

From the Bridge

November 2019



**MASTER MARINERS
OF CANADA**

"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."
www.mastermariners.ca

FROM THE MASTER'S DESK

Hello, and welcome to this edition of *From the Bridge*. For those of you who do not know me, I am a member of Fundy Division and have lived in Saint John, NB for approximately twelve years. Prior to moving to Saint John, I lived in Halifax, NS and first became a member of Maritimes Division in '97/'98. My professional background began with Coast Guard (class of '89 from the CCGC), and then moved into deep-sea towage, offshore oil and gas, harbour and coastal towage, and various shore-side management positions. I have been with the Saint John Port Authority as VP, Operations & Harbour Master since 2014.

My first order of business in this article is to extend a sincere thank-you to Capt. Chris Hearn for his exemplary service during his term as President. Many great things were accomplished on his watch, and on behalf of all members of Master Mariners of Canada I would like to say well done, and thank-you. But like other outgoing Presidents of MMC, Capt. Hearn will be remaining active on the board of directors and we are looking forward to his contributions in the coming months.

I hope that you have had an opportunity to review the executive summary of this year's symposium *Evolution of Equality and Inclusion in the Maritime Profession*. I believe the quality and impact of this day-long event will be very evident to any reader. The organizing committee of Capt. Amanda Slade, Capt. Jim Ewart, Capt. Jim Parsons, and Robbin Sinclair put together a remarkable program, and on behalf of all MMC members, I would like to thank the committee for their countless days of effort. And while on the topic of our annual symposium, we are looking for ideas, and most importantly, volunteers, for our event in 2020. If you were inspired by the work done this year, please consider getting involved with the 2020 event.

The various board meetings (including our AGM) that were held in Ottawa on Sept 4 and 5 deserve a few words. I would encourage all members to review the minutes of these meetings, which can be found on our website. One important agenda item that weekend was our Strategic Plan. As you may know, this document is being refreshed, and in order to do so, it was determined that we needed assistance from a third party professional with experience in strategic planning and facilitation. We were very fortunate to have Ms. Robbin Sinclair volunteer her time to provide this valuable service, and she spent many hours behind the scenes, and with the board executive, to help us articulate what our road map for the future should look like. A draft version will be distributed in the coming months for review and comment. I would like to thank Robbin and those members who provided input through the Divisional Masters in the survey that was distributed a few months ago.

I would like to take this opportunity to promote the MMC Foundation, and in particular the annual scholarships that are awarded to nautical school students. I was fortunate to have been included on the team that evaluates scholarship applications from candidates. It is my understanding that the number of applicants this year was very high, which is a sign that we are creating awareness for our organization, and that there is a legitimate need for students to receive additional financial support. The most rewarding part of the process for me was reading the various submissions and seeing the very talented pool of young deck officers who are entering our industry. News is so often focused on personnel shortages (rightfully so), but it was encouraging to see such a strong pool of professional, intelligent, engaged, and motivated new mariners. The evaluation team this year consisted of Captains Whitaker, Calvesbert, Gates, and myself. I would strongly encourage anyone to volunteer to be on this team in the future, as I believe you will find it very rewarding, and you will be providing an important service. And thank you to Captain Ennis for your



work administering the scholarships. And lastly, congratulations to this year's winners: Matthew Merrifield - Georgian College, Dylan Shaver - BCIT and Yevgeny Belgradov - Georgian College.

Work is ongoing to re-establish a Division in Quebec. This is seen as a very important initiative and one that we hope to bring to fruition in the near future. Many people are working quietly behind the scenes to make this happen, and I hope to report that we will be welcoming a new group of members (and some returning members) from this important maritime region of our country.

And finally, I would like to express a sincere thank-you to Captain David Whitaker for his service and dedication to the production of *From the Bridge*. For those that may not be aware, Capt. Whitaker has decided that he would like to pass the torch after many years of performing this job. This topic received a great deal of attention during our meetings in Ottawa, and I am pleased to say that a new process has been developed that will see the continuation of this very important document, which is our official newsletter and publication. On behalf of all members, thank-you, David.

In closing, I would like to say that I am looking forward to the challenges and opportunities that are facing us as a maritime organization, and your input as we move forward. With these challenges and opportunities comes a need for added horsepower, so I would encourage members to become as involved as possible, especially in committees such as Views & Positions or any ad hoc initiatives.

Thank-you,



Capt. Chris Hall
President, Master Mariners of Canada

CROSSED THE BAR

Captain Michael John Hubbard 1935 to 2019: Michael graduated from the School of Navigation at Warsash in the UK in 1952 after which he was indentured to the Ellerman Line. He sailed with Ellermans in their services to Africa, Asia and eventually Canada. He moved to Canada in the 1960s to work as a Superintendent for that line, in Halifax or St. John in the winter and Montréal in the summer months. He then became Board of Trade Port Warden in Montréal, and eventually moved to the Canadian Coast Guard as a pollution prevention officer. During his time in Montreal in the early 1970's Michael became a Founding Member of the Master Mariners' Institute, which joined The Company of Master Mariners of Canada in 1974.



He eventually moved to Ottawa to work in the Coast Guard Ship Safety Branch and in 1988 was appointed Director General, Ship Safety. He Co-Chaired the Canadian Marine Advisory Council (CMAC) with Deputy-Commissioner Michael Turner. During his tenure with Coast Guard, he was appointed as the Lead Delegate to International Maritime Organization (IMO)

Council and Marine Safety Committee (MSC). In this time he co-authored the model plan for maritime administrations that could be followed by flag states setting up or improving on their administrations. Mike was also delegated to the International Labour Organisation during the formation of earlier Maritime Labour Conventions leading up to the 2006 MLC. In 1995 the Canadian Coast Guard was moved to Fisheries and Oceans but Ship Safety Branch remained with Transport Canada. Michael retired in 1999 at age 64. Following retirement he worked as a consultant to IMO travelling around the world assisting flag states with setting up Ship Registries. Mongolia was a memorable example. He had to leave The Company of Master Mariners during the years when bureaucrats were not allowed to be members of organisations for fear of conflict of interest, but was able to rejoin after retirement and he served as Divisional Master of Capital Division from 2007 until 2019 during which time he also served as a member of the Board of Directors of The Company.

Captain Michael Hubbard died of cancer in Ottawa on October 4, 2019.

Captain Andrew Whitelaw 1926 to 2019: Andy was born in Forfar, Scotland. He went to sea with numerous British shipping companies, eventually obtaining his Masters Certificate of Competency, meeting his wife, Betty, in Dundee while at school for that Certificate. They came to Canada in 1964 and he soon became a Buyer for the Sears Company. This led to him being appointed Manager of British Columbia Sears outlets in Kitimat, Chilliwack and finally Penticton. It was there, in 1974, that he read a MacMillan Bloedel advertisement seeking someone with a Masters Certificate. He applied and was awarded the job, which necessitated moving to Vancouver. At MacMillan Bloedel he joined Canadian Transport Company (CTCo) in their Commercial Department where his duties included ship chartering and freight bookings. When



CTCo were appointed Managers for the start-up Asia Merchant Marine (later to become Hyundai Merchant Marine), Andy added that role. People who dealt with Andy at CTCo refer to his positive attitude and cheerful personality, both of which contributed much to his success, even in difficult situations.

He joined The Company of Master Mariners of Canada in 1983. For almost 20 years he was the National Treasurer. In around 2001 the Company decided to establish a Foundation that would have a Charitable Status in order to provide funds for tuition and research. The National Council appointed Andy to steward the process towards reality. After two years of work, on October 8th 2003, the Foundation received its Letters Patent.

Out of recognition for his contributions to the Company, Andy was made a Life Member.

Andy had a stroke in 2011 but he recovered quite well from that and was still actively involved in organisations, including the Presbyterian Church. He died on October 12th a few days after suffering another stroke.

This year's Annual General Meeting was held in Ottawa on October 5th at which time the Board for the coming year was elected. Following is a list of the Board Members and the Committee Chairs: -

CMMC Board of Directors and Roles 2019-2020

Captain Christopher Hall - President and Fundy Division Representative

Captain Christopher Connor - Vice President

Captain Jim Ewart - Assistant Vice President and Vancouver Is. Division Representative

Captain Christopher Hearn - Past President

Captain Jack Gallagher - Treasurer

Captain Cynthia Brown- Secretary

Captain Eben March - Newfoundland and Labrador Division Representative

Captain Marshall Dunbar- Maritimes Division Representative

Captain George Iskander - Capital Division Representative

Captain Gary Kassbaum - Great Lakes Division Representative

Captain Don Rose - Vancouver Division Representative

Committees of the Board

Membership Chair - Captain Farrokh Kooka

Education Chair - Captain Anthony Patterson

Views and Positions Chair - Captain Christopher Connor

CMMC Foundation Chair - Captain Jim Parsons

Editor, From the Bridge - Captain David Whitaker

Webmaster - Stephanie Connor

The Great Lakes Division will host the next AGM on September 26th 2020.

