

LARS MAGNUS HVATTUM

Born: 17th of June 1979, in Molde, Norway
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Profession: Professor of Quantitative Logistics
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Education

PhD in Logistics, Molde University College, Norway (2007).
Cand. Scient. in Informatics, University of Bergen, Norway (2003).
Cand. Mag. in Informatics/Mathematics, Molde College, Norway (2002).
Ex. Phil., University of Bergen, Norway (2001).

Work Experience

Professor of Quantitative Logistics at Molde University College (since 2015).
Professor of Industrial Economics and Optimization at Department of Industrial Economics and Technology Management (IØT), Norwegian University of Science and Technology (NTNU) (2011–2015).
Associate Professor at IØT, NTNU (2011).
Postdoctoral Fellow at IØT, NTNU (2008–2011).
Consultant for the Norwegian Marine Technology Research Institute (2008).
Research Fellow at Molde University College (2004–2007).
Intern at SINTEF Applied Mathematics (summers of 2001, 2002, 2003).

Peer-reviewed Publications

- [1] H. Van Eetvelde, L. M. Hvattum, and C. Ley. The probabilistic final standing calculator: a fair stochastic tool to determine the final ranking of abruptly stopped football seasons. *AStA Advances in Statistical Analysis*, forthcoming.
- [2] M. Ben Ahmed, O. L. Okoronkwo, E. C. Okoronkwo, and L. M. Hvattum. Long-term effects of short planning horizons for inventory routing problems. *International Transactions in Operational Research*, forthcoming.
- [3] H. Arntzen and L. M. Hvattum. Predicting match outcomes in association football using team ratings and player ratings. *Statistical Modelling*, forthcoming.
- [4] M. Stålhane, K. H. Bolstad, M. Joshi, and L. M. Hvattum. A dual-level stochastic fleet size and mix problem for offshore wind farm maintenance operations. *INFOR: Information Systems and Operational Research*, 59:257–289, 2021.
- [5] H. F. Amaral, S. Urrutia, and L. M. Hvattum. Delayed improvement local search. *Journal of Heuristics*, 27:923–950, 2021.

- [6] G. Pantuso and L. M. Hvattum. Maximizing performance with an eye on the finances: a chance-constrained model for football transfer market decisions. *TOP*, 29:583–611, 2021.
- [7] F. Rodrigues, A. Agra, L. M. Hvattum, and C. Requejo. Weighted proximity search. *Journal of Heuristics*, 27:459–496, 2021.
- [8] R. F. da Silva, S. Urrutia, and L. M. Hvattum. Extended high dimensional indexing approach for reachability queries on very large graphs. *Expert Systems with Applications*, 181, 114962, 2021.
- [9] L. M. Hvattum and G. A. Gelade. Comparing bottom-up and top-down ratings for individual soccer players. *International Journal of Computer Science in Sport*, 20:23–42, 2021.
- [10] R. Turkeš, K. Sörensen, and L. M. Hvattum. Meta-analysis of metaheuristics: quantifying the effect of adaptiveness in adaptive large neighborhood search. *European Journal of Operational Research*, 292:423–442, 2021.
- [11] A. Denstad, E. Ulsund, M. Christiansen, L. M. Hvattum, and G. Tirado. Multi-objective optimization for a strategic ATM network redesign problem. *Annals of Operations Research*, 296:7–33, 2021.
- [12] E. M. Håland, A. S. Wiig, L. M. Hvattum, and M. Stålhane. Evaluating the effectiveness of different network flow motifs in association football. *Journal of Quantitative Analysis in Sports*, 16:311–323, 2020.
- [13] R. Andersen, V. Hassel, L. M. Hvattum, and M. Stålhane. In-game betting and the Kelly criterion. *Mathematics for Applications*, 9:67–81, 2020.
- [14] S. Mostafayi Darmian, S. Moazzeni, and L. M. Hvattum. Multi-objective sustainable location-districting for municipal solid waste management: two case studies. *Computers and Industrial Engineering*, 150, 106965, 2020.
- [15] R. Turkeš, K. Sörensen, L. M. Hvattum, E. Barrena, H. Chentli, L. C. Coelho, I. Dayarian, A. Grimault, A. N. Gullhav, Ç. Iris, M. Keskin, A. Kiefer, R. M. Lusby, G. R. Mauri, M. Monroy-Licht, S. N. Parragh, J.-P. Riquelme-Rodríguez, A. Santini, V. G. M. Santos, and C. Thomas. Data for a meta-analysis of the adaptive layer in adaptive large neighborhood search. *Data in Brief*, 33, 106568, 2020.
- [16] L. M. Hvattum. Offensive and defensive plus-minus player ratings for soccer. *Applied Sciences*, 10, 7345, 2020.
- [17] J. Skålnes, L. Dahle, H. Andersson, M. Christiansen, and L. M. Hvattum. The multistage stochastic vehicle routing problem with dynamic occasional drivers. In E. Lalla-Ruiz, M. Mes, and S. Voß, editors, *Computational Logistics*, volume 12433 of *Lecture Notes in Computer Science*, pages 261–276. Springer, Cham, 2020.
- [18] R. F. da Silva, L. M. Hvattum, and F. Glover. Combining solutions of the optimum satisfiability problem using evolutionary tunneling. *MENDEL*, 26:23–29, 2020.
- [19] L. Eide, G. C. H. Årdal, N. Evsikova, L. M. Hvattum, and S. Urrutia. Load-dependent speed optimization in maritime inventory routing. *Computers and Operations Research*, 123, 105051, 2020.
- [20] G. A. Gelade and L. M. Hvattum. On the relationship between $+/-$ ratings and event-level performance statistics. *Journal of Sports Analytics*, 6:85–97, 2020.
- [21] A. Husakou, L. M. Hvattum, K. Danielsen, and A. Hoff. An application of the multi-depot heterogeneous fixed fleet open vehicle routing problem. *International Journal of Advanced Operations Management*, 12:142–155, 2020.
- [22] L. M. Hvattum, G. Tirado, and Á. Felipe. The double traveling salesman problem with multiple stacks and a choice of container types. *Mathematics*, 8, 979, 2020.
- [23] G. Dósa, L. M. Hvattum, T. Olaj, and Zs. Tuza. The board packing problem: Packing rectangles into a board to maximize profit. In I. Vassányi, editor, *Proceedings of the Pannonian Conference on Advances in Information Technology (PCIT 2020)*, pages 10–16. University of Pannonia, Veszprém, Hungary, 2020.
- [24] E. M. Håland, A. S. Wiig, M. Stålhane, and L. M. Hvattum. Evaluating passing ability in association football. *IMA Journal of Management Mathematics*, 31:91–116, 2020.

