



RINA AFFAIRS

MARCH 2010

The Newsletter of the Royal Institution of the Naval Architects

CHIEF EXECUTIVE'S COLUMN



My recent visit to Singapore, Malaysia, Australia and New Zealand, and the opportunity which it gave me to meet with members (and some soon to become members) and to visit companies and universities left me in no doubt as to the standing which the Institution enjoys in the international maritime community.

The Institution has members in 97 countries, with over 75% from outside the UK – a number which again increased last year – demonstrating conclusively that the Institution is truly an international organisation. The decision of naval architects and others, from Australia to Azerbaijan to become members is confirmation that membership provides an internationally

recognised demonstration of the highest standards of professional competence. Their membership also confirms the value which they place upon the Institution's international publications and conferences, providing the relevant and up-to-date information on developments across all sectors of the global maritime industry which is essential to maintaining that competence.

Few members of the maritime industry would deny the standing which the Institution's journals enjoy amongst the many similar publications which serve the industry world-wide – some better than others in terms of their accuracy and independence. The credit for that must go to the editorial staff and contributors, ably supported by the advertising teams. (I wonder how many members are aware that all editorial, advertising sales and production is done in-house, leaving only the printing and distribution to be out-sourced). The internationalism of the Institution's journals is reflected in their distribution in over 100 countries, giving them a truly global circulation.

The Institution's conferences also enjoy a high reputation for their quality of both content and organisation, and the recent Pacific 2010 International Maritime Conference in Sydney with over 350 delegates was a very good example. The Institution provides an international programme of conferences of the highest quality which no other professional society or commercial conference organiser can match.

I believe that the Institution enjoys a standing in the international maritime industry which is unmatched by any professional society serving the professional needs of those involved in the design, construction and maintenance of marine vessels and structures. This is demonstrated by the number of companies that recognise corporate membership as meeting their requirements for professional recognition, seek the Institution's assistance in developing and accrediting their Graduate Training Programmes or become Corporate Partner members.

I make no apology for beating the drum for the Institution, and I invite all members to do the same in whatever way they can. Membership is surely something to be proud of.

And finally, may I take this opportunity to thank the many members in Singapore, Malaysia, Australia and New Zealand whom I met for their warm welcome.

Chief Executive

2009 ANNUAL REPORT OF COUNCIL AND ANNUAL ACCOUNTS

Council's Report for 2009 and the summary of the Annual Accounts for the period ending 30 Sep 2009 will be published online shortly.

IN THIS ISSUE

2010 AGM

2010 Annual General Meeting of the Institution will be held at 10 Upper Belgrave Street, London, SW1X 8BQ, on Thurs 29 April 2010 at 1100.

2010 Annual Dinner

The 2010 Annual Dinner of the Institution will once again be held at the Lancaster London hotel, on Thurs 29 April.

Small Craft Committee News

British Marine Federation Technical Report No 96 (January 2010) highlights the Fuel Quality Directive, Large Yacht Maritime Labour Convention 2006 and Large Yacht Code articles as items of interest in this issue.

More about Rivets and Rivetting

Comments from a member on the article in Jan/Feb RINA Affairs 'All You Ever Wished To Know About Rivets And Rivetting'

Work Experience Placements for Junior Members

Can your company offer work experience placements for students?

CO-PATCH

In January 2010 a consortium of 15 SMEs and RTDs from eight European countries have kick started a three-year European (FP7) funded project on *Composite Patch Repair for Marine and Civil Engineering Infrastructure Applications - COPATCH*.

QinetiQ's Schools Powerboat Challenge

The first QinetiQ's Schools Powerboat Challenge was won by Applemore Technology College.

