

FROM THE BRIDGE Spring 2021



MASTER MARINERS OF CANADA

The MASTER MARINERS OF CANADA represents command-qualified master mariners, like-minded seafarers, industry members, and cadets across the country. Our work is focused on awareness building, education and advocacy.

Covid and Seafarers

"We cannot afford to be complacent when it comes to addressing the ongoing humanitarian crisis at sea. I therefore reiterate my call to all Member States to designate all seafarers and marine personnel as "key workers" providing an essential service. To date only 58 of our 174 Members have notified me that they have done so. The designation of seafarers as "key workers" will facilitate their access to vaccination, since most States are prioritizing essential workers in their national COVID-19 vaccination programmes, in accordance with the WHO SAGE Roadmap" - Kitack Lim, Secretary General, IMO. May 7, 2021

Seafarers' lives and work have been affected dramatically by the COVID-19 pandemic. In the last quarter of 2020, the estimated number of seafarers globally waiting to either be relieved or join their ships stood at 400,000. Now, in May 2021, thanks to the collaborative efforts of IMO Member States, the shipping industry, social partners and IMO's sister UN agencies, the number is currently estimated to be about 200,000. -IMO



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FROM THE MASTER'S DESK

CAPTAIN CHRIS HALL – PRESIDENT AND NATIONAL MASTER



Dear Colleagues,

The last year has created some of the most complicated operational challenges that we have seen in many years in the marine industry, and these challenges are taking a toll on everyone, especially our friends and colleagues working at sea. Much focus has been given to the repatriation crisis that was, and still is, significantly affecting foreign national seafarers. However, less attention has been given to other impacts that are being felt by our members and their crews. Whether you are working internationally or domestically, there are a myriad of new “rules” to follow, such as, the confusing and inconsistent self-isolation requirements upon returning home, travel rules, or on-board protocols. The extra effort that is required to deal with these challenges are great.

I think it is also safe to say that a seafarer's lack of access to Covid vaccinations is a very pressing concern for everyone in our industry. I applaud the companies that have been able to organize vaccinations for their crews, while on board ship, and hope that this becomes common practice. Our Views & Positions Committee is actively monitoring this issue.

Moving on to some other regular business of MMC, I am pleased to report that the ad-hoc committee that was struck to re-vamp our website is nearing the end of this very large and complicated project. The committee is comprised of Capts. Dunbar (Maritimes), Iskandar (Capital), and Dyke (Vancouver Island), along with our webmaster Stephanie Connor. They have put a tremendous amount of work into the project, and I trust you will find the new site to be very professionally done. Our website is our “store front” for our members, prospective members, industry and government, so this project is critical to ensure MMC's ongoing presence and sustainability. Thank-you to the committee and all those across all Divisions who have contributed content. Please stay tuned for the official “go-live” date in the days ahead.

We remain active with the Canadian Maritime Law Association; the last meeting being held on May 5. Anyone interested in learning more is encouraged to contact Mr. Robert Jette, (Fundy). In other news, MMC was approached by the marine policy branch of Transport Canada to consult on matters related to the economic impact of domestic shipping in Canada. Consultation included discussion on the regulatory framework that affect Canadian-registered vessels, labour, environmental and safety compliance, fees, etc. The Board Executive provided a great deal of feedback to this process.

And finally, I will mention that the MMC Foundation, with support from the MMC Board, will be making a financial contribution to the Ships2Shores organization: [ships2shores – A youth-led discovery of Canadian waters and the ships that sail them](#). I spoke of this initiative several months ago, but as a quick reminder, MMC were invited to sit on this organization's advisory board, and Capt. Chris Connor (Maritimes) volunteered to take on that responsibility and has been making regular contributions to this group.

I hope everyone is enjoying some finer weather and remaining safe as we get outside more regularly. Also, please don't forget to follow the great postings made by Capts. Slade and Tribbeck on MMC's LinkedIn and Twitter channels.

All the best,

Capt. Chris Hall
President, Master Mariners of Canada



MARITIMES DIVISION

CAPTAIN MARSHALL DUNBAR - VICE PRESIDENT

Greetings from the Maritimes Division.

The NSCC held their Nautical Skills competition on 12 March 2021. Different this year, as the teams were recorded while performing their tasks skills and then submitted them for virtual judging. Captains' Calvesbert and Kehoe were two of the virtual judges. Additionally Captain Marshall Dunbar virtually presented Third Year navigation student Ryan Warren the Captain Tom Kearsey Safety Award. The in person presentation was done by Captain John David MacIsaac.

