boat. As well as members of the Small Craft and Safety Committees, delegates from the MCA, MAIB, Seafish, the RNLI and several other UK and international organisations attended the meeting.

Although it was recognised that commercial fishing in small boats is inherently dangerous, a range of issues

that contributed to the dangers and that could be improved were identified. These included:

- Safety awareness and a better safety 'culture' among fishermen.
- Better stability requirements – many small boats are built with no involvement of naval architects, and additions/alterations are made to many vessels that compromise stability.
- Low freeboard causing easier deck flooding and capsize.
- Regulations creating length bands encourage unstable 'rule beater' designs.
- Small boats have cramped working conditions that means crewmen are forced to work very close to deck machinery and are liable to be caught up in winches, ropes etc.

- Regulatory and financial pressures are leading to increased single-handed working and small boats working in areas/sea conditions beyond their capacity, long working hours and fatigue, and poorly maintained vessels.
- Inadequate inspections and control of small boats.
- A need for better training and development of safety awareness.

A report of the Seminar published in Fishing News may be read at www.rina.org.uk/RINA_Affairs/FishingBoats

INDUSTRY NEWS

Climate Change and Shipping - A Practical Contribution to the Debate

Two papers have been launched recently by the UK Chamber of Shipping, covering how both an Emission Trading Scheme and an International GHG Contribution Fund (Levy) might work in practice.

International opinion is divided

on the best model for reducing the shipping industry's carbon emissions. Some support the idea of a greenhouse gas (GHG) contribution fund, in which shipping companies would contribute as part of purchases of bunker fuel. Others prefer an Emissions Trading System

(ETS), in which shipping companies would buy a shipping allowance or "emissions unit", which they would then surrender according to their actual carbon emissions.

The two papers may be viewed at www.british-shipping.org/publications

PROJECT DIVEST

Dismantling of Vessels with Enhanced Safety and Technology

DIVEST is a Research and Technology Development collaborative project funded by the European Community as part of the 7th Framework Programme for Research, Technological Development and Demonstration (FP7: 2007-2011), under Grant Agreement No SCP-GA-2008-218695-DIVEST.

The aim of DIVEST is to provide a holistic understanding of ship dismantling through the combination of requirements and impacts (with associated procedures and processes)

from pertinent social, technical, economic and environmental drivers into a single, integrated and validated decision support tool (database).

DIVEST has produced an innovative, holistic, risk intelligent and fully integrated Decision Support Tool (DST) concerning the subject of Ship Recycling. The tool enables stakeholders to assess the economic, environmental and health & safety implications of numerous scenarios within which recycling might take place.

Details of the work of DIVEST are summarised in its third and final bulletin, and in its website at www.divest-project.eu

Divest Workshop

A demonstration of the Decision Support Tool and information about the work of DIVEST will be given in a free workshop at RINA Headquarters on 6 & 7 Oct 2011. Details are in the Bulletin. Contact David Calder at david.calder@twi.co.uk for further details and to reserve a place. (Not RINA Headquarters).

Vice Admiral “Jerry” Land Medal

The Vice Admiral “Jerry” Land Medal for outstanding accomplishment in the marine field has been awarded by the Society of Naval Architects and Marine Engineers to Stephen M. Payne, Past President and former Vice President and Chief Naval Architect, Carnival Corporate Shipbuilding.

RINA – Austal Ships Student Naval Architect Award

The best presentation by a student enrolled in the naval architecture programme at the University of NSW was made by Mr Alexander Conway

on *Optimisation of Canting Keels for Racing Yachts*. He has been awarded the 2011 RINA-Austal Ships Student Naval Architect Award.

RINA Associate Member wins SET Award

Peter Dow AMRINA from the University of Strathclyde was the winner of the Maritime Technology Category of the 2011 Science, Engineering and Technology Awards. Peter’s winning Project on Carbon capture and

storage also gained him the overall award for the best project in all of the 16 Categories.

The SET Awards are the world’s most important educational awards for science and technology undergraduates. Supported by industry, and leading scientific and technical institutions, the awards are multidisciplinary to reflect the wide range of degrees universities have to offer.

The SET awards provide a showcase for educational excellence by publicly recognising the exceptional achievements of both students and universities. They bring together hundreds of technology students and academics, as well as senior figures from industry, government, science and the media.

The Marine Technology category Award is sponsored by The Lloyd’s Register Educational Trust, and is supported by the Institution which provide one of the judges.



Peter receives his Award from Professor John Carlson, chairman of judges (Photo by Cyril Bruneau).

Rubén López-Pulido MRINA

Appointments

Rubén López-Pulido MRINA has been appointed the Permanent Representative of Spain to the International Maritime

Organisation and Maritime Attaché of the Spanish Embassy to the Court of St. James - the first Spanish naval architect (and member of the Institution) to hold these positions.

2011 EVENTS PROGRAMME

FUNDAMENTALS OF CONTRACT & CHANGE MANAGEMENT FOR SHIP CONSTRUCTION, REPAIR AND DESIGN

11-14 October 2011, London, UK
<http://www.rina.org.uk/fundamentalsoctober2011>

BASIC DRY DOCK AUSTRALIA

11-14 October 2011, Melbourne, Australia
<http://www.rina.org.uk/drydockaustralia2011.html>

BASIC DRY DOCK SINGAPORE

17-20 October 2011, Singapore
<http://www.rina.org.uk/drydocksingapore2011.html>

HUMAN FACTORS IN SHIP DESIGN AND OPERATION

16-17 November 2011, London, UK
<http://www.rina.org.uk/humanfactors2011>

DEVELOPMENTS IN MARINE CFD

18 – 19 November 2011, Chennai, India
www.rina.org.uk/marine_cfd_india.html

THE PRESIDENTS INVITATION LECTURE

23 November 2011, London
www.rina.org.uk/presidentsinvitationlecture2011

INTERNATIONAL CONFERENCE ON THE EDUCATION & PROFESSIONAL DEVELOPMENT OF ENGINEERS IN THE MARITIME INDUSTRY

7-8 December 2011, Newcastle, UK
www.rina.org.uk/

ICSOT: TECHNOLOGICAL INNOVATIONS IN SHIPBUILDING

8-9 December 2011, Kharagpur, India
www.rina.org.uk/ICSOTINDIA2011