New South Wales Section

SMIX

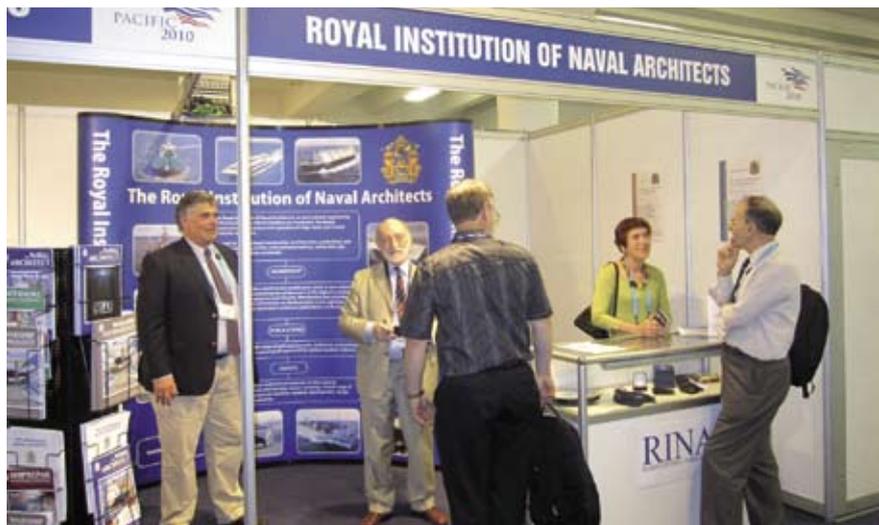
The tenth SMIX (Sydney Marine Industry Christmas) Bash was held on Thursday 3 December aboard the beautifully-restored *James Craig* alongside Wharf 7, Darling Harbour, from 1730 to 2130. The Bash was organised jointly by the IMarEST (Sydney Branch) and RINA (NSW Section).



Some familiar faces enjoying drinks on board *James Craig* at SMIX Bash 2010 (Photo courtesy Adrian Broadbent).

Pacific 2010

The Pacific 2010 International Maritime Conference was held at the Sydney Exhibition and Convention Centre, Darling Harbour, from 27 to 29 January, in conjunction with the RAN's Sea Power Conference and the International Maritime Exhibition. RINA had a stand at the exhibition, crewed by the Chief Executive of RINA, Trevor Blakeley, members visiting Sydney for the event, and members of the NSW Section Committee.



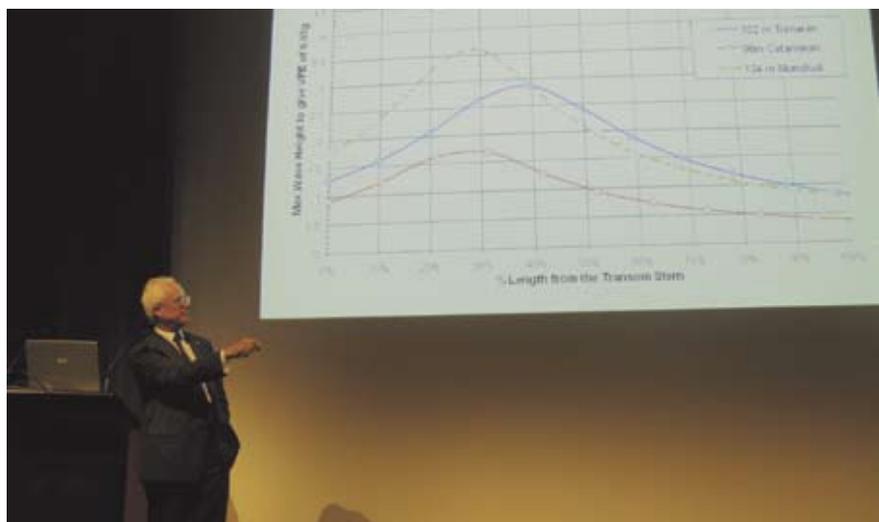
Craig Boulton, Trevor Blakeley, Rob Gehling (back to camera), Jennifer Knox, and Prof. Mike Davis at the RINA stand (Photo courtesy Phil Helmore).

Technical Meeting

Tony Armstrong, Manager Research and Development of Austal Ships, gave a presentation on Engineering Excellence on the Move: Design of High-speed Ships to a meeting in Engineers Australia's Eminent Speaker Series attended by 61 on 2 February in the theatre of the Zenith Centre, Chatswood.

Phil Helmore of the University of New South Wales gave a presentation on Resistance Prediction for Round-bilge and Hard-chine Catamarans to a joint meeting with the IMarEST attended by 21 on 3 February in the Harricks Auditorium at Engineers Australia, Chatswood.

Phil Helmore



Tony Armstrong explaining seakeeping performance of craft types (Photo courtesy Mori Flapan).

Shanghai Branch

Technical Meeting

Following the success of the first Shanghai Branch technical meeting, the second technical meeting was held on 3 February 2010 at the Lloyd's Register Asia Training Centre in Shanghai. The subject of the meeting was "Climate Change Driven Research and Innovations", presented by Dr. Fai Cheng, FRINA, FIMarEST, of Lloyd's Register's Head of Strategic Research, London.