For the meeting highlights;

Monthly meetings have continued online via ZOOM each month.

February's meeting had Joseph Loot, assistant Manager of the Halifax Mission to Seafarers give us a presentation on shore leave and it being an essential right especially during times of the pandemic. The presentation was well received, and prompted lots of questions and discussions. As always, we take note of Joseph's, Manager Helen Glenn's and all the volunteers at the Mission and the essential work they do on behalf of seafarers and others during good times and times which can be trying.

Aprils meeting was our Annual General Meeting and a full slate of officials were elected or nominated. Appreciate all that give their time and efforts over the past year and looking forward to the upcoming year.

This month, May, we had Sheila Paterson from The COVE give a presentation on the latest happenings at the COVE and the upcoming launch of the Stella Maris multi-sensor seabed platform and the On-Water Technology Demonstration Day, along with partnerships that led to the success of Smart Atlantic. Presentation showed the success of local initiatives and that technology in our industry is rapidly changing. A very informative presentation.

Also in May at the Divisional Meeting, Captain Calvesbert provided us with a power point presentation on Recruitment and Retention. This was a result of a discussion held at Divisional meeting in March and National Board meeting in April. The presentation and the suggestions brought forward will circulated to other divisions for input. Then they will be discussed at July Board Meeting.

The Division will continue with ZOOM meetings until all (members and NS government) feel it is acceptable to resume in person meetings.

Thanks to everyone and safe sailing.

Captain Marshall Dunbar



VANCOUVER DIVISION

CAPTAIN DON ROSE—VICE PRESIDENT

Here is the report of the Vancouver Division:

Due to the current pandemic we do not have much to report.

Because Covid the majority of our members are staying within their personal bubble and only venturing out when necessary.

We are allowed to have meeting at the Mission, however, they are limited to fifteen persons with masks worn and social distancing. As a result our members wish not to attend meetings.

We have been involved with Ship Safety on the new regulations that are possibly coming for floating accommodation barges and floating fishing lodges. This is a slow process:

Now that vaccines are available and most have had their first shot we may see an end to the situation we are in and return to normal. It will be nice to start having membership meeting and technical dinners.

The marine industry is operating close to normal as it is deemed an essential industry.

Unfortunately there was a tug boat sinking a few months ago and two crew members were lost. The Transportation Safety Board is investigating.

In closing we hope all our members and families across Canada are staying safe and healthy.

Respectfully submitted.

Capt. Don Rose

Master Vancouver Division



SOUNDINGS

THIS EDITION OF SOUNDINGS IS AGAIN COURTESY OF CAPT. JACK GALLAGHER, MMC TREASURER

Expert Witness In Court

As a marine consultant I have enjoyed a wide variety of assignments over the twenty-one years I have been running my company. This past year brought an interesting project that I had never envisioned.

I was asked to assist Transport Canada with a legal case involving a fatal collision between two fishing vessels. My original brief was to look at the application of the collision regulations in relation to the case and give my professional opinion as to which rules should have applied and whether the vessels had properly applied the rules.

After completion of my preliminary report my mandate was expanded to look at “the ordinary practice of seamen” and to discuss some technical matters related to the vessels, their visibility and where they should have seen one another at various times leading up to the collision.

Transport Canada and the federal Department of Justice charged one of the vessel masters both under the Canada Shipping Act and the Criminal Code. I was subpoenaed to attend court to provide expert opinion on these matters in relation to the criminal charges.

One of our divisional MM members, Stu McLea had been through this process before and offered me some great insight to the process. Firstly, the court must decide whether I am qualified to offer opinion to the court. During this qualification process, I was sworn in and on the stand while both prosecution and defence counsel asked me about my experience and qualifications. This can be a fairly smooth or a very difficult process depending on whether one side does not want the witness qualified.

For me, the process included going through my qualifications, projects I had worked on that were relevant and there was quite an emphasis on the Master Mariners of Canada, positions I held in the organization and our professional development program. Lawyers, judges, accountants, project managers, amongst many others are professions where continued proficiency is a norm of the business. Practitioners know that they must complete so many hours or credits per year and keep their professional body apprised that they are keeping up to date. Some organization will perform audits to ensure that continuing education is current.

