

ERIK VEITCH

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EDUCATION

Norwegian University of Science and Technology (NTNU) – 2019 to present

PhD Candidate, Full-time
Department of Design, Faculty of Architecture and Design

Memorial University of Newfoundland – 2016 to 2018

Master of Engineering, Full-time, Fellow
Ocean & Naval Architectural Engineering

Memorial University of Newfoundland – 2008-2013

Bachelor of Engineering, Full-time, Co-operative Program (5 internships)
Ocean & Naval Architectural Engineering

WORK EXPERIENCE

Research Assistant – NTNU, Department of Design – 2018-2019 (*Trondheim, Norway*)

Design group leader in the *Autoferry* project, whose mission is to deliver the world's first autonomous urban ferry in Trondheim. My roles included project management, research support, engineering design, and student mentoring. My role in this project continues as a 25% employee in the project during my PhD program.

Project Engineer – AMOG Consulting – 2013-2016 (*Houston, TX & Melbourne, Australia*)

R&D and consulting projects related to offshore engineering. Mainly involved in mooring analysis of floating structures and vortex-induced vibration (VIV) of marine risers. Helped to develop the patented LGS VIV suppression device. My roles included engineering, project planning and management, supervision of co-op students.

Engineering Intern – Robert Allan Ltd – 2012 (*Vancouver, Canada*)

Design of tugs and small craft designs. My roles included drafting lines plans, general arrangements, and detailed structural drawings.

Engineering Intern – London Offshore Consultants (LOC) – 2012 (*London, UK*)

Assisted in evaluating technical bids for the wreck removal of passenger liner *Costa Concordia*, which ran aground off the Italian coast in January 2012. I assessed the wreck removal methodologies proposed in bid submittals against stability criteria.

Engineering Intern – INTECSEA Canada – 2011 (*St. John's, Canada*)

Assisted on a Joint Industry Project to develop a trenching system for subsea pipelines, flowlines, and umbilicals in ice scour environments.

Engineering Intern – AKAC Inc. – 2010 (*Victoria, Canada*)

Developed a mathematical model predicting ice loads on stationary vessels in drifting pack ice.

Engineering Intern – Aalto University – 2010 (Helsinki, Finland)

Assisted with model-scale testing in an ice tank testing basin. Field work collecting data on compressive strength of sea ice in Baltic Sea for *SafeWin* EU-project.

SKILLS AND CERTIFICATIONS

- Writing research proposals
- Supervising of Masters and Bachelor students
- *R*, *MATLAB* programming languages
- *Minitab*, *Design Expert* statistical software packages
- *AutoCAD*, *GHS*, *Rhinoceros* design software
- *OrcaFlex*, *ANSYS AQWA*, *Shear7* hydrodynamics software
- Transport Canada MED A1 Safety Course & Marine Medical Certificate for Seafarers
- Certified Sailing Coach, Canadian Yachting Association
- English, Finnish, Norwegian language

AWARDS

- Reviewers' Favourite Paper, Design2020 Conference, 2020, Dubrovnik/virtual
- Best Paper, OMAE Polar and Arctic Sciences and Technology Symposium, 2018, Madrid
- Fellow of the School of Graduate Studies, Memorial University, 2018
- Best Paper, RINA/SNAME Student Conference, Memorial University, 2018
- Recognition of Excellence, School of Graduate Studies, Memorial University, 2017
- Research & Development Corporation (RDC) Ocean Industries Student Research Award, 2016
- "Dean's List" for Top 10 Students by Academic Performance, 2012-2013
- Natural Sciences and Engineering Research Council of Canada (NSERC) Undergraduate Student Research Award, 2010

PROFESSIONAL

- Speaker, International Conference on Engineering and Design, 2021, Gothenburg
- Speaker, Design2020 Conference, Dubrovnik/virtual
- Speaker, OMAE Conference, Madrid, 2018
- Session Chair, OMAE Conference, Madrid, 2018
- Scientific crew, research cruise in Barents Sea, SITRA project, University Centre in Svalbard (UNIS), 2016
- Session Chair, Graduate Student Symposium, MUN Faculty of Engineering, 2016
- Society of Naval Architects and Marine Engineers (SNAME), Member since 2009

INTERESTS

- Rock climbing. Volunteer trip leader Alpine Club of Canada Newfoundland 2016-18.
- Running. Varsity cross-country running team 2017-18. Completed 100k race in 2022.

