



ROBERT ALLAN LTD.

NAVAL ARCHITECTS AND MARINE ENGINEERS

Robert G. Allan, P. Eng.
Executive Chairman of the Board

Education & Qualifications **B.Sc. (Honours) in Naval Architecture, 1971.**
University of Glasgow; Glasgow, Scotland

Summary of Experience Forty-two years of direct experience in the design of commercial workboats of all types, but especially high-performance tugboats for tanker escort and offshore terminal operations. Significant experience in the design of major ice-breaking supply vessels and tugs for the Beaufort Sea and more recently for the Caspian Sea and Sakhalin. Since 1980 has led Robert Allan Ltd to a position of international prominence in the field, including several major International design awards for projects such as the unique **Z-Tech** tug design for the Port of Singapore.

Internationally recognized as a leading authority on the subject of tug and workboat design. Recognized by peers for this work with following major awards:

2005 Royal Institution of Naval Architects (UK), Small Craft Group Medal for significant lifetime achievements in Naval Architecture.

2005 Awarded SNAME David W. Taylor Medal for Notable Achievement in Naval Architecture. (The only Canadian ever to be so honoured)

Certificates and Licences **APEGBC - #10532**

Languages **English**

Robert Allan Ltd. Experience

2008 - Present
Robert Allan Ltd: Executive Chairman of the Board

- Responsible for business promotion and development, creative direction of new design and research projects, and mentoring of younger staff. Conducting special projects and studies.

1981 – 2008

Robert Allan Ltd: President

- Responsible for corporate management and business development, new project proposals, design review, specifications, preliminary design definition, and special research projects.

1978 - 1981

Robert Allan Ltd: Vice President

- Responsible for office management, new project proposals, preparation and supervision of design projects.

1973 - 1987

Robert Allan Ltd: Project Naval Architect

- Specializing in preliminary design preparation and coordination, and overseeing of design drawing preparation.

Other Experience

1971 - 1973

Burness, Corlett & Partners Ltd: Assistant Naval Architect

Specializing in preliminary design preparation, , stability, and sea keeping studies.

1978

Member of **Task Force on Canadian Shipbuilding & Ship Repair Industry**, reporting to Minister of Industry, Trade and Commerce.

1992 - 1993

Member of Committee advising Supply and Services Canada on Design Development and Ship Procurement Processes.

1995

Member of ASTM Committee F-25 on Ships and Marine Technology.
Member of Tug Escort Vessel Working Group.

1997 - 2000

Vice President, Society of Naval Architects and Marine Engineers, Pacific Region.

2002

Appointed a member of **Shipbuilding and Industrial Marine Advisory Council** to Minister of Industry, Government of Canada.

2005 - 2009

Chairman of Tug Design Committee of International **SAFETUG** JIP project, directed by MARIN of the Netherlands.

1987 – 1991 / 2005 - present

Trustee- Vancouver Maritime Museum

2005 - 2011

Member of NFPA Committee 1925, developing standards for design and construction of fireboats.

Professional Memberships **Registered Professional Engineer**, British Columbia

Fellow, Royal Institution of Naval Architects, (UK)

Fellow, Society of Naval Architects and Marine Engineers (USA, Canada)

Awards

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| 2000 | American Bureau of Shipping/Joseph H. Linnard prize for best paper presented to SNAME Annual Meeting. |
| 2000 | Nominated and elected as Fellow in The Society of Naval Architects and Marine Engineers, USA and Canada. |
| 2004 | Singapore Design Award; Z-Tech Concept for unique new Z-drive tug design. |
| 2005 | German Red Dot Industrial Design Award, "Best of the Best", Transportation Category, for Z-Tech tug design. |
| 2005 | Royal Institution of Naval Architects, Small Craft Group Medal for significant lifetime achievements in Naval Architecture. |
| 2005 | Awarded SNAME David W. Taylor Medal for Notable Achievement in Naval Architecture. |
| 2010 | American Bureau of Shipping/Joseph H. Linnard prize for best paper presented to SNAME Annual Meeting (Co-Author with Harford, Bjerkeset, Dalton, Noon, Siegel) |
| 2012 | "Beaver" Medal from Maritime Museum of British Columbia for significant contribution to the maritime industry of BC |