In this circumstance the court well understood when I stated that Master Mariners of Canada is a professional association with a mandate for awareness, education and advocacy and that I have served on the national executive for ten years. They accepted easily that we have a professional development program and I was using this as a means of maintaining currency in my profession.

Interestingly, once the court qualified me an expert my duty was then only to the court and not to either side. I was required to pre-read two relevant cases and sign a document to that effect as well as assure the judge that this requirement was well understood. This meant that my testimony had to be my best professional judgement regardless of who it helped or hurt and without any regard of who engaged me to be there.

I expect that soon we will see shipping companies in Canada and organizations like the Coast Guard see the benefits of our program and will mandate employees to not only join our organization but to maintain currency through our professional development program.

Jack Gallagher



THE BAUGH MEMORIAL FUND

AN UPDATE ON THE HISTORIC BAUGH FUND BY CAPT DAVID WHITAKER

I have been involved with the Baugh Memorial Scholarships since 2012. My predecessor, Captain David Bremner, had died earlier that year and in mid-year I was asked if I would take his place as a Trustee. I agreed to do so – and that was when I learned that I was the Chairman of the Trustees. I was not a stranger to Scholarships because I had handled them for the Nautical Professional Education Society of Canada for some years, so I had a good idea of what had to be done.

At that time the size of Scholarship to be offered was determined by the National Treasurer. He would tell me what was available and I would then compose letters and application forms, in English and in French, to be sent to Nautical Schools across the country, inviting students to send their applications to me. My knowledge of French is minimal but someone I had worked with had married a girl from Trois Rivières and she helped me when necessary.

The deadline has been September 30th. (I say, “has been” because we changed it to September 5th in 2020 – this was so that we had better opportunities to make the necessary presentations before winter made it difficult in some parts of the country). I would always allow some leeway with the deadline because, although most applications arrive electronically, some might be hard copies sent through the mail. I would then share the applications with the other Trustees and we would assess them independently. All marks would be sent to me and I would determine the average of all our scores to determine the winner or winners.

About five years ago the Company planned to move any Scholarship into the control of the “Company of Master Mariners of Canada Foundation”. The name “Baugh” would then probably disappear. This upset some Members, particularly Vancouver Division Members who had known Captain Baugh. But then the “Baugh Fund” became the recipient of a large sum of money from someone’s Estate. I believe that it was then wondered if “The Baugh Fund” possibly might be mentioned in other Members’ Wills. So the name “Baugh” has been retained for this Scholarship.

Control of Scholarships was still moved to the Foundation. I no longer send out the letters and application forms. Captain John Ennis does this on behalf of the Foundation, but, he is unable to participate in judging the applications because of a conflict – he is an instructor at one of the Nautical Schools. He teaches at Memorial University in St John’s, NL. So, it remains for me to coordinate the selection process.

There has been a panel of four assessors during the time I have been involved. For a couple of years one of those sometimes found it difficult to participate so last year I thought it would do no harm to add one more person to the team. Some years ago there was an exchange of ideas between Captains Angus MacDonald and David Bremner on the merits of having three or four trustees but I am not sure they reached a decision. I arbitrarily opted for a fifth. One trustee has been the National Master. In 2017 and 2018 that could not be because of a conflict – The Master was an instructor at Memorial University. In 2019, the new Master, Captain Hall, was involved but he found that his job would make it difficult for him to participate in 2020.

So, for 2020 the members of the team were: -

Jim Calvesbert – Maritimes Division; Past National Master. Ex Canadian Coast Guard.

Patrick (Rick) Gates – Maritimes Division; Past National Master, ex British MN.

Barb Howe – Vancouver Division; Barb is the new addition. You may recognise the name because she has had a column in recent editions of “From the Bridge”. Barb is also a former Baugh Scholarship winner

Robert Jette QC – Fundy Division; Because Captain Hall was unable to be involved he sought a volunteer from within his Division and Robert stepped forward.