Climate change is one of the biggest challenges facing humanity. It is influencing a broad range of issues that affect the marine industry from ocean environment, standard setting, design, construction, operation and recycling of ships. Corporations have come to understand that their abilities to prosper hinge upon their responses to the

challenges of a carbon-constrained world and an array of other issues on the corporate sustainability agenda. Technologies available today and those expected to become competitive over the next decade, will permit de-carbonisation of global shipping and the development and exploitation of new trade routes and resources available.

This presentation reported the latest initiatives in green technology research and innovations. The evening was well attended with more than 20 participants from across the industry. On completion of the presentation, there was an active discussion with a wide range of questions and answers. As a token of appreciation, Dr. Cheng was presented with the Certificate of Appreciation and the book on Spanish sailing boats.

Ben Y. W. Lau

ACT Section

50 Years and still going strong

During his recent visit to the ACT Section, the Chief Executive, Trevor Blakeley, presented a 50 Years Certificate to Harry Dalrymple.

Harry Dalrymple receives his 50 Years Certificate from the Chief Executive.



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 Sally Charity, Tel: +44 (0)20 7235 4622; Email: scharity@rina.org.uk

Chief Executive visits UTM

During his recent visit to the Universiti Teknologi Malaysia, the Chief Executive, Mr Trevor Blakeley, presented a paper to staff and students on the Challenges Facing the Maritime Industry, followed by a presentation on the role and activities of the Institution.

Following the presentations, Mr Blakeley was presented with a certificate of appreciation by Professor IR. Dr. Azhar Dato' Abdul Aziz, Dean of the Faculty of Mechanical Engineering.



The Chief Executive receives his certificate.

Small Craft Committee News

BMF Technical Reports

British Marine Federation Technical Report No 96 (January 2010) highlights the Fuel Quality Directive, Large Yacht Maritime Labour Convention 2006 and Large Yacht Code articles as items of interest in this issue. The Manufacturing Newsletter #11, included with the

Report, has articles on UK Marine Industry Strategy and UK Composites Strategy and includes Environment Update #3.

The Report may be viewed online at www.rina.org.uk/TechnicalForum/News/CommercialSmallCraft (Members only).

Work Experience Placements for Junior Members

RINA is occasionally contacted by schools and students who are keen to find suitable work experience placements within the industry. The placements usually span a two-week period and take place in May/June. The students are typically aged 14-16 and they are at the stage where they need to start considering their future career options and related further education.

The main aims of the work experience programme are to help students prepare for the transition from school to work and to learn more about the skills needed for different jobs, in order that they might make a more informed decision about their choice of career.

The Institution are looking to compile a list of companies or organisations within the Maritime Industry, who would be happy to take on a student for a two-week placement. We would very be pleased to hear from any company, large or small, from all sectors of the industry and from all regions, who would be prepared to add their name to the list.

The 'employer' is asked to provide a valuable learning opportunity for the student and would not be expected to make any financial contribution.

If you would like to add your business to the list, or would like further information, please contact Sally Charity, Executive Officer, at scharity@rina.org.uk.

2010 Annual Dinner

The Institution's 2010 Annual Dinner will be held at The Lancaster London Hotel, on Thursday 29 April. The principal speakers will be David Moorhouse, Chairman of Lloyd's Register, and making a welcomed return, the Rev'd Canon Bill Christianson, past Secretary General of The Mission to Seafarers.

The Institution's Annual Dinner is a major event in the Institution's diary and is well supported by the maritime industry, as well as members of the Institution. Members and guests represent designers, builders and operators across the entire spectrum of the global maritime industry.

Corporate tables are available, along with private function suites for pre-dinner and after-dinner receptions. Individuals will also be most welcome at the dinner. Tickets can be ordered by contacting Sally Charity at fax no. +44 (0)20 7259 5912, or email: scharity@rina.org.uk or using the online order form at Tickets for the dinner cost £98 (+ VAT), exclusive of wine.

In 2010, the Institution will celebrate the 150th anniversary of its founding in 1860. I do hope that you will be able to join the President and Council on this very special occasion and enjoy the splendid evening which the Institution's Annual Dinner always provides. I look forward to hearing from you.

Chief Executive

Changes To The Membership Structure

For the benefit of those members who may have missed the announcement of the changes to the membership structure, the reasons for and details of the changes are summarised below.

Introduction

The membership structure of the Institution has undergone a number of changes since 1860, both in the classes of membership and in the requirements for election or transfer to each class. The reasons for such changes have usually been linked to changes in the academic requirements for registration with the EC(UK) and its predecessors, and has therefore historically been more relevant to the UK membership for whom membership was and is usually synonymous with registration. The current structure, although now unattached from registration, sets the same academic and professional competence

requirements for membership.

