RINA AFFAIRS

OCTOBER/NOVEMBER 2015

The Newsletter of the Royal Institution of the Naval Architects

CHIEF EXECUTIVE'S COLUMN

Annual Fees Renewal Notices have been sent by email, with posted copies only to members for whom no email address is held.

The recommended and preferred method of payment for members with access to a UK bank is by Direct Debit. Payment is taken when due on 1 January 2016, and no further action is required. This ensures that payment of membership fees is not overlooked, and avoids the need for me to write to members in June 2016, informing them that they are about to be removed from the Membership Roll and registration with the Engineering Council for non-payment of fees, their journals having been stopped earlier. Direct Debit Mandate Forms are available from Headquarters. Members in China may pay directly into the Institution's Chinese bank account.

Membership fees may be paid online by all major credit cards. Payment can also be made by bank transfer or personal cheque drawn on a GBP, Euro, A$, NZ$, Can$ or US$ account, but members should remember that the bank will make a charge for transfer and ensure that the full amount due is transferred.

All members are entitled to receive the printed and digital issues of *The Naval Architect* (+ *Warship Technology* + *Offshore Marine Technology*). Members have the option to receive the digital version only, with a corresponding reduction in membership fee. The financial saving to both member and the Institution apart, many members find this to be the most convenient method of receiving and reading the journals, whether on a PC or tablet. Members receiving the digital issue have access to all archived issues. Members are requested to check their MyRINA page before paying their 2016 Membership Fee, to ensure they are receiving the correct journal version or to opt to receive the digital version only.

Members are also asked to review their standing order for journals and the Transactions (the *International Journal of Maritime Engineering, the International Journal of Small Craft Technology* and the *International Journal of Marine Design*). Members should also decide if they wish to subscribe to *Ship & Boat International* and *Ship Repair & Conversion Technology*. I would urge all members who do not already do so to consider taking these journals. They are first class journals and are widely acknowledged in the world maritime industry as leaders in their fields. More copies sent to members means larger circulations, which makes the journals more attractive to advertisers, which increases the Institution's income, which means lower Annual Fees!

I would ask all members to check and update their personal details given on their MyRINA page. At any one time, up to 200 members' current addresses are not known, resulting in correspondence and journals being returned, and back numbers being forwarded when new addresses are notified. The additional administrative, postage and printing costs are not insignificant. A charge is also made for returning journals from outside the UK.

This being the last issue of RINA Affairs in 2015, on behalf of the Secretariat staff, I would like to wish all members an early Happy Christmas and a prosperous New Year.

Trevor Blakeley

IN THIS ISSUE

ICSOT Indonesia 2015

Fourteen papers on developments in ship design and construction were presented at the 4th International Conference on Ship & Offshore Technology (Indonesia) organised by the Royal Institution of Naval Architects and the Sepuluh Nopember Institute of Technology, held in Surabaya.

The opening Keynote speech was given by Mr N Ueda, Chairman and President of ClassNK.

The 10th anniversary of the formation of the Indonesia (Surabaya) Branch was celebrated at the conference Dinner. During the Dinner, the Chief Executive, Trevor Blakeley, presented Professor IKAP Utama with the Council's Certificate of Appreciation, in recognition of his significant contribution to the work of the Institution through his valued service as a long serving and founding member of the Branch Committee.

The International Tanker Owners Pollution Federation R&D Award

Applications are invited for the 2016 ITOPF Research and Development Award.

The annual 'ITOPF R&D Award' provides up to £50,000 to fund R&D projects that make a valuable contributions to improving the knowledge and understanding of issues related to accidental marine pollution. The purpose of this initiative is to encourage organisations worldwide to inspire innovative thinking and to develop ideas that could provide realistic solutions to some of the challenges faced in spill response and environmental monitoring. Details of the award and previous research projects funded at: http://www.itopf.com/in-action/r-d-award/

The deadline for submitting your application is 31 December 2015. Applications will be reviewed in January 2016, with the intention to name the Award winner in late February. Contact annzhang@itopf.com for further information

QUOTE OF THE MONTH

Engineering is not merely knowing and being knowledgeable, like a walking encyclopedia; engineering is not merely analysis; engineering is not merely the possession of the capacity to get elegant solutions to non-existent engineering problems; engineering is practicing the art of the organized forcing of technological change... Engineers operate at the interface between science and society...