Then there is me – From 1952 to 1954 I attended the *HMS Conway Cadet School* in Britain. I sailed with Prince Line and Furness, Withy before coming ashore in 1965. I then worked for Stevedoring and Marine Terminal Companies in California and British Columbia. I retired in 1997 - information about the Baugh Fund is readily available on the Company’s website at: -<https://www.mastermariners.ca/baugh-memorial-fund/>



THE BAUGH MEMORIAL FUND

2020 UPDATE LETTER FROM BAUGH MEMORIAL SCHOLARSHIP WINNER KYLE CLARE

In the fall of 2020, I was fortunate enough to be selected as one of the winners of the Captain G.O. Baugh Memorial Scholarship. While the generous scholarship is an honour to receive and would be greatly appreciated under any circumstance, the events that have transpired over the last year have made me particularly thankful to be chosen as a recipient. Since March of last year when I was preparing for a second Cadet sea phase that never did end up happening, until present, the effects of COVID-19 have continually cast a shadow of doubt and uncertainty over the futures of my classmates and I, and the Captain G.O. Baugh Memorial Scholarship has helped greatly in alleviating some of the pressures that come with that uncertainty.

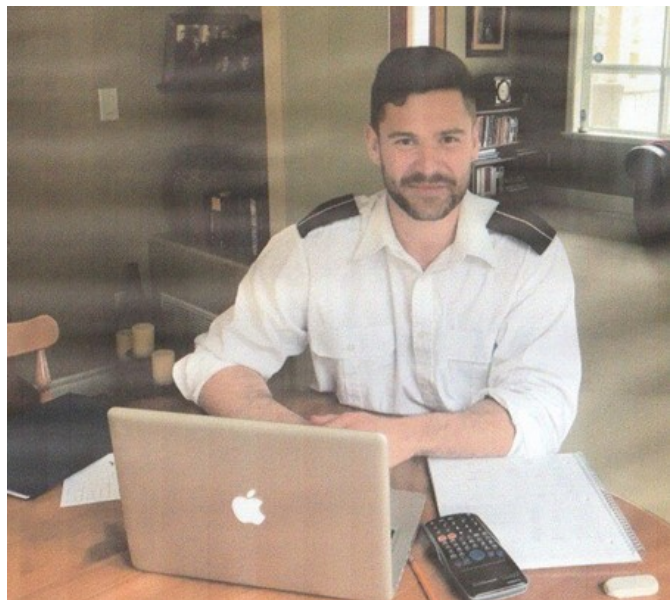
Upon receiving the scholarship, the funds were put towards tuition for my third year of school at BCIT which I am currently undertaking and have been since the beginning of February. It is definitely a strange adjustment transitioning to totally remote, online learning, but it is one that I, along with my other fourteen classmates, have taken in stride. If our schedule stays intact as it is drawn up at present, then in the summer months I will be on campus in North Vancouver again, taking some of the courses that just cannot be taught remotely, and then off to finish my remaining sea time towards my Watchkeeping Mate ticket in September. When it is all said and done, by this time next year I hope to have earned my Certificate of Competency.

Once again, I am humbled and extremely grateful to be chosen as one of the recipients of this amazingly generous scholarship. It has provided much appreciated relief in a time of great pressure and uncertainty. I plan on writing again at the end of the school term, hopefully from a ship, and hopefully with this terrible pandemic behind us.

Sincerely,

Kyle Clare

March 2021





SIGNAL FLAGS

UPDATES FROM OUR MEMBERS

The Marine Affairs Program is pleased to announce the establishment of the **Captain Earle Wagner Marine Management Award**. The award is the result of a generous endowment from Captain Earle Wagner. It was developed to support the ideals of the Marine Affairs Program, and recognize Master of Marine Management students conducting visionary research on the impacts of climate change. Students are challenged to think originally about the impact of global warming on marine and human life, and make fact-based arguments related to their research.

Captain Wagner is a World War II veteran and member of the Marine Fraternity. His family has worked in the fishing industry since settling in Lunenburg in the eighteenth century. His grandfathers, father, and two brothers worked as mariners. Captain Wagner began his career as a merchant seaman and was later employed by the Department of Fisheries and Oceans as a Marine Superintendent. This role exposed Captain Wagner to the importance of marine management and the impacts of mismanagement on the North Atlantic cod fishery. Captain Wagner's vast experiences in marine transportation led him to believe that, "our oceans, unexplored, contain undetermined resources that if discovered and utilized, could be a valuable asset to humanity." The Captain Earle Wagner Marine Management Award was therefore created to challenge students to identify, research, and develop these resources to combat climate change.