Here is the link to the 2019 MMC Symposium and AGM newsletter.

<https://www.mastermariners.ca/wp-content/uploads/2019/11/2019-MMC-Symposium-and-AGM-Ottawa.pdf>

Letter to the Editor: Interesting article about women at sea (GET THEE TO SEA! Captain Anderson is referring to "Some thoughts on the Symposium on the Evolution of Equality and Inclusion in the Maritime Industry by Mariah McCooley". Read Mariah's article in the link shown above).

When I started at Pat Bay (1985) we had the occasional woman in the galley and the occasional female scientist.

By 2006 I'd had women Mates and Engineers, as well as deckhands. As for scientists - there was a huge increase of women. Women Chief Scientists had become common and on some cruises had more female scientists than male.

To delve into the past - in 1969 my first job in Canada was on the weather ship *Quadra*. First trip turned out to be the first time that women were allowed on a government ship - it was very controversial at the time. We had 2 women scientists. It's a shame a psychiatrist/ologist couldn't have made the trip - reactions were absurd at times. Part way through the trip I shaved off my beard which generated all kinds of heated speculation.....

One of these girls used to come to the bridge for coffee about 10.30 pm. As soon as she arrived I'd hear the footsteps of the Old Man heading up - I obviously wasn't safe (being single and 24) on the bridge with a woman!

I think the observations made might well be valid on Canadian ships but less so on third world ships - multi-national crews, whatever is cheapest, flags of convenience etc.

Good luck to them - I'm all for it - having women in the ship, especially the scientists really had a civilizing touch.

Captain John Anderson. Vancouver Island Division



MASTER MARINERS
OF CANADA

www.mastermariners.ca

A Master Mariners of Canada Symposium

Symposium de la Company of Master Mariners of Canada

**The Evolution of Equality and Inclusion in
the Maritime Profession**

**Une Évolution de L'Égalité et L'Inclusion dans
les Professions Maritimes**

Master Mariners of Canada (MMC) extends its great appreciation to the panellists and participants who together made the Symposium an engaging and enlightening day for all. We also wish to thank our organizing committee; Captain/Dr. Jim Parsons, Captains Jim Ewart and Amanda Slade and Ms. Robbin Sinclair. As well, a Bravo Zulu to all our Corporate sponsors who provided both in-kind and cash donations that contributed greatly to MMC's Foundation to provide scholarships for aspiring seafarers. A special thanks is also extended to Zuzanna Kochanowicz and Melissa Weber of the University of Ottawa for capturing the highlights of the day.

Executive Summary

The symposium on The Evolution of Equality and Inclusion in the Maritime Profession was a day full of remarkable speakers and dialogue. Our industry shared the privilege of coming together and speaking honestly and openly. The day included key messages, introductions, five panel sessions and final remarks that summarized the stories, the status and the goals shared by participants and attendees alike. Of importance was the Opening Address provided by Her Excellency Julie Payette Governor General of Canada. This was presented by Captain Ivan Lantz and Mrs. Francine Peloquin in English and French, which closed with Her Excellency's statement that "your recommendations will ultimately empower the entire maritime community".

Empowering Women in the Maritime Community was selected as the World Maritime Day theme for 2019. This provided an opportunity to raise awareness of the importance of gender equality, in line with the United Nation's Sustainable Development Goals. This theme highlights the important contributions women around the world make to the maritime sector. In a video statement, Kitack Lim Secretary-General of the International Maritime Organization (IMO) said, "The maritime world needs all hands on deck". Afterward, Dr. Momoko Kitada of the World Maritime University provided the Keynote Address. Dr. Kitada informed the audience that according to the UN, less than 2% of seafarers worldwide are women, and of that 2%, 94% work in the cruise ship industry. The maritime industry has growth potential for both men and women. There will always be ships involved in any economy and people will always be needed onboard and in shoreside roles. Dr. Kitada said it is vital that we promote equality by supporting and empowering women.

During the first panel, Dr. Vanessa Rochester of Norton Rose Fulbright Canada spoke on Unconscious Bias and Olivier Beyer of the Canadian Coast Guard spoke on the organization's Positive Space Initiative. Unconscious

bias is present in our everyday interactions in the workplace, and the panellists shared positive actions to identify these biases and ensure they are addressed. Gender bias is engrained in us, remarked Vanessa, and the biases we have grown up with provide shortcuts for our brains to automate the decisions we make about people. This can lead us to make incorrect judgments on who we value and trust. Education and training are needed to help identify various biases and how to deal with them. Once these biases are identified, the work to overcome the biases must truly come from all people. Vanessa challenged men to follow in the footsteps of professional tennis player Andy Murray, who on multiple occasions highlighted sexism in his interviews, demanding interviewers acknowledge female players' multiple accomplishments instead of focusing solely on the accomplishments of male players. Olivier presented material on the Positive Space Initiative. Now adopted by the Federal Government it seeks to improve inclusion and security for people of all genders and sexual orientations. Initiatives like this support and raise awareness for inclusion and respect, ensuring everyone can express their individuality without fear of reprisal.

A panel of Junior Officers spoke about their journey and education success stories. Many spoke to the challenges they have faced and continue to face, such as lack of female counterparts on board, childcare, and sexist comments. The panel spoke about unconscious bias and suggested that this could be tackled by changing the culture and environment to one that is more open and which creates an environment that allows people to open up and be vulnerable and which builds trusting and safe relationships. The culture will only start to change when support comes from everyone and especially having more personal connections in the form of mentorship. Mentorships support mentees in the advancement of their careers and help them navigate specific situations of inequality where their mentors have already had the experience.

The Senior Officer Panel composed of five women in senior roles in the maritime industry, shared stories and valuable experiences. An important topic of discussion was the transition from ship to shore that many women seek to make when they consider starting a family. Mariah McCooley emphasized that we cannot ignore the fact that women give birth. Women who wish to make the transition from shipboard work to shoreside to address family responsibilities need industry support. Again, when individuals opt to return to sea after time ashore, they also require support. These transitions should be incorporated into an organization's recruitment and career planning policy. The maritime industry is seeing more women, specifically women in senior roles. It is important for younger people to see diversity in senior roles; senior leadership inspires them to think about the future and allows them to picture themselves in similar future roles. The panellists highlighted mentorship as key to supporting and advancing everyone's careers. While she was sailing, Captain Anita Lambe wrote a blog for women in her community at home; this type of informal mentorship and connectedness can be successful. Mentorship in all its forms is something that the maritime industry supports and should foster.

The first half of the day ended with a lunch break, catering provided generously by the Symposium Corporate Sponsors. During the lunch break, attendees were free to network while being entertained by a projected photo display presented by the professional fine art photographer Victoria Piersig. Her work, a project titled "Women Seafarers" has a strong inclusion and mentorship message that accompanied the symposium beautifully.

The fourth panel consisted of people working in shoreside roles within the industry. These panellists spoke to the importance of change at the institutional level. Governments and the private sector should both be engaged in creating positive spaces for people of all identities. The speakers emphasized the importance of symposiums such as this one, providing opportunity to talk openly on subjects like inclusiveness, bias, gender, race, religion and mental health. Research shows that diverse organizations work more efficiently, are more profitable and have better overall ideas; ten different minds will solve a problem, not one or two minds that think the exact same way. The topic of credibility came up again; unconscious bias works against women by forcing them to continually establish their capability. While organizational management has a responsibility for workplace inclusivity, when it comes to daily work, everyone must commit to respect and the elimination of bias.

The fifth and final panel of the day was the Industry Spotlight/Showcase with individuals from companies and agencies in the maritime sector. The panellists spoke about their corporate forward thinking and fielded questions on improved integration of women in the maritime industry. A key concept discussed is that one's perspective may be different from coworkers, even though the experiences may be the same. Everyone has different reactions and views, which must be considered and acknowledged during personal interactions. Changing the culture of a toxic work environment requires support yet is crucial; in those workplaces women

are often fearful of reporting harassment. Chief Petty Officer Robert Wilcox (Royal Canadian Navy) spoke assertively on the progress and action taken within the Canadian Forces. He assured the audience that there is zero tolerance; if they fail to act, the entire chain of command is just as responsible as the perpetrator. The importance of mentorship was reinforced by this panel, highlighting that support networks are extremely valuable. Mentorship succeeds when someone takes the first step to become a mentor. Mentees grow under the guidance of their mentors, and when aware of the value of the relationship are more likely to become mentors themselves. This creates a positive snowballing effect. Joan McLeod (Conflict Navigator) stated "I am being treated like a problem, when I am an opportunity"; a phrase capturing the message of the final panel and the goal of the Symposium. All facets of the maritime industry must work together to ensure equality; the potential benefits are plentiful. Acknowledging the challenges remain, there are many good news stories that could be used to our advantage. Canadians are privileged; positive action is moving forward. We must continue in this direction and invite challenge to other organizations not yet leading with equality.