Publications

- **The Owner, The Naval Architect and the Law**, The British Columbia Towboat Owners Association Conference, 1978.
- **Computer-Aided Design in the Canadian Marine Consulting Field**, Canadian Shipbuilding & Ship Repairing Association Technical Conference, 1984.
- **Push-Towing Systems in British Columbia**, The British Columbia Towboat Owners Association Conference, 1984.
- **Ship Handling in the Port of Churchill—The "Bear" Essentials**, Allan, R.G. and Woodward, P., The Society of Naval Architects and Marine Engineers, Pacific Northwest Section, November 1987.
- **The Effects of Various Stern Configurations on the Directional Stability of Towed Barges**, prepared for Transportation Development Centre, Transport Canada, July 1988.
- **Concept Design Studies for the Canadian Coast Guard "Type 500" Search and Rescue Cutter**, The Society of Naval Architects and Marine Engineers, Pacific Northwest Section, September 1989.
- **A Tale of Five Tugboats**, systematic trials for five ship assist tugs operating in the Port of Coos Bay, Oregon, 11th International Tug Conference, Halifax, Nova Scotia, 1990.
- **The Canadian Towing Industry: Tugs, Barges and Their Relationships**, prepared for Canadian Coast Guard, Ship Safety Branch, December 1991.

- **The Canadian Tug and Barge Industry: 1970–1990; A Synopsis of Trends in Vessel Design and Operation**, The British Columbia Towboat Owners Association Industry Conference, 1992.
- **The Evolution of Tug Design: The Canadian Experience**, 12th International Tug & Salvage Convention, Genoa, Italy, 1992.
- **Methods for Preliminary Determination of Escort Tugs**, Royal Institution of Naval Architects, February 1993.
- **The Planning, Design and Construction of Fast Response Fireboats for the Port of Vancouver**, (co-author), The Society of Naval Architects and Marine Engineers, Pacific Northwest Section, February 1993.
- The Committee on Design Development (Codd) Report: **The Development of High Quality Vessels for the Federal Government**, prepared for Public Works and Government Services, Canada
- **The Role and Benefits of Escort Tugs in Canadian Waters**, prepared for Canadian Coast Guard, Ship Safety Branch, January 1994.
- **Guidelines for Tug-Tow Combinations on the Great Lakes**, Canadian Coast Guard, Central Region, January 1994.
- **Cost Analysis of an Emergency Towing System**, Office of Marine Safety, State of Washington, March 1994.
- **Study of Emergency Towing Services Worldwide**, prepared for Office of Marine Safety, State of Washington, June 1994.
- **The Design of Ship Assist Tugs: Towards More Cost-Effective Construction**, ITS'94, Southampton, England, October, 1994.
- **A Review of Escort, Rescue and Salvage Towing Capability in Canadian Waters**, prepared for Canadian Council of Ministers of the Environment, April 1995.
- **The Application and Advantages of Catamarans for Coastal Patrol Vessels**, The Society of Naval Architects and Marine Engineers, Pacific Northwest Section, May 1995.
- **The Planning and Design of Major Routes Car and Passenger Fast Catamaran Ferries for the British Columbia Ferry Corporation**, Principal Author with Harford, K.D., and Quigley, Stephen, Beresford, David, and Flapan, Mori, International Catamaran Designs Pty. Ltd., 12th Fast Ferry International Conference, Copenhagen, Denmark, February 1996.
- **Tug Trends to 2000**, Ausmarine '96 Conference, Fremantle, Australia, November 1996.
- **Applications for Aluminum Alloys in the Marine Industry—A Current Perspective**, Alumitech '97 Conference, Atlanta, Georgia, May 1997.
- **Developments in Escort Tug Technology**, ITS '98 Conference, Capetown, RSA, November, 1998.
- **Coastal Towing in BC—Cautiously into the Future ?**, The British Columbia Towboat Owners Association Conference, 1998.
- **West Coast Workboat Designs in the World Market: ... Reflections on 30 Years of International Experience**, The Society of Naval Architects and Marine Engineers, Pacific Northwest Section, May, 2000.
- **The Development of a New Generation of High Performance Escort Tug**, ITS 2000, Jersey, Channel Islands, United Kingdom, May, 2000.
- **The Evolution of Escort Tug Technology: ... Fulfilling a Promise**, The Society of Naval Architects and Marine Engineers, Annual Meeting 2000, Vancouver, Canada, October, 2000. (Awarded the American Bureau of Shipping/Captain Joseph H. Linnard Prize for 2001. Best paper presented to The Society of Naval Architects and Marine Engineers Annual Meeting 2000, Vancouver, Canada, October, 2000.)
- **Worldwide Trends in Tug Design, and Their Impact on the Asian Tug Market**, Workboat World Asia Conference, Singapore, February, 2001.
- **New Approaches to Series Ship Design for Flexibility in Construction and Service; The Ramparts Tugs and Odyssey Class Ferries**, coauthored with Mulligan, Mark J., Canadian Institute of Marine Engineering, Mari-Tech 2001, Vancouver, Canada, June 20—22, 2001.
- **Tugs and Towboats**, The Society of Naval Architects and Marine Engineers, Sole Author, Chapter 47 of Ship Design and Construction, 2002.