Marine Affairs would like to congratulate the first annual , Jessica Cucinelli. Jessica's graduate project explored the effects of the proposed Baffinland Iron Ore Mine on marine shipping, the environment, and Inuit communities in the surrounding area. The study suggests that increasing ship traffic for the mine will negatively impact Inuit livelihood and Arctic wildlife. To combat the human and environmental risks, Jessica argues that resources must be focused on improving marine management strategies in the North while marine traffic in the region increases. Jessica is currently working as a research assistant on Dalhousie's Demystifying Maritime Governance project commissioned by Clear Seas Centre for Responsible Marine Shipping in Canada and hopes to continue to focus on impact management in marine shipping

Thanks to Captains Knight and Calvesbert, Maritimes for bringing this forward, and to Captain Wagner!



Jessica Cucinelli, winner of the Captain Earle Wagner Marine Management Award



Captain Earle Wagner



SIGNAL FLAGS

UPDATES FROM OUR MEMBERS

The Blue Economy Strategy– Thoughts

I recently sat in on a video call with various shipping companies, Canadian Coast Guard, and the Department of Fisheries and Oceans (DFO) focused on Canada's Blue Economy Strategy. For those of you who rightly wonder what is a "Blue Economy Strategy" and why would a group of shipping interests take time out of the day to discuss, I could certainly point you towards various federal websites and links, which I will do, but essentially the strategy is the Canadian government's vision of increasing the growth of oceans related opportunities and potential on all coasts. Its weighty stuff and chock full of ideas, concepts, and objectives. Reaching across the recreational, academic, technology, fishing, and shipping sectors it is estimated that some \$31 billion dollars in gross domestic product and 300,000 jobs are more or less the result of things going on in and around the waters of our country and the feds are looking to increase these impressive numbers to keep on par with other countries similar schemes.

The strategy development is being formulated through the coordination of DFO, who's minister, Bernadette Jordan, is leading the charge to engage with all Canadian stakeholders to help craft a plan that not only reflects the inputs of the afore mentioned groups, but also coastal and indigenous communities, environmental groups, and other levels of government such a provincial, territorial, and municipal. In casting as wide a net as possible DFO has been holding on line sessions, releasing sector specific questions, and seeking feedback through engagement papers. They've even developed a toolkit to help interested parties host their own home events for an evening of fun. Everything short of telemarketing it seems. The feds are hoping to have as much response as possible by June 15 (hurry there is still time!) to roll up all they've seen and heard into mass of information they can sift through over the coming months.

The session I sat in on was a result of a Regional Marine Advisory Board (RMAB) meeting for the Coast Guard Atlantic and in particular Newfoundland and Labrador. The meeting included an overview of the strategy consultations and the ship owners present thought the topic was worth a separate session. The documents we received to prepare for the call included specific questions about areas of opportunity and challenges. Questions for the session included how ocean based industries could leverage existing government programs to further develop domestic capacity in marine transport and how to modernize and improve efficiency in marine transport and port operations.

Not unsurprisingly the session started slowly, many of the companies on the call were unaccustomed to being asked broad questions on a strategy. Shipping folks tend to be a pragmatic lot and answering questions about policy can be awkward in a video setting. However, we did get up to speed and I think there was some clear messages for the CCG and DFO to take back.

Fuel costs are the most significant operational burden to any shipping margins. With the high fuel costs, tightening emission regimes, and the drive to reduce carbon footprint, the companies were interested to know about efforts towards new fuel sources and what incentives for adaptation are possible. There has been success with LNG as a fuel sources and Hydrogen as an outlier seems positive. Battery propulsion system technology was also discussed, however all agreed that large scale capacity batteries are a long way off, and the hybrid combustion/electric model may be more practical. Retrofitting of ships is a costly business and if there are new fuel sources



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UPDATES FROM OUR MEMBERS

developed what ways could government help expedite the process or help with building locally?

Closely related to the previous points on fuel was the supporting infrastructure to support ports and ships of the future. If we do move to lower carbon producing fuel sources how would government be able to support what shore facilities look like? Most of the large port operators are certainly considering this question now. If we look at things like “cold ironing” plugging ships into the local grid during port cargo operations or installing the necessary piping and capacity to store and deliver LNG or hydrogen fuels this could require several levels of government to be involved. Would modifications to port facilities stretch out to the other modes of transport involved in cargo and how would this be regulated and paid for?