In presenting the changes at the 2009 AGM, Council considers that the rationale of the current structure of membership classes is not well understood both inside and outside the Institution, and does not best reflect either the internationalism of the membership or the much wider scope of employment and therefore professional competence of the naval architect today. Council therefore believes that as the Institution approaches its 150th anniversary, it is appropriate to make changes to the membership structure to improve the understanding of membership of the Institution, and to better reflect the role of naval architect and member today.

Summary

The effect of the proposed changes to membership classes would be as shown below:

Current membership structure	Proposed membership structure
Corporate members	
Fellow (FRINA)	Fellow (FRINA)
Member (MRINA)(CEng) Associate-Member (AMRINA)(IEng) Associate (ARINA)(EngTech)	Member (MRINA) (CEng/IEng/EngTech)
Graduate Member (GMRINA)	Associate Member (AMRINA)
Non Corporate Members	
Student Member	Student Member
Junior Member	Junior Member
Companion (CpRINA)	Associate (AssocRINA)

2010 ANNUAL GENERAL MEETING

NOTICE IS HEREBY GIVEN THAT IN ACCORDANCE WITH BY-LAWS 39 AND 42, THE ANNUAL GENERAL MEETING OF THE INSTITUTION WILL BE HELD AT 10 UPPER BELGRAVE STREET, LONDON, SW1X 8BQ, ON THURS 30 APRIL 2010 AT 1100 FOR THE FOLLOWING PURPOSES;

1. To receive the 2009 Annual Report of Council and the Financial Statement for the year ended 30 September 2009.

2. To consider and if felt fit, approve the following Resolutions:

Resolution 1: To elect Mr P French as President

Resolution 2: To re-elect Mr A Marsh as Treasurer

Resolution 3: To re-appoint haysmacintyre as the Institution's auditors

Note.

1. All members have the privilege to attend the above meeting, but only Voting Members (all except Student Members and Junior Members) are entitled to vote on the Resolutions.

2. Members entitled to vote on the Resolutions may appoint the Chairman of the meeting as their proxy to vote on their behalf.

Members may register their proxy vote by email or by post.

YACHTS OF ALL SIZES

At RINA's conferences, reference is made to super yachts, mega yacht, and even giga yachts. Can any member provide a recognised definition of the size of yachts, or in the absence of one, suggest a definition?

Answers or suggestions to the Chief Executive at hq@rina.org.uk

QinetiQ's Schools Powerboat Challenge

Students in the South of England had an excellent opportunity to learn about the exciting potential of design and engineering careers in the marine industry, thanks to the first QinetiQ Schools Powerboat Challenge, funded by The Royal Society and supported by the Royal Institution of Naval Architects, and The Smallpeice Trust.

The Challenge gave pupils valuable experience considering design needs, creating solutions, solving problems and building a working model boat with

a competition held at its Ocean Basin in Gosport. Pupils between 13 and 16 from eight schools worked in teams of four or five to design, build and race radio-controlled model powerboats either as part of their curriculum or as an extra-curricular activity.

Each team had to present their design to the panel of sponsors, followed by three races, in which the teams aimed to build up points. The racing could not have been closer with some boats going two or three abreast around the buoys in the Ocean Basin.

The Challenge was won by Applemore Technology College, with their model was a carbon-fibre monohull design that had many of the QinetiQ engineers scratching their heads but it worked very well and showed a great turn of speed when the team worked out how to steer the innovative design. The team received a number of prizes; these included a large trophy, an invitation to return for a tour of the world-class Ocean Basin and Towing Tank at QinetiQ Haslar site and a year's free Junior Membership of the Royal Institution of Naval Architects.

The winning team from Applemore Technology College



CO-PATCH - Composite Patch Repair For Marine And Civil Engineering Infrastructure Applications

In January 2010 a consortium of 15 SMEs and RTDs from eight European countries have kick started a three-year European (FP7) funded project on Composite Patch Repair for Marine and Civil Engineering Infrastructure Applications - COPATCH. This is a novel effective repair and/or reinforcement method for large steel structures with defects. Two basic steel

structural types will be dealt with in this work, namely marine structures (mainly ships) and steel civil engineering structures (e.g. bridges).