PUBLICATIONS

1. Veitch, E., Dybvik, H., Steinert, M., & Alsos, O. A. (2022). Collaborative work with highly automated marine navigation systems. *Computer Supported Cooperative Work (CSCW)*. <https://doi.org/10.1007/s10606-022-09450-7>
2. Veitch, E., & Alsos, O. A. (2022). A systematic review of human-AI interaction in autonomous ship systems. *Safety Science*, 152, 105778. <https://doi.org/10.1016/j.ssci.2022.105778>
3. Alsos, O. A., Veitch, E., Pantelatos, L., Vasstein, K., Eide, E., Petermann, F.-M., & Breivik, M. (2022). NTNU Shore Control Lab: Designing shore control centres in the age of autonomous ships. *Journal of Physics: Conference Series*, 2311(1), 012030. <https://doi.org/10.1088/1742-6596/2311/1/012030>
4. Brekke, E. F., Eide, E., Eriksen, B.-O. H., Wilthil, E. F., Breivik, M., Skjellaug, E., Helgesen, Ø. K., Lekkas, A. M., Martinsen, A. B., Thyri, E. H., Torben, T., Veitch, E., Alsos, O. A., & Johansen, T. A. (2022). milliAmpere: An Autonomous Ferry Prototype. *Journal of Physics: Conference Series*, 2311(1), 012029. <https://doi.org/10.1088/1742-6596/2311/1/012029>
5. Veitch, E., Christensen, K. A., Log, M., Valestrand, Erik Thule, Lundheim, S. H., Nesse, M., Alsos, O. A., & Steinert, M. (2022). From captain to button-presser: Operators' perspectives on navigating highly automated ferries. *Journal of Physics: Conference Series*, 2311(1), 012028. <https://doi.org/10.1088/1742-6596/2311/1/012028>
6. Fossum, K. R., Honoré-Livermore, E., Veitch, E., Haskins, C., & Palmer, E. K. (2022). Toward an integrated project complexity narrative—A case study of academic organizations. *Systems Engineering*, 25(5), 443–456.
7. Hoem, Å. S., Veitch, E., & Vasstein, K. (2022). Human-centred risk assessment for a land-based control interface for an autonomous vessel. *WMU Journal of Maritime Affairs*, 21(2), 179–211. <https://doi.org/10.1007/s13437-022-00278-y>
8. Mallam, S. C., Nordby, K., van de Merwe, K., Veitch, E., Nazir, S., & Veitch, B. (2022). Empathy from Afar? Towards Empathy for Future Maritime Designers and Remote Operators. *Proceedings of the Human Factors and Ergonomics Society Annual Meeting*, 66(1), 508–512. <https://doi.org/10.1177/1071181322661062>
9. Honoré-Livermore, E., Fossum, K. R., & Veitch, E. (2021). Academics' perception of systems engineering and applied research projects. *Systems Engineering*, 25(1), 19–34.
10. Veitch, E., & Alsos, O. A. (2021). Human-Centered Explainable Artificial Intelligence for Marine Autonomous Surface Vehicles. *Journal of Marine Science and Engineering*, 9(11), 1227.
11. Veitch, E., Kaland, T., & Alsos, O. A. (2021). Design for resilient human-system interaction in autonomy: The case of a shore control centre for unmanned ships. *Proceedings of the Design Society*, 1, 1023–1032. <https://doi.org/10.1017/pds.2021.102>

12. Dybvik, H., Veitch, E., & Steinert, M. (2020). Exploring challenges with designing and developing Shore Control Centers (SCC) for autonomous ships. *Proceedings of the Design Society: DESIGN Conference*, 1, 847–856.
<https://doi.org/10.1017/dsd.2020.131>
13. Veitch, E., Hynnekleiv, A., & Lützhöft, M. (2020). The Operator's Stake in Shore Control Centre Design: A Stakeholder Analysis for Autonomous Ships. *Proceedings of the Royal Institution of Naval Architects: Human Factors*, London, UK.
<https://doi.org/10.3940/hf.20>
14. Veitch, E., Molyneux, D., Smith, J., and Veitch, B. (2019). Investigating the Influence of Bridge Officer Experience on Ice Management Effectiveness Using a Marine Simulator Experiment. *ASME Journal of Offshore Mechanics and Arctic Engineering*. 141(4), 041501. <https://doi.org/10.1115/1.4041761>
15. Khan, F., Taylor, R., Veitch, B., Veitch, E., & Smith, D. (2018). Visualizing and understanding the operational dynamics of a shipping operation. *Presented at the SNAME Maritime Convention*, Providence, Rhode Island, 2018
16. Thistle, R., Veitch, E., Veitch, B., Patterson, A., & Jean, P. (2018). Training to target ice management performance using simulators. *Presented at the International Marine Simulator Forum (MarSim)*, Halifax, Canada, August 12-16, 2018.
17. Veitch, E. (2018). Influence of bridge officer experience on ice management effectiveness (Master's thesis). Memorial University of Newfoundland: St. John's, NL, Canada.
18. Veitch, E., Molyneux, D., Smith, J., & Veitch, B. (2018). Investigating the influence of bridge officer experience on ice management effectiveness using a marine simulator experiment. *Proceedings of the ASME 2018 37th International Conference on Ocean, Offshore and Arctic Engineering. Volume 8: Polar and Arctic Sciences and Technology*. Madrid, Spain. June 17–22, 2018. V008T07A009. ASME.
<https://doi.org/10.1115/OMAE2018-78080>