Digitization of processes was also a long topic of discussion. The value of moving to increasingly paperless methods of doing business. Ranging from bills of lading and cargo documents through to synchronized port call information and ship operations details that are part of a “block chain” of data that’s shared and updated instantly between the cargo owners, shippers, and ports allowing for increased transparency for all. There were companies involved in offshore oil and gas present, and so the topic turned also to digitization of equipment, the digital model idea. An example being a complete digital twin of an actual piece of equipment or system that can be used to monitor the real ship board equipment and help predict break downs.

Additional topics included technology development to assist with safety of navigation and environmental concerns such as improved sensory and communication systems. One clear agreement was that for new Canadian companies interested to get into developing technology for use onboard, early steps to ensure that their products meet levels of standardization and regulatory approvals is important. Owners are willing to use but levels of service must be good and the products robust.

Closing out the discussion was a talk around the future efforts of bringing over expertise from the tech side into shipping as skills requirements change. The tough subject of automation was certainly discussed but companies were paying attention to what’s in front of them right now, which includes the need to increase the supply of mariners for the domestic fleet. In this case how would the blue economy strategy highlight the opportunities for youth in the development, design, and operation of ships and maritime assets?

By the end of the session I had as many questions as I did before we started. The goal of an all in nationwide effort to realize the potential we have through improving the relationship we have with the ocean is an important one, and given our expansive coastlines and historical relationship with the ocean is one that involves us all. But what I seemed to have missed in our session was what happens next? After everything is gathered up on the 15th how long before the drafts come out? What will the timelines for implementation be? Who has the final say on what initiatives go ahead? What weight will be given to initiatives? Will turn out on subjects be low and decisions left to bureaucrats? I can’t speak for other’s experiences with similar session to date, and certainly I only sat in on one specific area within a sub set of a larger sector group of marine transport, ports and ship building but I hope that Ottawa is taking this as seriously as they claim, other countries certainly seem to be.—*CPH*

Link to the Canada’s Blue Economy Strategy (paste into your browser)

<https://www.dfo-mpo.gc.ca/campaign-campagne/bes-seb/index-eng.html>



MMC PROFESSIONAL DEVELOPMENT PROGRAM

CAPTAIN JIM CALVESBERT— CHAIR, EDUCATION AND PROFESSIONAL DEVELOPMENT COMMITTEE

With the rapid pace of innovation and development in the maritime industry, and the need to operate at the current level of knowledge and expertise, the Company of Master Mariners of Canada has created a professional development program for its Members, both at sea and ashore.

Your Certificate of Competence, as we are all aware, is just the start of not only our career, but also of our learning path. As the industry progresses, new challenges arise, and new professional requirements are added and the journey of “life-long learning” leads us down the path of continuous learning and professional development.

We have defined two categories of recognition as follows:

- ☐ Practicing Maritime Professional – Three (3) months full time employment in maritime industry in past 12 months AND 20 professional development credits.
- ☐ Non-Practicing Maritime Professional – 20 professional development credits

You will be surprised at how quickly these qualifying credits accumulate.

I’m a Professional Working Seafarer – What Will This Do for Me?

As mentioned, your CofC is just the beginning. Our PD Program can help to prepare you for additional learning. It will provide credibility to peers, your employer, and Transport Canada that you are maintaining currency in the industry. Your crew depends upon you to assist with their learning through mentoring which will be greatly aided by your demonstration of continued learning and the knowledge that you gain.

I’m Retired – What Are the Benefits To Me?

Seafaring is a fast-changing industry and keeping track of the changes can be a daunting task. As an experienced retired seafarer, your skills and learning can be of benefit to cadets and new officers through mentoring. There is a great satisfaction in staying current and helping the upcoming new officers in a profession which has provided us with some wonderful experiences.

Where Can I Get More Information?

The PD Program is on our website at <https://mastermariners.ca/cpd> . Contact your Divisional Master or Secretary for clarification.



THE OFF WATCH COLUMN

MARITIME INSIGHTS AND MUSINGS BY CAPTAIN BARB HOWE

Zadeh get Logical and the Bridge goes Fuzzy

by Captain Barb Howe

Today most of us own at least one machine that thinks. My Samsung DV665 clothes dryer uses fuzzy logic to offer me and my laundry an exceptional drying experience. Control panel options include intensive dry, very dry, more dry, normal dry, less dry, damp dry, air fluff and wrinkle release. It's difficult to just want dry clothes.