Composite material patching is a very promising method for repairing and/or reinforcing steel structures. Composite patches prevent crack growth and extend the lifetime of the repaired structure. A composite

patch works as a crack arrestor by decreasing the stress in the area of the crack tip in the case of cracked structures. A part of the applied load is transferred from the base plate through an adhesive layer to the composite patch, thus reducing the stress levels in the substrate.

A full report of the consortium's work is published in the online Technical Forum at <http://www.rina.org.uk/article844.html>.

RINA – KORAB Student Naval Architect Award

The 2009 RINA – KORAB Student Naval Architect Award for the best presented final-year MSc project at Gdansk University of Technology of the Faculty of Ocean Engineering & Ship Technology was awarded to Marcin Zagórski.

Presentations by Łukasz Hirt and Bartosz Sułkowski were highly commended.



Finalists for the 2009 RINA – KORAB Student Naval Architect Award.

RINA – VT Fitzroy Student Naval Architect Award

University of Auckland

The 2009 RINA Student Naval Architect – VT Fitzroy Award was presented to their Kris Decke and John Little, whose project entitled: “A Study of the Reduction of Mainsail Induced Drag” was adjudged by the

Royal Institution of Naval Architects and VT Fitzroy to have been the best presented final-year project at Auckland University.

The Award was presented by the Chief Executive, Mr Trevor Blakeley, during his recent visit to the New Zealand Division.

RINA Student Naval Architect Award

Unitec, New Zealand

During his recent visit to the NZ Division, the Chief Executive, Mr Trevor Blakeley, presented the 2009 RINA Student Naval Architect Award to Aneel Kesry whose project entitled “Design of an 8.5m Purpose Built Aluminium Fishing Vessel” was adjudged to have been the best final-year project in the Bachelor of Applied Technology (Marine) course at Unitec, New Zealand.

2009 RINA – Myanmar Student Naval Architect Award

The 2009 RINA – Myanmar Student Naval Architect Award for the best final-year project at Myanmar Maritime University was awarded to Zar Ni Ko. The Award was presented by the Rector of the University, Prof. Dr.Charlie Than FRINA.

Zar Ni Ko receives his Award from Professor Than.



About Rivets and Riveting

Sir: As a dinosaur who commenced his shipbuilding apprenticeship in the late 1940s in what was then an almost wholly riveting yard, I thoroughly enjoyed James Wells' article *All You Ever Wanted To Know About Rivets And Riveting* (Jan/Feb RINA Affairs), but I would like to offer a few additional thoughts that may be of interest to readers.

Many ship-owners in the 1950s were very conservative and whilst they were happy to allow the gradual introduction of welding, many retained riveted seams and riveted frames and deck beams from choice. I well remember when our shipyard introduced the first steel deck with all-welded seams and butts, but the deck beams were still riveted! It was only with the introduction of fabricated structural units that riveting finally disappeared and there were many steelwork managers whose careers bridged the riveting and welding eras who maintained that a riveted ship could be built up to launch far quicker than a welded one – probably because the riveters were always pieceworkers unlike most welders.

With regard to up to 10% of side frames being riveted below the waterline, I have to say that I never met this restriction for classification purposes when I was working in the Ship Plans Approval Department of Lloyd's Register of Shipping in the late 1950s. Indeed, I had a look at both my personal copy of "Lloyd's Rules" for 1959, and the voluminous, unpublished, applicable notes that supported the Rules,

but could find no mention of such a restriction. Can any other elderly, former Lloyd's Surveyors comment?

The 'Iron Man' referred to was a hydraulic riveter which was invented by Sir William Arroll for use on his Forth Railway Bridge Contract. In shipyards, these machines were used predominantly on large ships on the building berth and on structure where the restricted jaws of the riveter allowed access to the rivets. They were, however, used on the ground in riveting sub-assemblies such as floor plates, girders, deep beams and reverse bars. My last experience of their use was on skids on the ground for riveting beam knees and tank side brackets to beams and side frames with the rivets being heated in an oil-fired furnace.

As Mr Wells says, caulking was the final process after riveting a seam or butt but I would say it was largely a precaution as in most cases the joint would be tight if the plate edges were fair and properly screwed up prior to riveting and, importantly, with no unfair holes that had not been reamed. Even when water testing a tank with a head of water, it was not unusual for any slight leaks that had manifested themselves earlier to have largely dried up by morning if the tank was kept pressed up overnight – probably due to the onset of rusting in those days before shot blasting and priming of steel prior to it being worked.