- **Small Workboats**, The Society of Naval Architects and Marine Engineers, Principal Author with Muhler, H.F., Harford, K.D., Smith, Paul, Chapter 48 of Ship Design and Construction, 2002.
- **Compact Tugs: Their Evolution, and Recent Developments**, ITS 2002 Conference, Bilbao, Spain, May 13–17, 2002
- **New Tugs, New Technology ... is There a Payback?**, The British Columbia Towboat Owners Association Conference, May 31, 2002.
- **Application of Rigid-Hull Inflatable Technology to a New Generation of Offshore Support Craft**, coauthored with Muhler, H.F., Canadian Institute of Marine Engineering, Mari-Tech 2002, St. John's, Newfoundland, June 12–15, 2002.
- **The Planning, Design, and Construction of a Major Fireboat for the Port of Los Angeles**, Principal Author with Harford, K.D., and Moore, Douglas, City of Los Angeles Fire Department, The Society of Naval Architects and Marine Engineers, Spring Meeting, Seattle, WA, March 7, 2003.
- **The Odyssey Class Ferries: A Canadian Concept for Cost-Effective Adaptable Ferry Systems**, coauthored with Mulligan, M.J., Norwegian Society of Chartered Engineers 2nd International Conference on Double-ended Ferries, Ålesund, Norway, March 10–12, 2003.
- **Ship Design and Construction**, The Society of Naval Architects and Marine Engineers, 2003; chapter author: Tugs and Towboats, Small Workboats (fireboats, buoy tenders, pilot boats, etc.).
- **Escort Tug Technology ... Advances and Challenges**, IMPA 2004 Congress, Istanbul, Turkey, May 25, 2004.
- **Cap Rouge II: Analysis of a Fishing Vessel Tragedy**, coauthored with Neifer, Shane, Workers' Compensation Board of British Columbia Safety Officer, The Society of Naval Architects and Marine Engineers, Fall Meeting, North Vancouver, BC, September 17, 2004.
- **Escort Tug Design Alternatives and a Comparison of Their Hydrodynamic Performance**, coauthored with Molyneux, David, National Research Council of Canada, The Society of Naval Architects and Marine Engineers Maritime Technology Conference & Expo 2004, Washington, DC, September 30–October 1, 2004.
- **New Technologies in Tugboat Design for the Oil and Gas Industry—Middle East Developments**, Society of International Gas Tanker and Terminal Operators, Third SIGTTO Middle East Regional Forum, Abu Dhabi, United Arab Emirates, February 2005.
- **Cap Rouge II: Lessons Learned from a Fishing Vessel Tragedy**, The Royal Institution of Naval Architects, Fishing Vessels, Fishing Technology, and Fisheries Conference, Newcastle Upon Tyne, UK, April 13–14, 2005
- **New Demands on Offshore Terminal Tugs**, OSV Singapore 2005, International Conference on Technology & Operation of Offshore Support Vessels, National University of Singapore, Republic of Singapore, September 20–21, 2005.
- **A Proposal for Harmonized International Regulations for the Design and Construction of Tugboats**, ITS 2006 Conference, Rotterdam, Holland, April 23–29, 2006.
- **Ship Design and Construction**: Chapter 49: Tugs and Towboats. SNAME textbook, published 2004
- **Ship Design and Construction: Chapter 50: Small Workboats**. SNAME textbook, published 2004; Co-author with K.D. Harford and P. Smith
- **Yearbook of Science and Technology**, 2009; McGraw-Hill. Chapter on “Modern Tugboats”
- **The Evolution of the Z-Tech Concept**, ITS 2008 Conference, Singapore, May 2008
- **Predicting Tug Behaviour by Analysis of Rated Performance of Coastal Tugs**, Co-Author with Andra Papuc EIT, ITS 2010 Conference, Vancouver, 2010
- **Concept Development, Detailed Design and Construction of the *THREE FORTY-THREE: North America's Most Powerful Fireboat***; co-authored with K. Harford, D. Noon, J. Bjerkeset, J. Dalton, W. Siegel. Presented to 2010 SNAME Annual Meeting 2010, Seattle WA. (*Awarded the American Bureau of Shipping/Captain Joseph H. Linnard Prize for 2010. Best paper presented to The Society of Naval Architects and Marine Engineers Annual Meeting 2010, Seattle WA, October, 2010.*)
- **The ART 85-35 Class Offshore Support Rotor Tug Fleet for Port Hedland, Australia**, Co-Author with Todd Barber and Jan van Kasteren, ITS 2012 Conference, Spain, 2012