Accepting that air fluff and wrinkle release are also likely nested in marketing, the options are perceptions with blurry boundaries. Fuzzy logic quantifies linguistic imprecision along a spectrum of truth, where things can be partly true and partly false at the same time. Like more dry or less dry.

Fuzzy logic is in sharp contrast to the familiar Boolean logic - sometimes called the law of the excluded middle, where numerically 0.0 represents false and 1.0 represents true. A statement is either true or false with nothing in between. Fuzzy logic understands that everything is a matter of degree that can be described with numbers between 0.0 and 1.0 thereby laying claim to the long excluded middle - where the real world spends a lot of time

In the 1960s, mathematician and artificial intelligence researcher Lotfi Zadeh recognized that we often make decisions between absolutes based on imprecise non-numerical information. This reality made it difficult for artificial intelligence to model human behaviors in a meaningful way. Because Zadeh's fuzzy logic is able to quantify and digitize our imprecise knowing, it is possible to model human reasoning and infer conclusions.

Fuzzy logic then, is an underpinning methodology in the conception, design and application of artificial intelligence, which intends to emulate human deductive thinking. The main floor architecture of a fuzzy logic system can include quantified imprecise knowledge as input, processed with organizing algorithms and rules, to produce outputs across a continuum of acceptably correct conclusions.

Ship engine rooms are going fuzzy - for example fuzzy logic can facilitate the implementation of coordinated control of the VGT and EGT actuators which in turn improves transient airflow response of the engine at low speed and low load. And that's not all, things are also

getting fuzzy on the bridge. Today, with considerable sensor data, Chadburns can give slow ahead and less slow half ahead instructions to achieve multiple optimal outcomes - like a clothes dryer.

Ships' officers navigate successfully, yet critical decisions can still be subjective and lead to error. When risk of collision is developing, we know that appropriate action is a multistage "if this then that" decision making process. Although the Collision Regulations are intended as objective rules, they are highly dependent on human interpretation and different understandings of the "ordinary practice of seamen."

A 2020 study claims that an artificial navigation system using fuzzy logic can apply the Collision Regulations in a manner that is "indistinguishable from good seafarer behavior" even in circumstances "when the give-way vessel isn't taking appropriate action." No more need for 5 or more rapid blasts.

Another recent study suggests that collision avoidance in a fuzzy logic environment could easily use input and output sensors and processor algorithms to comply with Rule 5 Lookout, and Rule 8 Action to avoid Collision.

An international law firm with an office in Vancouver notes that Rule 19 - Conduct of Vessels in Restricted Visibility "has been confusing generations of seafarers since 1977." They suggest that advances in radar, ARPA, AIS, and infra-red camera technology - in a fuzzy logic domain, could eliminate the need to make a distinction between vessels in sight and not in sight of one another.

To accept fuzzy logic as an additional tool for navigation we'll need to admit to and own the imprecision in our deductive reasoning. And appreciate that fuzzy logic algorithms do not "self design" they are rules and instructions designed to solve "if this then that" problems - and must be designed by experienced professional mariners.

Fuzzy logic is used in everything from vacuum cleaners and air conditioners to blood pressure instruments, weather forecasting, stock trading, traffic light and subway control systems, and medical diagnosis and treatment. However, it's suggested that Zadeh's logic not be used in place of common sense.

Finished with engines, my clothes are dry enough.



FLOTSAM AND JETSAM



@maritimememes



Trivia Questions

1. What is the purpose of Napier's Diagram?
2. On a chart, the quality of the bottom is indicated as "fly", what characteristics are expected?
3. The Plow Anchor, developed by Cambridge Professor G.I. Taylor is also known as a CQR anchor. What does CQR stand for?

Answers in next FTB.

Upcoming Maritime Events, Forums, and Seminars

June 2 Greentech 2021 Environment Virtual Conference (Green Marine)

<https://green-marine.org/greentech/program/>

June 7 H2O Home to Overseas Conference

<https://h2oconference.ca/>



MMC PROFESSIONAL DEVELOPMENT PROGRAM

What is the Professional Development Program?

Participating in the Professional Development program is voluntary and is free for all Members in Good Standing.

With the rapid pace of innovation and development in the maritime industry, and the need to operate at the current level of knowledge and expertise, the Company has created a professional development program for its Members, both at sea and ashore.