The event concluded with closing remarks including an energetic address by MMC Secretary Captain Ivan Lantz. The message he shared is that while we have made progress, we have more progress to make. Forums, events, and symposiums like The Evolution of Equality and Inclusion in the Maritime Profession are vital, as they are places where we can come together to expose and explore the successes and the issues within our industry. To invoke change, it is important to not just talk about it but act on it.

As Her Excellency Governor General Julie Payette stated, the recommendations from this symposium will influence the entire maritime sector. Thus, take what you learned from this symposium and carry it further.

Takeaways – Carrying it Further.

Based on the talks and discussions, the following recommendations emerged:

1. Make unconscious bias, conscious.
2. Increase your exposure to bias, recognize it, and challenge it.
3. Be accountable.
4. Create positive space.
5. The behaviour you walk past is the behaviour you accept.
6. Improve women's representation in the maritime industry.
7. Normalize women in the maritime industry.
8. Improve marketing the maritime industry as a viable career option for women.
9. Increase the visibility of positive women role models for children (next generation).
10. Improve adaptive career paths for women.
11. Provide options for career planning and work-life balance.
12. Recognize the desire of women (and men) to have a family.
13. Recognize that women get pregnant and give birth.
14. Support mentorship, both formal and informal.
15. Do not forget to look back and help those similarly striving in their early careers.
16. Recognize a simple connection can make all the difference.
17. Switch a negative to a positive; for example, instead of saying "don't harass your co-workers", say "live well with your co-workers."
18. Work to change the industry culture and shift perspectives.
19. Practice empathy, be open-minded, inclusive, and supportive.
20. Encourage men to support change and challenge gender bias.
21. Stop saying it is a male dominated industry; it is the maritime industry.
22. Familiarize with the UN Sustainable Developments Goals; #5: Gender Equality is a great umbrella of guidelines to work under.
23. Improve policy development, research, and statistical data; facts and education are key to positive change.

Keynote Speaker: Dr. Momoko Kitada, World Maritime University

Panel 1: Unconscious Bias

Vanessa Rochester, Norton Rose Fulbright Canada

Olivier Beyer, Canadian Coast Guard

Dr. Momoko Kitada, World Maritime University

Panel 2: Junior Officers (education success stories)

Leann Vaughan, 2nd Officer, BC Ferries

Kaitlin Scurr, 3rd officer, Canadian Coast Guard (western Region)

Abby Ploeg, Fourth Year Student - Nautical Science Program, Marine Institute

Katie Barker - Fourth Year Student - Nautical Science Program, Marine Institute

Panel 3: Senior Officers (equity and inclusion success stories)

Katryne Parenteau, Petronav

Captain Lauren Ploog, BC Ferries

Mariah McCooey, Harbour Master/Harbour Airport Manager, Victoria

Lisa Earle, Canadian Coast Guard

Captain Amanda Slade, Master Mariners of Canada

Panel 4: Maritime Profession and Government Organizations (equality and inclusion success stories)

Lieutenant Commander Amber Comisso, Royal Canadian Navy

Anne Legars, Ship Source Oil Pollution Fund

Jacqueline Corado, Transportation Appeal Tribunal of Canada

Elizabeth Clouter, Marine Institute

Panel 5: Industry Spotlight/Showcase (equality and inclusion insight and forward thinking)

Captain Marie-Claude Laurendeau, Great Lakes Pilotage Association

Chief Petty Officer 2nd Class, Robert Wilcox, Royal Canadian Navy

Jillian Carson-Jackson, FNI, FRIN, Senior-vice President, The Nautical Institute, WiM in Maritime

Joan McLeod, Conflict Navigator

Captain Cindy Brown, Nova Scotia Community College

Off Watch

The November 2019 Edition of "From the Bridge" features "Off Watch", the regular column written by Captain Barb Howe.

Off watch No. 2 - Avogadro and Froude give us Dimensionless Numbers

We are surrounded by dimensionless numbers. In the physical world we inhabit they're everywhere. Why I remember Avogadro's number eludes me as I recall little else from high school chemistry. Nonetheless I can fix a steely-eyed gaze on anyone and recite 6.022×10^{23} .

Avogadro determined that one mole of any substance contains the same number of particles of that substance - one mole of a substance equals its molecular mass in grams. Fortunately I've never needed Avogadro's number as I don't do much baking.

Like Avogadro's, a dimensionless number can represent a property of a physical system, or a product or ratio of quantities that are not dimensionless like pi - or the Froude number.

Although William Froude retired from civil engineering when he was 36, he maintained his lifelong friendship with Isambard Brunel who built railroads and ocean going steamships. In 1856 Brunel asked Froude to do a resistance and rolling study on the *Great Eastern*, a ship designed by Brunel that had been fraught with problems from day one. A large problem was that the vessel lacked the designed power and only made a sluggish 13 knots.

Froude recognized that naval architects of the time understood little about wave resistance and the effects of ship size on speed. He set to work on the problem by studying resistance on ship scale models. One of his most important works was determining the amount of force that water exerts on a body passing through it. In 1861 Froude distinguished himself with a paper on ship design he wrote for the Institution of Naval Architects. This led to a commission to determine the most efficient hull shape. No surprise, the British navy was particularly interested in Froude's work.

As part of the commission, Froude built "by eye from waterbirds" two different hull shapes he called *Swan* and *Raven*, and each hull form had 3, 6 and 12-foot models. Towing the models at different speeds in the River Dart Froude observed that large and small models produced different wave patterns when

towed at the same speed. However, if the larger hulls were pulled at a greater speed, there was a speed where the wave patterns were nearly identical.

Having demonstrated that performance varied with speed, Froude wrote to the Chief Constructor of the Navy proposing that an experimental tank be built to continue model testing in. In 1870 their Lordships approved the expenditure of 2,000 pounds to construct a tank testing facility on the grounds of Froude's house at Torquay - the first properly instrumented testing tank in the world.

Some in the naval architect community of the day thought Froude's experiments on ship models a bit trifling "but a nice little fun experience" - however the predictions he made on models were verified by towing the 56 metre screw sloop *Greyhound* in three different conditions of load - thus with different waterline lengths, at speeds from 3 to 12 knots. The results were compared to and closely resembled those obtained from tank testing numbers on a scale model of the *Greyhound*.

Froude did not attach a lot of importance to the *Greyhound* trial as to him it merely confirmed what he already believed, but to naval architects of the day it was essential proof that identical wave patterns occurred when the ratio of the velocity squared to the hull length was the same for both large and small hulls.

He went on to determine that form resistance could be considered the sum of wave formation and skin friction, and that each could be scaled independently. Froude demonstrated that geometrically similar hulls are dynamically similar in terms of wave resistance and this similarity can be expressed as a ratio. The dimensionless Froude number is a ratio of the kinetic energy of the object to its potential energy.

The Froude number ($F = V^2 / (g\ell)$) is determined by the speed (V) squared and divided by the product of the acceleration due to gravity (g) and the scale of the object (ℓ) which is waterline length. Vessels having the same Froude number will have similar wave patterns. Usually a Froude number of .4 will occur when the wavelength generated and the waterline length are equal. At this point attempting a greater vessel speed generally becomes power inefficient.

The application of his number extends to other scientific areas like hydraulics, fluid flow, oceanography and meteorology. The Froude number has been used to study trends in animal gait patterns substituting leg length for waterline length. One study found that animals of different sizes and masses travelling at different speeds, but with the same Froude number, consistently exhibited similar gaits.

It's not known if Froude explored animal gait patterns on his dog named Crack - who visitors to Torquay on different occasions described as "repulsive", a "damned beastly animal" or a "dog that will surely end up in Hell".

Much like Avogadro's number, I've never needed the Froude number either as fortunately all the vessels I've sailed on already had one.

Captain Barb Howe is a Member of the Vancouver Division.

Achieving gender equality will increase talent pool for the industry: The theme for the International Maritime Organization's World Maritime Day 2019 was "Empowering Women in the Maritime Community". Picking up on that theme, the World Maritime University (WMU) in Malmö, Sweden, held a conference in April to further raise awareness of gender equality in the maritime industry. This was the third International Women's Conference organized by the WMU and, lucky for the local West Coast industry, B.C. was well represented through the presence of Robbin Sinclair FCPA FCA, Master Mariners of Canada, and Kate Armstrong, Seaspan Marine. The information and ideas both women took away from the conference are providing a catalyst for local initiatives.

Background: Having spent much of the past 20 years working in Nunavut, Robbin Sinclair and her husband, Captain Jim Ewart MM, have recently shifted their base of operations to southern B.C. to pursue new opportunities for their consulting firm, SILA North. While up north, the team focused on economic development, working with stakeholders on feasibility assessment projects — often including a marine component — for example, they were involved with studies that led to the Iqaluit deep-sea port currently under development.