- [25] A. S. Wiig, E. M. Håland, M. Stålhane, and L. M. Hvattum. Analyzing passing networks in association football based on the difficulty, risk, and potential of passes. *International Journal of Computer Science in Sport*, 18:44–68, 2019.
- [26] L. M. Hvattum. A comprehensive review of plus-minus ratings for evaluating individual players in team sports. *International Journal of Computer Science in Sport*, 18:1–23, 2019.
- [27] F. Rodrigues, A. Agra, M. Christiansen, L. M. Hvattum, and C. Requejo. Comparing techniques for modelling uncertainty in a maritime inventory routing problem. *European Journal of Operational Research*, 277:831–845, 2019.
- [28] O. D. Sæbø and L. M. Hvattum. Modelling the financial contribution of soccer players to their clubs. *Journal of Sports Analytics*, 5:23–34, 2019.
- [29] M. Brachner, F. B. Stien, and L. M. Hvattum. A mathematical programming framework for planning an emergency response system in the offshore oil and gas industry. *Safety Science*, 113:328–335, 2019.
- [30] A. Zaitseva, L. M. Hvattum, and S. Urrutia. Profit maximization in inventory routing problems. In *2018 IEEE International Conference on Industrial Engineering and Engineering Management (IEEM)*, pages 1230–1234, 2018.
- [31] A. Santini, S. Ropke, and L. M. Hvattum. A comparison of acceptance criteria for the adaptive large neighbourhood search metaheuristic. *Journal of Heuristics*, 24:783–815, 2018.
- [32] A. Agra, M. Christiansen, L. M. Hvattum, and F. Rodrigues. Robust optimization for a maritime inventory routing problem. *Transportation Science*, 52:509–525, 2018.
- [33] U. Pasha, A. Hoff, and L. M. Hvattum. The multi-period fleet size and mix vehicle routing problem with stochastic demands. In P. Diez, P. Neittaanmäki, J. Periaux, T. Tuovinen, O. Bräysy, editors, *Computational Methods and Models for Transport*, volume 45 of *Computational Methods in Applied Sciences*, pages 121–146. Springer International Publishing, 2018.
- [34] G. Tirado and L. M. Hvattum. Determining departure times in dynamic and stochastic maritime routing and scheduling problems. *Flexible Services and Manufacturing Journal*, 29:553–571, 2017.
- [35] L. M. Hvattum. Ordinal versus nominal regression models and the problem of correctly predicting draws in soccer. *International Journal of Computer Science in Sport*, 16:50–64, 2017.
- [36] G. Tirado and L. M. Hvattum. Improved solutions to dynamic and stochastic maritime pick-up and delivery problems using local search. *Annals of Operations Research*, 253:825–843, 2017.
- [37] A. Hemmati, L. M. Hvattum. Evaluating the importance of randomization in adaptive large neighborhood search. *International Transactions in Operational Research*, 24:929–942, 2017.
- [38] A. N. Gullhav, J.-F. Cordeau, L. M. Hvattum, and B. Nygreen. Adaptive large neighborhood search heuristics for multi-tier service deployment problems in clouds. *European Journal of Operational Research*, 259:829–846, 2017.
- [39] N. Raknes, K. Ødeskaug, M. Stålhane, and L. M. Hvattum. Scheduling of maintenance tasks and routing of a joint vessel fleet for multiple offshore wind farms. *Journal of Marine Science and Engineering*, 5, 11, 2017.
- [40] S. Braaten, O. Gjønnnes, L. M. Hvattum, and G. Tirado. Heuristics for the robust vehicle routing problem with time windows. *Expert Systems with Applications*, 77:136–147, 2017.
- [41] M. Brachner and L. M. Hvattum. Combined emergency preparedness and operations for safe personnel transport to offshore locations. *Omega*, 67:31–41, 2017.
- [42] M. Brachner and L. M. Hvattum. RescUSim and IPython: An environment for offshore emergency preparedness planning. In *NIK: Norsk Informatikkonferanse*, 12 pages. Bibsys Open Journal Systems, 2016.
- [43] M. Stålhane, H. M. Vefsnmo, E. E. Halvorsen-Weare, L. M. Hvattum, and L. M. Nonås. Vessel fleet optimization for maintenance operations at offshore wind farms under uncertainty. *Energy Procedia*, 94:357–366, 2016.