Dean Gordon Brown

News from the Divisions, Sections and Branches

Australian Division

Pacific 2015

Over 300 delegates attended the International Maritime Conference, organised jointly by the Institution, IMarEST and Engineers Australia, in association with the Pacific 2015 Maritime Exposition held in in Sydney, NSW.

At the Conference Reception, the Chief Executive, Trevor Blakeley, presented the Walter Atkinson Award to Dr Roger Neill.

Dr Roger Neill receives his Award from the Chief Executive. The Award was announced by Rob Gehling, Secretary of the Australian Division.

The Walter Atkinson Award is presented for the best written paper presented to a forum of the Australian Division. Dr Neill's paper "*Preliminary Analysis of Imagery Data arising from the 2014 Internal Investigation of HMAS AE2*" was presented at a meeting of the Victoria Section.

The Chief Executive welcomed many members and potential members to the Institution's stand at the Pacific 2015 Show.

The Australian Division was invited by a Committee of the Australian Senate to make a submission to the Committee's inquiry into the Defence Physical Sciences & Engineering Workforce.

A submission was prepared based on input from Division members, a number of whom have been involved at senior levels both within Department of Defence and its agencies and in defence-related industry. It details how the naval architecture and other engineering advice provided to Defence had been marginalised over several decades through "functional disintegration", at the expense of increased costs to the Government and reduced capability, sustainability and reliability of Royal Australian Navy ships.

The submission approaches the subject matter from the perspective of the professional standards of naval architects within Defence and in related industry, and having the advice of those naval architects being sought and followed in appropriate situations to reduce costs and improve capability, sustainability and reliability.

Division representatives were called to appear before the Committee to elaborate on the submission.

The submission can can be viewed at http://www.aph.gov.au/Parliamentary_Business/Committees/Senate/Foreign_Affairs_Defence_and_Trade/Defence_PSE_Workforce/Submissions.

Caption: L-R: Chief Executive; Alan Taylor (Chairman NSW Section); Dr Stuart Cannon (Vic. Section); John Jeremy (Chairman, IMC Organising Committee)

Hellenic Joint Branch

At a recent technical meeting of the Hellenic Joint Branch, a paper "*Investigating adverse overvoltage phenomena (e.g. due to lightning) in ship electric grids*" was presented by Mr G.Peppas, PhD Student at the National Technical University of Patra, and Ms E Nikolopoulou, PhD Student at National Technical University of Athens.

QUOTE OF THE MONTH

"Engineers ... are not superhuman. They make mistakes in their assumptions, in their calculations, in their conclusions. That they make mistakes is forgivable; that they catch them is imperative. Thus it is the essence of modern engineering not only to be able to check one's own work but also to have one's work checked and to be able to check the work of others",

Dr Henry Petroski .

People in the news

Professor I K A P Utama FRINA

The Council has presented its Certificate of Appreciation To Professor IKAP Utama FRINA, in recognition of his significant contribution to the work of the Institution through his valued service as a founding and long serving member of the Indonesia (Surabaya) Branch Committee.

Dr Stephen Payne FRINA

Dr Stephen Payne FRINA has been awarded an Honorary Doctorate by the University of Winchester.

International Maritime Academy

During a recent visit to the International Maritime Academy (IMA), Chennai, the Chief Executive, Mr Trevor Blakeley, met with senior members of the Academy to conclude the application for accreditation of the BTech (Naval Architecture & Shipbuilding) course. He later was shown the facilities at IMA, and gave a presentation on the work of the Royal Institution of Naval Architects and the benefits of membership to both students and graduates.

The Chief Executive answers questions from undergraduate students about the work of the Institution

The Chief Executive discusses the accreditation of the BTech course with members of the Naval Architecture & Shipbuilding Department

The Chief Executive meets with senior members of the IMA

Letters to the Editor

Wingsail and Foiling Catamaran

Sir: We are a group of students from the University of Southampton who are working on a project to fit a wing sail and set of hydrofoils to an F18 catamaran, called SHARC (Southampton Hydro-Aero Research Catamaran). The aim would be to create a wing sail and foil system that can then be rescaled to attach other types of dinghy and be easily broken down for easy travelling.

The project is the culmination of our four-year degree in Naval Architecture/ Maritime Engineering and will result in the finished boat being sailed in April. We hope that the project will provide a platform for testing new hydrofoil and wing sail systems that will be developed over the coming years by the university.