We have defined two categories of recognition as follows:

Practicing Maritime Professional – Three (3) months full time employment in maritime industry in past 12 months **AND** 20 professional development credits.

Non-Practicing Maritime Professional – 20 professional development credits

A letter will be issued each year to Members participating in the program confirming that they have met the requirements of the program.

How to Earn Professional Development Credits?

Listed below are some examples. A more complete list is provided on the Master Mariners of Canada website.

Educational Activities

- Completed marine related courses (10 credits)
- Attending marine related conferences (5 credits)
- Attending Divisional PD seminar (1 credit)

Contribution to Knowledge

- Publishing a peer reviewed paper (20 credits)
- Judge at Nautical Skills Competition (10 credits)
- Delivering a Guest Lecture (5 credits)

Community Participation

- Organizing a marine conference (20 credits)
- Serving on an advisory body for a nautical school (5 credits per meeting attended)
- Attending a Divisional meeting (2 credits per meeting attended)

More Information on how to Participate

<https://www.mastermariners.ca/cpd/mastermariners.caedpdcommittee@gmail.com>

Attn: Chair Education and Professional Development Committee



**MASTER MARINERS
OF CANADA**

THE COMPANY OF MASTER MARINERS OF CANADA

Représente les capitaines et les officiers maritimes au Canada et internationalement via des adhésions avec "International of Federation Shipmasters Associations".

<http://www.mastermariners.ca>

Siège social: 904-5959 Spring Garden
Road Halifax, Nova Scotia B3H 1Y5

Président: Captain Christopher Hall

Pour nous rejoindre par courriel: [http://
www.mastermariners.ca/contact-us/](http://www.mastermariners.ca/contact-us/)

Déclaration de nos objectifs:

- Offrir aux capitaines une association professionnelle et nationale;
- Encourager et maintenir une conduite professionnelle de haut niveau parmi les membres;
- Développer les cours, l'entraînement et les programmes de mentorat pour les marins et les cadets;
- Développer, à un niveau national et international, des projets afin d'améliorer la sécurité, les opérations et les lois, tant pour les navires que pour les équipages;
- Organiser des conventions et des réunions de discussion sur des sujets d'intérêt pour les membres et les marins.
- Promouvoir une coopération saine et amicale entre les flottes commerciales, gouvernementales et militaires du Canada.

THE COMPANY offre les catégories d'adhésion suivantes:

Membre régulier	300,00\$ / année
Membre associé	150,00\$ / année
Membre corporatif	325,00\$ / année
Membre cadet	20,00\$ / année

THE COMPANY OF MASTER MARINERS OF CANADA est une organisation professionnelle représentant les officiers qualifiés à commander de même que les marins professionnels; elle représente aussi les membres de l'industrie maritime ainsi que les cadets partout au Canada. Notre travail avec et pour nos membres s'appuie sur trois piliers, soit la conscience, l'éducation et la pro-



**MASTER MARINERS
OF CANADA**

THE COMPANY OF MASTER MARINERS OF CANADA

Represents the interests of Shipmasters and senior deck officers in Canada and internationally through membership in the International Federation of Shipmasters Associations.

<http://www.mastermariners.ca>

Head office: 904-5959 Spring Garden
Road, Halifax, Nova Scotia B3H 1Y5

President: Captain Christopher Hall

To find our email addresses:

<http://www.mastermariners.ca/contact-us/>

Statement of Purpose:

- To provide senior, command-level mariners in Canada with a representative central body;
- To encourage and maintain a high and honourable standard of ability and professional conduct among mariners;
- To develop education, training and mentoring programs for seafarers and cadets;
- To provide input into national and international groups in matters concerning the safety, operation and regulation of ships and their crews;
- To organize conventions and seminars for the discussion and considerations of topics of interest to members and mariners;
- To promote and foster efficient and friendly cooperation between the commercial, government and military fleets in Canada.

THE COMPANY offers these categories of membership:

Full Member	\$300.00 / year
Corporate Member	\$325.00 / year
Associate Member	\$150.00 / year
Cadet Member	\$ 20.00 / year

THE COMPANY OF MASTER MARINERS OF CANADA is a professional organization representing command-qualified mariners as well as like-minded seafarers, industry and government members, and cadets across Canada. Our work with and for our members is organized around three pillars: awareness, education and advocacy.