Now on the West Coast, both Sinclair and Ewart joined the Master Mariners of Canada (MMC) where Ewart is now the Divisional Master of the Vancouver Island Division and Sinclair is the corporate representative for SILA North. "The conference married up with strategies we've been developing to address membership recruitment — specifically, female mariners," said Sinclair. "At the last MMC annual general meeting, there was a lot of discussion about membership in general and the need to reinvigorate the organization through active recruitment of new members."

Sinclair went on to note that the Vancouver Island Division has already seen success in increasing female memberships — over one-third of their membership is women in the maritime industry — and has plans to further promote the benefits of membership among women. "We are in the early stages of developing a 'Women Mentoring Women' program, led by Captain Amanda Slade MM," she said, adding that MMC is considering implementing the program at the national level. Both Sinclair and Ewart are also on the working group for a national Symposium hosted by MMC to be held on October 3 of this year in Ottawa to address inclusion and equality in the industry. The response from interested participants, speakers and sponsors has already surpassed expectations.

For Kate Armstrong, Manager, Regulatory and Compliance, Seaspan Marine, it was Captain David Whitaker MM, fellow director of the Nautical Professional Education Society of Canada, who first brought the WMU Conference to her attention. "I took the idea back to the executive of Seaspan who thought it was a great idea and fully supported my attendance," said Armstrong whose broad experience in a number of sectors within the marine industry speaks to a deeper understanding of the issues and challenges in recruiting women to the industry.

Armstrong's career has spanned 30 years. It started with Nautical Science studies and holding various deck positions on a variety of ships, but changed direction due to an injury sustained while working on one of the vessels, which hampered her sea-going temporarily. Rather than give up her maritime career, she enrolled in a three-year technical Naval Architecture program. Following her graduation, Armstrong has worked in a number of diverse marine industries — as a naval architect in design offices such as Peter Hatfield Ltd., a plan approver/hull surveyor with Transport Canada, an independent marine surveyor with her own company and currently as an advisor on marine regulatory matters with Seaspan Marine.



Robbin Sinclair



Kate Armstrong

- Motivate women and girls in secondary education to pursue career paths in the maritime and ocean fields, and in particular to raise their awareness towards the fields of science, technology, engineering and mathematics. □
- Open early-career job opportunities for women and develop attractive career paths for them; □
- Introduce gender equality as a business case for initiating commercial partnerships. □
- Ensure equal employment opportunities, including equal pay to women in the maritime and ocean communities. □

Takeaways: "Women are a great source of talent," said Armstrong. "It's not about meeting a quota or about providing special treatment for any single gender or race, but rather it's about finding the right people in a tough labour market. Many of the initiatives that are being considered to recruit women could easily result in attracting more young men or more First Nations, for example. The overall goal must be to increase the number of people entering the industry."

Sinclair echoed those thoughts and added that addressing systemic barriers to entering the maritime industry is also required. Using the job interview process as an example, she outlined recent research that found that well-qualified women weren't being selected for positions because they respond differently than men to behavioural questions and take a different approach to solving problems. "They would reach the same conclusion as their male counterpart but they were expressing that solution in different verbiage," said Sinclair, adding that by looking at each step in the recruitment process as well as career advancement opportunities we could identify ways in which the playing field can be levelled.

Another area that required attention was in addressing physical barriers, albeit it was noted that technology and automation were playing a great part in reducing and removing many of those barriers. In addition to physical barriers, Armstrong pointed out that it was important to engage men — especially in the case of women joining men on board vessels. "In my role at Seaspan, I have the opportunity to interact with crew on our tugs. For many of these men, you're asking them to change their world," she said. "We should be getting their input and feedback to make sure that the integration of women on board and at sea is done in a positive way for both genders."

Taking action: Following the conference, Sinclair and Armstrong identified a number of initiatives that could be implemented locally. In her report back to Seaspan executive, Armstrong has recommended various ways to create greater awareness about the opportunities in the company. "Some of the ideas being discussed include engaging young people — both men and women — at an earlier age, for example, visiting secondary schools," she said, adding it was important to build support networks for young people to discover their passion. Other initiatives include work

being done at Seaspan on an exposure piece, promoting ways that the maritime women of Seaspan can connect with each other as well as investigating ways for Seaspan to hook into resources that are available for women considering a maritime career such as websites that can connect women to mentors, like Women Offshore www.womenoffshore.org. Sinclair reported that the Master Mariners of Canada is also in the planning stages of developing initiatives to encourage recruitment of women. With the caveat that MMC operates with volunteers who have limits on the time they can spend, Sinclair described looking for ways to connect women mariners with training facilities and employment opportunities through websites as well as visits to schools. She pointed to the MMC's LinkedIn page with over 2,200 followers as a great start in connecting mariners all over the world. "There are a lot of existing vehicles for networking and providing useful information," she said. "We need to highlight those resources for young women who are at the beginning of their career choice."

Above all else, Sinclair and Armstrong felt it was important for attitudes to change. While both recognized that young women today don't have the same perception of barriers that existed in the past, there needs to be greater engagement at senior leadership levels to ensure gender-positive policies are implemented.

"I think the words of IMO Secretary General Kitack Lim at the conference's opening address summed up the situation well," said Sinclair. "The maritime world needs all hands on deck, both male and female, to continue to carry the world's goods."



BC Shipping News. September 2019. <https://issuu.com/janemci>

Recent editions of "From the Bridge" featured the careers of Captain G.O. Baugh Memorial Scholarship winners. Here is one more.

My name is Marie-Hélène Roy and I was bestowed the "Company of Master Mariners Baugh Fund Scholarships" for the year 2006.

I graduated from the Institut Maritime du Québec (IMQ) in Rimouski in 2008. Following my graduation, I sailed in the Canadian Arctic, Great Lakes and in Eastern Canada on different types of ships, especially bulk carriers and multipurpose vessels.

My sailing career started as Third Officer and progressed to Chief Officer, during those years I complimented my maritime experience by teaching at the IMQ in Rimouski.

I subsequently furthered my studies at Memorial University earning a Bachelor of Maritime Studies in 2013.



In 2014, I completed my Master Mariner certificate and joined the Port State Control and Cargo Division at Transport Canada as a Senior Marine Safety Inspector in Ottawa. Currently, I have advanced my public service career as the manager of Navigation Safety and Radiocommunications Program.

<https://www.tc.gc.ca/eng/marinesafety/oep-navigation-radiocomms-menu-1121.htm>

One of my responsibilities in my current role is to perform the duties of head of the Canadian delegation at the International Maritime Organization (IMO) sub-committee on Navigation, Communications and Search and Rescue (NCSR).

While my position at Transport Canada keeps me ashore, I seize every opportunity to enjoy the seven seas, whether it is sailing, diving, or travelling with my family.



Maritime education in Canada: Let's move it into the 21st century!

Professor Capt. Edgar Gold, CM, AM, QC, PhD, FNI

Captain Philip McCarter's excellent and thoughtful article, "The Certificate of Competency: An academic credential?" in the BCSN March 2019 issue, raises a number of important issues that have occupied me during a long career as mariner, teacher, lawyer and consultant. In fact, it is very rare for experienced maritime educators to critically assess our maritime education system. Although Captain McCarter's examination is wide-ranging, it probably does not delve deep enough nor go far enough. That is not meant to be critical in any way as, hopefully, the article might open up some further discussion that is badly needed, especially in Canada where maritime issues are generally very low on the political and public interest levels (unless a pollution incident occurs!).

Canada, like Australia and most, if not all, other Commonwealth countries, inherited its maritime education/training system from Great Britain. This was and, to some extent, still is a unique system that has no real equivalent in other major maritime states. Most other maritime states, especially France, Greece, Italy, Japan, the Scandinavian countries, Russia, as well as the United States, have always had maritime academies, colleges and specialized universities for maritime training and education that would provide qualifying students with diplomas or degrees either directly or indirectly. At the same time, such qualifying students would also receive their navigational or engineering 'licences' that would be issued by the relevant government agency. There were, of course, many variations of this system that, over the years, has strengthened and grown and now provides university-level education and widely recognized qualifications for seafarers. Developing maritime states such as China, India, the Philippines and several African states have successfully adopted and even improved this system. For example, I have visited China's Shanghai Maritime University and Dalian Maritime University several times and can attest that they are not only of a very high standard but easily exceed most 'Western' maritime colleges in terms of equipment, facilities and teaching methods.

Unfortunately, the old British system that still rules Canadian maritime education provides far less educational scope for ambitious seafarers. Captain McCarter recognizes this but appears to be placing too much emphasis on the fact that our 'certificates' being issued by government agencies is a barrier to academic recognition. Although this is, to a certain extent, quite true, it is not the real barrier. As Captain McCarter also suggests, one major problem is that Canadian maritime teaching institutions, with only minor exceptions, are not providing degree-level education because they were never designed nor legally authorized to do so. This perpetuates the old, restricted British system that in, Captain McCarter's words, caters to the "restricted needs, albeit understandable, of external stakeholders." This is the real issue where the shipping industry, at all levels, wanted to ensure that qualified seafarers would be held 'captive' in the industry during their whole career, as their 'certificate' qualification was neither portable into another career, nor accepted for other higher education. If this type of policy, if it can even be called that, was ever acceptable, it is certainly not now. Today's ambitious seafarers are looking far beyond their sea-going career and demand that their maritime training and education become a stepping-stone towards a future career or even careers. Regrettably, our present maritime education system does not provide this and most specialized institutions are basically only designed to 'cram' the necessary knowledge, required to pass the certificate examinations, into students in as short a period as possible. This is quite similar in most Commonwealth countries.