In my experience, only the most basic yards relied on hand riveting as, to be

effective, this required a left- and a right-handed riveter on the closing side of the rivet if it was not to chill before full closure. The pneumatic hammer did away with the need for the alternate right- and left-hand hammer blows and freed up one member of the squad to form the principal member of an additional squad. I am open to correction on this, but I believe grant assistance was given to shipyards during World War I to install air compressors, piping and pneumatic hammers in a bid to increase productivity in the replacement of war losses.

The rivet squad comprised the riveter, the holder-on (known in Clyde yards as the "holder-on"), the catcher and the rivet boy or heater. The boy was often an infirm riveter of very advanced years!

As they were pieceworkers, I am sure that they must have grabbed the pneumatic hammer with gusto. With the ever increasing change-over to welding, I presume most of the riveters were dead before the percussive disease known as 'white finger' had been recognised.

Indeed, until the advent of ultra-sonic thickness measuring instruments, the method of checking for wastage in a plate was to have drill tests in selected areas and I still have my thickness gauge which is somewhat like a crotchet hook but slim enough for entry into an average sized rivet hole.

Ian Ramsay FRINA

BV Classification Rules 1909

Sir: I am a trustee of the Nomadic Charitable Trust responsible for the restoration and preservation of SS *Nomadic*. As the only member of the Trust with a background in Naval Architecture it normally falls to me to advise on technical issues.

The restoration will include replacement of a number of the main bulkheads that were removed when the vessel was used as a floating restaurant moored in Paris. It is the

intention of the Trust to replicate, as far as possible, the structure as built; unfortunately none of the original "steel" drawings remain.

The vessel as built to Bureau Veritas Classification and examination of these "rules" would assist with this work. Is it possible that you have a copy of the BV 1909 "rules" in the library? I have also written to Bureau Veritas.

The Trust would be most grateful for any technical assistance the Institution can give to

this project. Both the Trust's Project Manager and myself found the recent conference on Historic Ships most useful.

David Livingstone
david_2028@tesco.net
[mailto:david_2028@tesco.net]

The Institution does not hold this information in the Library. Can any member help?

Yacht *Maybird* and Fred Shepherd

Sir; I am a historical researcher, carrying out some work for a client into the history of his yacht, *Maybird*. This vessel is a 43ft Fred Shepherd- designed gaff rigged, canoe stern ketch, built in 1937 at Tyrrells yard in Arklow.

Fred Shepherd was a member of RINA. I am not sure the dates of membership but he

was born in Southampton on 8 June, 1869 and died in King's Somborne, Hampshire on 28 December, 1969.

I am trying to find any information about the design of *Maybird*, including images of her or Fred Shepherd. In addition, I believe he kept a diary, some extracts of which were donated to the

National Maritime Museum in 1976 by his nephew, J H Nancarrow.

I am also keen to trace any living descendants of Fred Shepherd and wonder if your members may be able to help.

Hannah Cunliffe
www.researchthepast.com

An historic vessel for restoration

Sir: We are interested in finding an historic ship that either needs renovation or needs finance. The plan would be to exhibit the vessel in Gibraltar.

I would be grateful for members' assistance in finding such a vessel.

John - GIBS
john@gibraltarboatshow.com

Lines plan for clinker-built wooden lifeboats

Sir; I am preparing an article on the construction and repair of early 20th Century clinker-built wooden lifeboats. If any member has a Lines Plan for one of these craft, I would be both delighted and most grateful if a copy could be made available.

David F. Hutchings MRINA
Senior Technical Librarian
BAE Systems Surface Ships Portsmouth Limited
david.hutchings@bvtsurfacefleet.com

Naval Architecture Internships

Student Members looking for work experience through internships may write to the Chief Executive at hq@rina.org.uk

Where space permits, these requests will be published in RINA Affairs. Requests may also be posted on the Careers section of the website.

INSTITUTION TO SUPPORT SUSTAINABLE SHIPPING AWARDS



The Institution is again supporting the Sustainable Shipping Awards, which will recognise the diversity and breadth of the work that is occurring to change and improve the environmental record of shipping. The 2010 Awards will not only recognise technology, but also design, operation, initiatives, collaborations and projects.

The Award categories will be Marine Environmental Protection, Clean Air, Environmental Awareness, Sustainable Shipping Operator, Environmental Technology and Green Initiative, and will be judged by an internationally recognised panel drawn from the shipping and wider environmental community. The Awards will be presented at the Cumberland Hotel, London on 24 June 2010.

Further details of the Sustainable Shipping Awards can be found at www.sustainableshipping.com/events