We would welcome support or sponsorship for this project which is likely to be very high profile, with good media coverage. I would be happy to provide any further information.

George Jorgensen
SHARC (Southampton Hydro-Aero Research Catamaran)
University of Southampton
sharcboat@gmail.com

QBR Gloriana

Sir: I am undertaking a research project at the University of Westminster on the QBR Gloriana and other similar ceremonial barges of antiquity (namely those used in the Lord Mayors Show).

I wondered if you could provide any information about the history of these barges or point me in the direction of some detailed construction drawings or 3D models?

Alicia Booth
ab189@hotmail.co.uk

Marine Technology Trust

The Marine Technology Trust seeks to foster and promote for the public benefit education, training and research in particular by providing opportunities for education, training and research to young people in matters connected with or bearing upon marine technology.

The Trust makes awards to assist students in universities and colleges being educated in this area. The awards for university students are in the form of financial assistance encouraging and enabling students to take up industrial training opportunities in the marine industries during the summer vacation. It is during these internships that students form their early impressions of working in the marine industry which enthuses, informs and guides them in the early career path. For boat building college students the awards have been mainly used to purchase tools.

The Trust has made 62 awards over the last five years totalling £26,500, to students at the Universities of Newcastle, Southampton and Strathclyde, and the International Boatbuilding Training College. The awards have ranged from £250 to £500 each.

Future Need

The trust would like to expand both the number and size of the awards and accordingly needs to expand its capital base. The UK marine industry has a continued demand for graduate skills and for craftsmen skilled in boatbuilding and repair. The undergraduate student base is quite small and is concentrated in a small number of universities. Encouraging and enabling them to undertake stimulating summer internships is an effective way to ensure that they stay within the marine industry on graduating. There is a limited number of boat building colleges who are training craftsmen skilled in wooden boatbuilding and repair but the students find it difficult to fund the purchase of necessary tools to enable them to take up boatbuilding on completion of their training. There is a strong demand for student support of the type offered by the Trust.

Request for support of the Marine Technology Trust

The primary need is to expand the investment capital that can be used to provide the income required to fund the awards. Support from industry is sought in the form of a cash grant which can be used by the Trust to purchase general shares providing income or an allocation of shares in a supporting company from which an income could be drawn. Students and Colleges will be made aware of industrial support by being advised that their grant comes from MTT and from funds provided by a named list of sponsors.

Further details may be obtained from Dr RV Ahilan [rvahilan@gmail.com]

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 Lloyds 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 2015 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 December 2015. The Award will be announced at the Institution's 2016 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 or by email to MaritimeSafetyAward@rina.org.uk

Queries about the Award should be forwarded to the Chief Executive at **hq@rina.org.uk**

The importance of Professional Development to your career and the maritime industry

Natalie Desty, Head of Maritime Recruitment, UK & International at Matchtech

Working for the past 11 years within maritime recruitment, I have always recognised the importance of the professional development of engineering professionals at all stages of their maritime careers. Becoming a member of a professional institution or gaining chartered status, is hugely valued by employers and demonstrates an individual's level of professionalism, commitment and competence. For the individual it provides support, development and the opportunity to gain an internationally recognised qualification through a professional institution such as RINA. These organisations have the vital role of ensuring that professional standards are reached and maintained in the industry, and that engineers remain up to date with their knowledge in such a fast moving environment – an essential element of their professional development. The significant impact that maritime has on the day to day lives of the population, whether by travel or trade, only compounds its importance. Why then are approximately only 8% of UK engineers currently registered with a professional institution?

To gain some answers, Matchtech conducted a survey in which 500 maritime employers shared their thoughts on the role of professional development in the industry. Surprisingly, noting the statistic above, the results of the survey were overwhelmingly supportive of its role in the professionalisation of the industry. 92% of maritime organisations strongly agreed that professional development is important for the development of their staff, and 86% confirmed that their organisation actively supports the initial professional development (IPD) of their early career professionals, and the continuing professional development (CPD) of their experienced staff, giving a very strong indication that the maritime industry view IPD and CPD as key to ensuring that the standard of engineers within the industry remains high.