...Canadian maritime teaching institutions, with only minor exceptions, are not providing degree-level education because they were never designed nor legally authorized to do so.

In many cases, such nautical and engineering students will have only very limited financial support or often none at all. Loan systems available to students in other higher education systems are rarely available to maritime students. In fact, the old British systems did not really require much education for anyone fit and healthy to go to sea. One could go 'on deck' as a sailor or into the engine room as a stoker or wiper and then 'work your way up.' For an intelligent person this might work out well. If one had a high school certificate, a berth as either a cadet or marine apprentice might be available. This would normally require four years of very hard work with little payment. But both routes ended up with 'certificates' that had basically little value other than in the industry. Marine educators, as well as other maritime professionals trained under this system, when confronted with the 'other' maritime education methods, would say: "well, they may be better educated, but we are much better practical seamen and engineers!" This was simply a bit of British maritime chauvinism that persists to this day. It is probably also difficult to admit that such a long-established system no longer works and that there may be other methods that might be much better.

As Captain McCarter suggests, there is room for improvement. However, any solutions may not be easy to achieve although they are not insoluble. Firstly, the requirement of licensing by a government authority, as required under the STCW convention, will not be affected. What does need to change is how the training and education required to reach such a licensing level is delivered. In that respect, maritime education is not very different from many other academic professional systems. For example, medical professionals are trained and educated in university medical schools, their expertise is then certified by their specialty's governing body and they are then licensed to practice. This is similar for lawyers, accountants, surveyors, etc. For maritime professionals, it is a slightly different three-step process with the first step being actual sea-going training, followed by a generally undefined maritime education process, and then the final licensing or 'certification' by the government agency. It can be seen that the weakness lies in step two that can even be left out completely if a candidate decides to be self-taught. What is needed is for step two to be formalized as a properly recognized, credible higher education level that will provide the student with a degree-type qualification at a Bachelor or, for high achievers, Masters level, in addition to the certificate that will be achieved. It is not suggested that this will work for all maritime students. It is likely that candidates who might not be able to meet the academic standards required for higher levels would instead seek lower level maritime certification. However, it is also likely that any improved system will certainly raise the level of educational entrance requirements for maritime students throughout the industry. This is long overdue as there is no place for poorly educated persons in the modern maritime industry.

At this stage I can imagine many of my master mariner and marine engineering colleagues shaking their heads and saying, "it can never happen!" They may well be right as there will certainly be political, industrial, professional and vested interest objections and obstacles to overcome. But it is not impossible. I was delighted to see Captain McCarter refer to the World Maritime University (WMU) in Malmö, Sweden. I am very familiar with this highly successful institution that has just celebrated its 35th anniversary, as I was a member of the IMO's steering group that brought WMU to life, then served for some years as the Canadian member of the WMU Board of Governors and taught there as a frequent Visiting Professor for many years. WMU has now graduated over 4,600 students from 167 countries at the Diploma, Masters and doctoral levels. A very large percentage of these graduates are former and serving seafarers who have now moved on into the wider maritime sectors — nationally, regionally and globally. Some have reached top-level positions in industry, government and international service. WMU is funded by the Swedish Government, the City of Malmö and the UN Development Programme as well regular donations from private and other sources, including the Canadian Government. It is so successful because it fills a gap in maritime education that is either not or insufficiently delivered by many national maritime education institutions.

The question we need to address is: If a high-level international institution of maritime higher education can be created from nothing, confirming that seafarers are more than capable of achieving the highest academic standards in addition to their STCW certification, why can major maritime states, such as Canada, not establish something similar? Furthermore, in the case of WMU everything had to be built from scratch, whereas in Canada there is already a well-established basic structure in place. It should not be that difficult to expand Vancouver's BCIT, the Canadian Coast Guard College in Nova Scotia, the Marine Institute in Newfoundland or the maritime schools in Ontario and Quebec to university level if it is demanded and there is the necessary political will. Is it not worth a try? Our maritime students deserve more than they now get. Let us provide them with the tools and abilities that will not just confine them on board or close to ships but give them the scope to really make the contributions they are fully capable of. This would also attract the type of candidates the maritime sector desperately needs but who are now going elsewhere. At a time when the maritime industry is taking another significant step forward into highly advanced technology, greater environmental responsibilities and cutting-edge commercial requirements, there is already a discernible shortage of highly educated and well-trained personnel to respond to these demands. At this time, only institutions such as the WMU and the maritime universities in China are responding and much of the traditional maritime world, including Canada, is being left behind. The only way to catch up is to bring our maritime education sector into the 21st century by providing seafarers with the high-level maritime education they need and deserve.



Edgar Gold, CM, AM, QC, PhD, DSc (hc), FNI, had a first career at sea for sixteen years and was in command of a variety of ships for several years. He then studied law and holds an LLB from Dalhousie University, Halifax, and a PhD in international maritime law from the University of Wales in Cardiff.

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Report from the investigation into the listing, flooding and grounding of *Hoegh Osaka* Bramble Bank, The Solent, UK on 3 January 2015.

Synopsis: At 2109 on 3 January 2015, the pure car and truck carrier *Hoegh Osaka* was rounding West Bramble buoy in The Solent when it developed a significant starboard list causing some cargo shift and consequent flooding. With the list in excess of 40°, the ship lost steerage and propulsion, and subsequently drifted onto Bramble Bank, grounding at 2115. *Hoegh Osaka* had sailed from the port of Southampton, bound for Bremerhaven, at 2006. A pilot was embarked and there were 24 crew on board. Following the accident, all crew were successfully evacuated from

the ship or recovered from the surrounding waters. There was no pollution. A major salvage operation successfully refloated *Hoegh Osaka* and it was subsequently taken to a safe berth in Southampton on 22 January.

Stability modelling and analysis following the accident show that *Hoegh Osaka* heeled heavily to starboard while turning as a result of having departed port with inadequate stability. Cargo distribution was such that the upper vehicle decks were full while the lower vehicle decks were lightly loaded. *Hoegh Osaka* was low on bunker fuel oil, which was stored low down in the ship. With no additional ballast having been loaded prior to departure, the ship's overall centre of gravity was relatively high. The analysis also concluded that it was most likely that the cargo shifted due to the ship's excessive list and was not causal to the accident.

Hoegh Osaka's itinerary had changed from its routine loading rotation between three northwest European ports. The actual cargo weight and stowage were significantly different from the final cargo tally supplied to the ship. Ballast tank quantities were estimated on board and differed significantly from actual tank levels. Cargo unit vertical centres of gravity were routinely not allowed for in the ship's calculated stability condition.

These factors all combined to result in the ship leaving Southampton with insufficient stability for the voyage.

A key finding of the MAIB investigation is that no departure stability calculation had been carried out on completion of cargo operations and before *Hoegh Osaka* sailed. Witness and anecdotal evidence suggests that this practice extends to the car carrier sector in general. The fundamental requirements for establishing before departure that a ship has a suitable margin of stability for the intended voyage had been eroded on board *Hoegh Osaka* such that unsafe practices had become the norm.

The owner and manager of *Hoegh Osaka* have taken a number of actions aimed at preventing a recurrence, and the MAIB has made recommendations to both to further enhance their respective instructions and procedures.

For the complete report, see https://assets.publishing.service.gov.uk/media/56e9a7afe5274a14d9000000/MAIBInvReport6_2016.pdf

Also see: *Hoegh Osaka* Disaster - The Complete BBC Review: <https://www.youtube.com/watch?v=4hmp3o0to6A>



Does slowly really do it? Slow steaming might lower emissions, but the practice is not a magic fix for saving the planet.

"More days, more dollars" was something we used to say to hide our disappointment when we heard that there were no reliefs for the crew at the next port, as expected, and the voyage was going to be prolonged. However, even in today's times, it is likely that all voyages are going to get rather longer if ships are forced to reduce their speeds in order to 'save the planet'.



Slowing down is seen as one of the 'low-hanging fruits' to reduce the amount of carbon dioxide (CO₂) that is emitted by marine machinery on its sea passages. It might be recalled that at a recent International Maritime Organization (IMO) meeting, when the environmental sustainability of ships was being discussed, schoolchildren presented IMO delegates with small paper boats, each inscribed with slogans encouraging them to pass laws compulsorily slowing ships down. As a stunt it was very effective – although it is rather simplistic to assume that simply knocking a few knots from a ship's service speed will automatically make the air cleaner.

Every rose has its thorn: Because you really use a bit less fuel on a sea voyage (consumption going up steeply with speed) if you slow down, emissions will indeed be reduced for individual ships. However, if you are going to carry the same amount of goods, you are going to need more ships to do the work, which may cancel out all these gains, especially when all the emissions used in shipyards and transporting the materials, for example, are taken into account. You might suggest that you can get around this problem to some extent by increasing the size of the ships, as has happened in the container trades in recent years. The problem here is that ships are just one link in the supply chain and that if you have a 'super-gigantic' containership exchanging its loads in one fell swoop, it tends to overwhelm the abilities of the ports, trains, trucks, barges and feeder ships to carry it all away and bring in the next load. Somebody worked out that a single 20,000-teu containership might typically require six sizeable feeder ships, 53 container trains, half a dozen barges and a staggering 2,645 trucks to handle its cargo in a major port – all churn out emissions. Therefore, mere size is no simple solution.

It is also suggested that slowing down might seem superficially attractive as a means of reducing emissions, but it doesn't do much to help stimulate the innovation that will be needed if the whole shipping industry is to become carbon-free or even carbon-neutral in the timescale everyone is hoping for. Serious and expensive research is

needed to develop completely new fuels or better propulsion systems – such as batteries that might propel a large, oceangoing ship or ships that can use wind or waves to help propel them – or to design new and cleverer hulls. Whatever the product is of all this amazing research, it is unlikely to be commercially attractive to ship operators if they are going to be competing with conventionally designed ships that are just going slower, which will inevitably be cheaper for those ship operators. That is a sad fact of commercial life. A better bet might be cleverer operations, with ships getting to ports when they are needed and not speeding on the sea passage to end up lying at anchor for days, waiting for a berth.

But the weight of public opinion – especially perhaps concerning environmental protection – does count these days, with activists called in to address the regulators of the IMO, and the chances are that speeds are going to be regulated and the days of people boasting of their fast passages will be over forever. In many respects, this goes against the whole thrust of maritime endeavour – at least since the days of clipper ships, when speed to get the goods to market was initially seen as a priority.

We don't want to see a return to the bad old days when low-powered steamers were unable to claw their way off a lee shore and ended up wrecked on the rocks

Impact on board: One aspect of the slow ships debate that never gets considered is the effect that all this slowing-down might have on the people on board ship, who will see their sea passages dragging on interminably. I always remember meeting an old friend in a New Zealand port after his ship had crawled across the Pacific at about eight knots, compared to our passage of half the number of days. They had water rationing, the food was almost all gone and they were gradually going mad as the voyage went on and on. I just hope somebody might think of these matters as we go forward into the brave, lower-emission world.

There is also the question of safety. No ship operator who has been told that the new service speed of a ship is 10 knots is going to provide a lot of additional horsepower "just in case it is needed". However, seafarers will tell any naval architect who will listen that you need extra power to provide that extra push when the weather turns nasty.

I always recall a friend who was Master of a capesize bulk carrier telling me of a stormy night when he was blown astern by 60 miles, with his engine running at full power. We don't want to see a return to the bad old days when low-powered steamers were unable to claw their way off a lee shore and ended up wrecked on the rocks. That is definitely not progress, no matter how much CO2 might be saved.

Michael Gray. *theSea*. Jul/Aug 2019. www.missiontoseafarers.org



What is it about speed that upsets the shipping industry? You won't find many – if any – who disagree that the higher the speed of a ship, the higher the level of greenhouse gas emissions. So why would I argue that, while imposing speed limits may have a popular ring to it, it is not the answer as the industry seeks to cut emissions? After all, our mission is to do exactly that: cut emissions.

The important question is not whether a speed limit should be introduced to cut emissions, but how it would be checked. Before vouching for an argument, one must look at whether it can be done.

What looks good on paper does not always work in practice. Enforceability is a very important aspect of any meaningful regulation. Can authorities check for compliance? Is the regulation meaningful if it can't be checked?

Only one option would work in practice: I can think of four possible options, but only one works when it comes to implementing a solution that can be measured and checked accurately, and that correlates to emissions: -

- A limit for speed through water. This cannot be checked accurately, but correlates closely to emissions.
- A limit for speed over ground. This can be checked accurately, but there is a much lower correlation to emissions.
- A limit for average speed (over ground or through water). It may be possible to check this, but there is also a much lower correlation to emissions
- Limits for propulsion power. This is the only option that can be checked accurately and has a close correlation to emissions.

To understand why this last option is the best solution, we must get technical.

Most people have an intuitive understanding of what speed means, and that is usually derived from personal observations when we move on the ground. If you move 7km in one hour, your average speed is 7km per hour. Short and simple!



What is less simple is recognising that, when we move on the ground, there is no slip. The wheels on our car turn one revolution, and the car has moved exactly the distance equal to the circumference of the wheel. It is different at sea – and, for that matter, when we talk about movement in the air.

Measuring a ship's speed through water is not accurate: When a ship moves, it moves through water. It also moves over ground – and so does the water in which the ship sails. Observing a ship's speed over ground is really an observation of the ship's speed through water plus or minus the current at any given time.

The problem is, we do not know the current at any given time, and measuring a ship's speed through water directly is not very accurate, either.

When a ship is new and the shipyard measures its speed/power curve, it does so by conducting a very precisely measured double run between two fixed positions: there and back. This eliminates the influence of current and results in an average speed over ground that accurately reflects the ship's speed through water.

When a ship is in operation, it is impractical to measure in this way. The shipping company still wants to keep an eye on the ship's performance, and this is often done by observing propeller revolutions and factoring in an average slip percentage for the ship. Slip is the relationship between the observed movement of the ship when the propeller turns one revolution in water and the propeller's theoretical movement of the ship had the water been a solid material.

Some ships have Doppler speed logs, which use advanced techniques to measure the speed of the water column below the ship relative to the ship itself. Still, the water flow is not laminar close to the ship hull and such devices need frequent adjustment to produce accurate results.

In summary, measuring a ship's speed through water is not a precise exercise.

Low correlation between emissions and speed over ground: If you measure a ship's speed over ground and try to correlate this to the emissions or the power of the engine, you would get a very large scatter. This is because the current changes by time and location – and it changes significantly. The difference between favourable currents with a ship and unfavourable currents against a ship may be as large as 50% of the speed observed over ground.

So there is a low correlation between a ship's emissions and its speed over ground.

Cutting average speed – where is the emissions connection? When we look at average speed – the third option, above – we need to bear in mind how speed through water and power correlates for a ship to understand if this could work. Remember the rule of thumb: power = constant x speed³.

A ship travelling between two locations, sailing at constant speed, emits 100% CO₂. A ship travelling between the same two locations – sailing the first half distance at 50% higher than the average speed, and the second half distance at half of that higher speed – would emit 141% CO₂. These two scenarios give the same average speed for the ship.

So there is no correlation between average speed through water and emissions. Averaging speed over ground just make things even more arbitrary.

Emissions are driven by power of the engine: All this may seem unimportant, but emissions are driven by the power of the engine that turns the ship's propeller. There is very good correlation between emissions and power of the engine.

There is also a reasonably good correlation between a ship's emissions and its speed through water, as mentioned in the first option. We must keep in mind, however, that two ships with the same cargo-carrying capacity – but different efficiency – would have different emissions. So the correlation between many ships travelling at the same speed and their emissions is not good.

We can continue to talk about speed limits for ships, but if we forget to ask ourselves the fundamental question of whether it helps cut emissions, we are heading in the wrong direction on our way to the industry's 2050 greenhouse gas emission targets.

Limiting emissions via a ship's power to the propeller not only gets us in the right direction, it encourages innovation around more efficient ships – and helps us assure a level competitive playing field on our way there.



Source: BIMCO Bulletin Magazine – June 2019 issue (<http://portfolio.cpl.co.uk/BIMCO/201906/cover/>)

<https://www.hellenicshippingnews.com/what-is-it-about-speed-that-upsets-the-shipping-industry/>

August 21st 2019

The following appeared in the "Vancouver Sun" on December 22nd 2018 and in Ivan Lantz's Newsclips the following day. I thought it should be seen again.

Gifts light up the tough life of seafarers at Christmas: For most residents of Metro Vancouver, the freighters that anchor in the grey-green waters of English Bay or dock behind high fences on the Vancouver waterfront and the Fraser River are just distant marks on the scenery.

We never meet the people, far from home, who work the massive freighters, many of which stretch longer than three soccer fields. The burnt orange and black ships mostly end up in photos as a fleeting curiosity, their bulky shapes evocative against the mountain backdrop.

We also know little about the shipping industry. Ninety per cent of everything we consume comes by ship, say specialists. In this age of terrorism, pirates and smuggling, security around the giant vessels has become tight. Sometimes seafarers never get the chance to set foot on the soil of Canada or other nations. They live in a kind of limbo.