Of course, in order for the benefits of IPD and CPD to be realised, they need to be demonstrated to both the employer and employee. When asked whether individuals viewed professional development as an important factor for the development of employees, 86% confirmed that they did. This places IPD and CPD as an important factor in maintaining a high standard of staff, which in turn is linked to increased professionalism and staff retention.

It is interesting to note that although 92% of organisations feel that Professional Development is important, a smaller number of 61% annually pay for membership and professional registration fees for their employees, and perhaps this is where the gap begins. It is debatable whether there is a perception gap between the large organisations who offer professional membership as a staff benefit, to the smaller organisations who view IPD and CPD as the employee's individual journey and responsibility. Individual or not, the employer ultimately benefits from the increase in experience, knowledge, networking and overall professional development, regardless of whether it is compensated by the employer.

It is well documented within engineering as a whole that professional development has a positive effect on industry, and is an efficient way of harnessing knowledge exchange within organisations. The apparent lack of take up within maritime is indicative of the industry as a whole, despite the benefits being demonstrated through the output of a higher quality of work. A greater effort clearly needs to be made to develop a value proposition that maritime businesses understand, correlating the direct link between staff development and increased revenue. This is particularly important in the development of an appropriate level of registration at all levels from apprentice to Chartered Engineer.

It has been suggested that it can be difficult to manage professional development, and whilst registering employees on to Initial and Continuing Professional Development recognised courses is considered 'good practice', receiving a certificate at the end of a course is sometimes recognised as a 'tick in the box', rather than a 'means to an end' of supporting growth for organisations. One way of combating this is to promote the knowledge transfer of new information internally, meaning that the wider company benefit directly from its employees experiences.

Aside from the importance of regulating the industry, we are also operating within an industry that has an image problem. We aren't attracting enough young people in to STEM, we have a disproportionate number of engineers reaching retirement age, and women are hugely underrepresented in the industry. We need to evolve to attract new people to the industry and professional development has a big role to play. The importance of self- regulation through professional review alone is demonstrated in the positive promotion of the industry as a professional career opportunity. Some of the recent initiatives conducted by the maritime institutions are actively educating future generations of the opportunities available within the sector, identifying transfer of learning opportunities, and supporting females to reach their full potential. These initiatives play a vital role, alongside employers to safeguard the future of the industry. Something that is considered as so valuable by both employees and employers can only result in a higher take up of professional development in the future, which will be a benefit to businesses, engineers and the maritime industry as a whole.

NOMINATIONS INVITED FOR ELECTION TO COUNCIL

Corporate Members (Fellows and Members)

Any Corporate Member may nominate a Corporate Member to stand for election to Council.

Each nomination of a Corporate Member must confirm that the nominee is eligible and is willing to stand for election, and contain the signatures of three Corporate Members who support the nomination.

Non Corporate Members (Associate Members and Associates).

Any Voting Member (all except Student Members and Junior Members) may nominate a Non-Corporate Member for election to Council.

Each nomination of a Voting Member must confirm that the nominee is eligible and is willing to stand for election, and contain the signatures of not less than three Voting Members who support the nomination.

Members are not permitted to sign more than three nominations for election to Council. Nominations should be made by letter to the Chief Executive, to arrive at the Institution's Headquarters by 31 December 2015.

QUOTE OF THE MONTH

The engineer is the key figure in the material progress of the world. It is his engineering that makes a reality of the potential value of science by translating scientific knowledge into tools, resources, energy and labour to bring them into the service of man ... To make contributions of this kind the engineer requires the imagination to visualize the needs of society and to appreciate what is possible as well as the technological and broad social age understanding to bring his vision to reality.

Sir Eric Ashby

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

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 2015 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 potentail contribution to improving the design, construction and operation of maritime vessels and structures

Nominations may be forwarded online at www.rina.org.uk/maritimeinnovationaward

or by email to: maritimeinnovationaward@rina.org.uk

Nominations should arrive at RINA Headquarters by *31 December 2015*

Queries about the award should be forwarded to the Chief Executive at hq@rina.org.uk

RINA Headquarters

8-9 Northumberland Street, London

The Scott Russell Room

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

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 Scott Russell Room

The Denny Room

Used for meetings, conferences and housing the Institution's library, the main public room at the 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 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.

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.

The Froude room

Foyer

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

The Foyer

All rooms may be hired by members, at a discounted rate. For details of availability and cost, contact Sara Phillips at sphillips@rina.org.uk