But in recent years, on an invariably frigid day on the sea just before Christmas, the barrier between the sailors and the people of Metro Vancouver breaks down a little. A pilot boat carrying 500 colourful parcels of gifts pushes out on to Burrard Inlet and English Bay, with the boat's inhabitant routinely calling up to crew members above: "How many on board?" A few seafarers act suspicious. But most are curious, particularly if the Captain has been radioed ahead and told the "Christmas at Sea" boat is on its way. Amid laughs and good cheer the gifts are hauled in large clear plastic bags up the long, shaky gangways of almost 25 anchored freighters. Each gift package is filled with toques, gloves, sweaters and scarves — many hand-knitted by local churchgoers. And that's not to mention the toothpaste, candy and chocolate.

Metro Vancouver has the largest port in Canada. At any moment about 50 bulk carriers, container ships and tankers are anchored in our harbour or berthed at our terminals. More than 3,200 foreign vessels arrive in Metro Vancouver terminals each year. Most are connecting to China, followed by Japan, Korea, the U.S. and India. They carry coal, grain, automobiles, oil and mountainous 20-storey stacks of metal containers, packed with who knows what. Often even ship Captains don't really know what the containers contain.

Who are the seafarers? The organizers of Christmas at Sea know an average of 23 crewmembers work on each freighter. "They experience a lot of isolation and loneliness. And of course it's only heightened at Christmas," says Anglican Rev. Peter Smyth, who was ordained in Northern Ireland and now works out of the Seafarers Centre heritage building at the north end of Main Street.



The sailors are almost all men. Some come from countries like Ukraine, Egypt and Russia. But the biggest groups are of people earning money to provide for distant loved ones in India, China and especially the Philippines.

"They don't have the normal routine of life, which is to go to work and then go home to their families. They live in their own little worlds. And whenever they're anchored in English Bay, that sense of isolation is heightened," Smyth said.

"One seafarer described it as like living in a goldfish bowl. They're looking out, but the world's not looking back."

Rev. Dileep Athaide, a former geography professor, said, "There is often a certain sadness on the ships that's associated with Christmas, depending on the morale on the ship itself."

Metro chaplains hand out presents, Athaide said, "because we want to give the seafarers some sense that, even though

they're away from home, there are still people who care for them."

The chaplains don't think about whether the sailors are Christians, Muslims, Hindus, Buddhists, agnostics or atheists. "Christmas may mean nothing to many of them," said Smyth, who notes that, in addition to the 500 packages that three chaplains deliver on a Tymac pilot boat to ships at anchor, they also provide another 1,000 Christmas gifts to crew on freighters docked at Metro's 28 cargo terminals.

Most seafarers, even the Chinese crew who last year were awakened from their sleep by the gift boat's arrival, "end up really, really happy to see us. They want to share some of their food. And they usually open the presents right away," said Randy Murray, of the Anglican diocese of New Westminster.

Athaide acknowledges most crews from Russia and Ukraine are not interested in Christmas. But the world-weary resistance of a minority does little to crush the enthusiasm of the majority. And it is the Filipinos, most of whom are

Christians, who are the most likely to revel in the gesture of goodwill, said Athaide. That's why the frigid waters of English Bay often echo just before Dec. 25 with the gift-bearers shouting up to crewmembers, "Maligayang Pasko!" which is Tagalog for "Merry Christmas."

A million seafarers work a dangerous trade: There are more than one million seafarers. They work on roughly 60,000 freighters, which often sail under "flags of convenience" from countries with low labour and safety standards. Each week, two commercial ships are lost at sea, but the public rarely hears about them. They either sink or are abandoned in typhoons, fires or collisions, especially in the South Pacific. Many of the vessels, which normally run on "dirty" bunker oil, are poorly maintained.

Commercial seafaring is considered the second-most dangerous occupation in the world. Each year, 2,000 seafarers lose their lives, according to the International Transport Workers Federation. And that's not to mention the danger posed by pirates, who are plentiful in the Indian Ocean and South China Sea.

"We are invited to remember the 1.2 million seafarers from all nations, professing different faiths, forced to live for several months in the confined space of a vessel," Roman Catholic Cardinal Peter Turkson said this year on July 8, known as Sea Sunday, which was marked in Metro Vancouver.

"(They are) away from their families and loved ones, missing the most important and meaningful events in their families, such as birthdays and graduations, and failing to be present during times of trials and difficulties, such as sickness and death," said Turkson, who is from Ghana.

"We would like to express our gratitude for their tough work full of sacrifices."

The former manager of the Vancouver waterfront's Seafarers Centre, Kathryn Murray, remembers a sailor who came in one afternoon, sat down and quietly got online on his laptop. He then took off his thick oilskin workers' garment. Underneath he was wearing pants, white shirt and dress tie.

"I heard him sobbing, and ran over," Murray said. "He pointed to his computer. There, on Skype, they were lowering his mother's casket into the ground. I stayed with him, attending his mother's funeral."

While many seafarers simply appreciate the chance to get on to free Wi-Fi at the two Missions for Seafarers in Metro Vancouver's port, Athaide said some, when they get a sympathetic ear, also seek spiritual support. (English is widely considered "the language of the sea.")

In just the last month, Athaide has listened to the stories of three sailors on different ships who had children born after they left home, whom they have never seen. Roughly twice a month, Athaide will perform a Catholic mass on a ship at the request of the Master or crew.

The city's three main port chaplains, Athaide, Smyth and Christian Reformed Pastor Gary Roosma, are also regularly called upon to bless ships and crews. That's especially after something bad occurs on board, including deaths.

But most times Metro's three chaplains simply hang out with seafarers, ask questions and listen to stories about their families and their lonely, exhausting life on the high seas.

The seafarers I met always talked of home: Where do you go if you want to meet seafarers in Metro Vancouver? They tend not to have regular haunts, such as restaurants or bars. Their ships dock in high-security zones on the waterfronts of Vancouver, North Vancouver and the Fraser River, near New Westminster. The city's beckoning amenities are often too far away to walk to and taxis are too pricey.

They don't get off their ships much, because they're usually on split work shifts. The Port of Vancouver, which oversees the transfer of \$200 billion a year in goods, would not directly help Postmedia meet seafarers, although a public relations person provided port statistics.



Earlier this year I discovered, however, I could meet seafarers at the Roberts Bank Superport, in sight of the Tsawwassen ferry terminal. You get there by driving along a causeway through Indigenous land and passing through two intimidating security gates.

Athaide, 68, helped me make connections. After his wife died 14 years ago and he semi-retired from teaching geography at Capilano University, he trained to become a deacon. It led, unexpectedly, to becoming a chaplain to seafarers, offering a listening ear and practical help. (Twice a week he distributes donated Cobs baked goods.)

The Roberts Bank Welcome Centre, run by the Anglican, Catholic and Christian Reformed churches, is a rough-and-ready place, but it gets a lot of use. Some evenings, the canteen is packed with sailors playing pool, grabbing a coffee, buying snacks and, since Captains restrict ship time on the

internet, using the free Wi-Fi.

The canteen is an easy walk for the scores of seafarers who man the five massive freighters docked at any one time at Deltaport and Westshore Terminals, which cover more than 80 hectares (equivalent to the size of Burnaby's Central Park). The Superport is dominated by roaring transport trucks, mountains of coal, 30-storey cranes and endless rows of stacked cargo containers. Towering water sprinklers keep down the black metallurgical-coal dust, which sticks to everything.

The canteen is virtually the only social place for seafarers. When I was there, seafarers were talking to staff about sending remittances back home. Others sat around on the rustic furniture. One shore worker came in covered head to foot in coal dust.

Seafarers are increasingly not allowed off their ships or out of port security zones. Athaide tells a story about a Turkish crew docked in Burrard Inlet who couldn't get off because one of them had jumped ship and sought asylum. Most seafarers said they grow used to being stuck on board. Granted, they're unlikely to tell a reporter something that might lead to being fired.

Every seafarer in Metro Vancouver's ports that I met said they chose their vocation to be better providers for their wives, children and relatives at home.

They work on contracts, which put them at sea anywhere from three to nine months at a time. Some said they earn almost 10 times as much as seafarers than they could in their homeland. Their tasks range from operating the engines to painting their ship to protect it from corrosive ocean salt.

Athaide and I met Nesron as he stood watch over his giant coal ship. The freighter's engine was roaring, preparing to depart at midnight for Korea. Nesron said his youngest son died six days after he had put out from Indonesia. That was months ago. Nesron had another two months on board before he could return to Indonesia to grieve with his wife.

Filipino seafarer Nick Cugay, an engineer, said he likes "sailing around the world for free." But he does it entirely for his young family. "There's no choice," he said. "And if there's some bad weather, it's scary. If there's a typhoon, I go to my cabin and pray."

Several talked about intense storms, which make it impossible to sleep for days on end.

Ukrainian Dima Viostikov, an able seaman, said his contract was seven months long. But he only had half a day in Vancouver. "It's very fast."

Even though friends told him Vancouver is a "very beautiful city," he wasn't going to see it — and that was fine by him. He has no interest in immigrating to Canada. "It's always best to go home. Home is home."

We had lunch with the crew of a German-owned Hapag-Lloyd container ship, after Athaide and his assistant, Megan Apperloo, and I walked forever along the tarmac and up the 81-step gangway. The ship was 360 metres long and held 13,500 containers.

When we sat down for a mackerel lunch with a mix of Filipino and German-Polish crew, Athaide said the Hapag-Lloyd cafeteria was cleaner and more attractive than most. The crew were fortunate, he said, to have a good Captain.

The seafarers said they often watch videos and play foosball.

"And sometimes we drink," Cugay added, although most ships restrict on-board drinking to two beer a day. Filipinos also spend a fair amount of time at karaoke. Said Cugay: "The Europeans like to hear our singing."

When Filipino Aldrin Callagon was granted eight hours of shore leave to see relatives in New Westminster, Athaide helped arrange for his family to pick him up. The family spent most of their time with their seafaring relative at a Walmart, where, as is the custom of sailors, he bought things to take to his family back home.

'They were quite incredulous': Sometimes helping out seafarers is as banal as driving them to the nearest shopping mall. Other times some appreciate prayers and blessings, or gifts. "What we do," Athaide said, "ends up being a great intertwining of caring for their temporal needs and their spiritual needs."

Especially at Christmastime, Smyth feels his work echoes the Bible passage in Matthew in which Jesus begins a parable by saying, "For I was hungry and you gave me something to eat. ... I was a stranger and you invited me in."

I picked up the impression that most seafarers, regardless of their beliefs, quietly value the presence of the chaplains, often in unforeseen moments.

Athaide told a story of Chinese sailors who initially told the Christmas at Sea boat to go away. The crew wouldn't lower their gangway, so gifts could be transferred up to them, saying, "No, no. We don't want that!"

But, Athaide said, the Chinese crew "eventually realized we weren't selling them anything; that what we were offering was free. They were quite incredulous. And so we were soon carrying this great big bag full of presents up their gangway, like a Santa Claus."



Anglican Deacon Peter Smyth & Catholic Deacon Dileep Athaide with a crewmember. Photos: Randy Murray

DOUGLAS TODD December 21, 2018

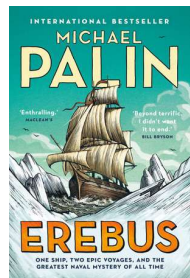
<https://vancouversun.com/opinion/columnists/douglas-todd-gifts-light-up-the-tough-life-of-seafarers-at-christmas>

One more Christmas item – A Christmas at Sea: This is taken from the book “Erebus – The Story of a Ship”, written by Michael Palin. ISBN 9781784758578. In 1839, before the ill-fated voyage to the North West Passage, the *Erebus* and *Terror* began four years on an expedition to the Antarctic. (An excellent read!).

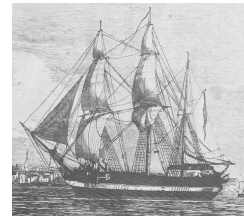
Their first Christmas away from home was celebrated with traditional enthusiasm – After prayers and a sermon from Captain Ross, thirteen of the officers sat down in the gunroom to a dinner of pea soup, roast turkey and ham, parsnips, plum pudding and pumpkin tart.

“Erebus - The Story of a Ship” begins after the defeat of Napoleon at Waterloo, when Great Britain had more bomb ships than it had enemies. The solid, reinforced hulls of HMS *Erebus*, and another bomb ship, HMS *Terror*, made them suitable for discovering what lay at the coldest ends of the earth.

In 1839, *Erebus* was chosen as the flagship of an expedition to penetrate south to explore Antarctica. Under the leadership of the charismatic James Clark Ross, she and HMS *Terror* sailed further south than anyone had been before. But Antarctica never captured the national imagination; what the British Navy needed now was confirmation of its superiority by making the discovery, once and for all, of a route through the North-West Passage.



Chosen to lead the mission was Sir John Franklin, at 59 someone many considered too old for such a hazardous journey. Nevertheless, he and his men confidently sailed away down the Thames in April 1845. Provisioned for three winters in the Arctic, *Erebus* and *Terror* and the 129 men of the Franklin expedition were seen heading west by two whalers in late July--never to return.



Take an unprecedented look inside the wreck of HMS *Terror* – lost at sea over 170 years ago!

<https://www.pc.gc.ca/en/lhn-nhs/nu/epaveswrecks/culture/archeologie-archeology/explore/2019/ete-summer-2019>

BC Ferries is a jewel: British Columbia's ferry system is a constant target of criticism, and while it is not all it should be and, we hope, not all it will become, we should pause occasionally to recognize what a jewel it is.

It's easy to find reasons to complain, especially if you're driving the car just behind the last one to make the 9 a.m. sailing to Tsawwassen, but no ferry schedule can be convenient for everyone all the time.

B.C. Ferries has tried different things to improve services and be more frugal. Some have worked; some haven't, but many changes have been positive.

People complain about the reservation system, but it's a substantial improvement — \$18.50 is not an exorbitant price for assurance you will arrive on time for your business appointment or some other important event.

And it's voluntary — if you don't like it, don't use it.

Another improvement is the installation of electronic signs at Sidney and Ladner that inform travellers of how the next ferry is filling up.

The big vessels on the longer runs offer Wi-Fi so you can keep texting and surfing the Internet, if the magnificent scenery gliding by isn't enough to hold your attention.

A frequent complaint is that BC Ferries should be concerned with basic transportation, not tourism. The vessels that sail from Swartz Bay, Duke Point and Departure Bay to the mainland are occasionally compared to cruise ships with their restaurants, gift shops and other luxuries. The irony is that those “cruise ships” are profitable. They ply the only routes that make money.



Transport Canada dictates that the ferries must carry a certain complement of qualified crew to direct evacuation in case of an emergency. Rather than sitting idle waiting for something to happen, those crewmembers work in food services and gift shops. “They contribute to the bottom line,” says Deborah Marshall, B.C. Ferries' director of media relations, noting that onboard retail services netted \$47 million in fiscal 2013.

B.C. Ferries is often compared to Washington state's ferry system. While there are similarities, there are huge differences. Washington's system is the biggest in the U.S., with 22 vessels travelling routes totalling 85 nautical miles. B.C. Ferries, the largest in North America, has 36 vessels travelling routes totalling about 1,000 nautical miles. Washington ferries carried 22 million passengers in 2012; in B.C., the total was 20 million. Moving more people over shorter distances, the Washington system operates more economically, yet it is still subsidized and plagued by rising fares, aging vessels and funding problems.

When it gets down to it, the main complaints are cost and frequency of sailings, two sides of the same coin. Operating the ferry system will always cost the public purse, and many costs, such as fuel, are beyond BC Ferries' control.

BC Ferries will always have challenges, one being the link between rising fares and declining ridership. But there are no easy answers, and anyone who believes in quick fixes doesn't have all the facts. We can't ignore the problems and challenges, but neither should we forget that BC Ferries is a remarkable asset.

(This was an old story - October 25th 2013 - but I needed a filler and I thought this was suitable. Editor)
<http://www.vancouversun.com/opinion/editorials/Editorial+Ferries+jewel/9085445/story.html>

Scenes from Remembrance Day. November 11th 2019



National War Memorial, Ottawa

<https://www.veterans.gc.ca/eng/remembrance/memorials/national-inventory-canadian-memorials/details/9429>



Sailor's Memorial, North Vancouver.

<https://www.cdli.ca/monuments/bc/northvan3.htm>

YOUTUBE LINKS to the Company of Master Mariners of Canada videos.

English: <https://youtu.be/IKrQF8yvyoY>

Francais: https://www.youtube.com/watch?v=icy_ikC67rk

That completes my fiftieth and final edition of "From the Bridge". I would like to thank all those who have encouraged me, supported me and supplied me with articles. It has been very rewarding. I want to thank the National Masters with whom I have produced those fifty editions, Captains Peter Turner, Jim Calvesbert, John McCann, Rick Gates, Chris Hearn and now Chris Hall. It has been great working with everyone. I particularly want to acknowledge two Members who are sadly no longer with us. They met with me before I began as Editor and gave me their thoughts on what the FTB should look like. I am referring to Captain Ratch Wallace who died in 2011 (see <https://www.mastermariners.ca/wp-content/uploads/2016/03/FTB-11-11.pdf> Page 2) and Captain Andy Whitelaw who died last month (see this edition, Page 2). I failed miserably on one of their suggestions – they asked me to limit each edition to eight pages.

"From the Bridge" will continue next year although in a somewhat different format. Commencing in January, the intention is that "From the Bridge" will be released four times per year following each of the Company's scheduled Board Meetings. The content will be a combination of updates from the various committees plus content provided by a Division. Each Division will take turn providing such content. Captain Hearn, as Past President/National Master has volunteered to proof read each quarterly newsletter and essentially act as the editor.

The publication will be circulated through our current distribution list as well as posted on various electronic media.

Best wishes to everyone for Christmas & the New Year. Sincerely, David Whitaker FNI