- [44] L. M. Hvattum. On the value of aspiration criteria in tabu search. *International Journal of Applied Metaheuristic Computing*, 7:39–49, 2016.
- [45] A. Agra, M. Christiansen, L. M. Hvattum, and F. Rodrigues. A MIP based local search heuristic for a stochastic maritime inventory routing problem. In A. Paiais, M. Ruthmair, and S. Voß, editors, *Computational Logistics*, volume 9855 of *Lecture Notes in Computer Science*, pages 18–34. Springer, Berlin/Heidelberg, 2016.
- [46] U. Pasha, A. Hoff, and L. M. Hvattum. Simple heuristics for the multi-period fleet size and mix vehicle routing problem. *INFOR: Information Systems and Operational Research*, 54:97–120, 2016.
- [47] A. Hemmati, L. M. Hvattum, M. Christiansen, and G. Laporte. An iterative two-phase hybrid matheuristic for a multi-product short sea inventory-routing problem. *European Journal of Operational Research*, 252:775–788, 2016.
- [48] M. Stålhane, L. M. Hvattum, and V. Skaar. Optimization of routing and scheduling of vessels to perform maintenance at offshore wind farms. *Energy Procedia*, 80:92–99, 2015.
- [49] O. D. Sæbø and L. M. Hvattum. Evaluating the efficiency of the association football transfer market using regression based player ratings. In *NIK: Norsk Informatikkonferanse*, 12 pages. Bibsys Open Journal Systems, 2015.
- [50] L. M. Hvattum. Playing on artificial turf may be an advantage for Norwegian soccer teams. *Journal of Quantitative Analysis in Sports*, 11:183–192, 2015.
- [51] M. Vestli, L. Lundsbakken, K. Fagerholt, and L. M. Hvattum. Scheduling fighter squadron training missions using column generation. *Optimization Letters*, 9:1659–1674, 2015.
- [52] A. Hemmati, M. Stålhane, L. M. Hvattum, and H. Andersson. An effective heuristic for solving a combined cargo and inventory routing problem in tramp shipping. *Computers and Operations Research*, 64:274–282, 2015.
- [53] I. Norstad, K. Fagerholt, L. M. Hvattum, H. S. Arnulf, and A. Bjørkli. Maritime fleet deployment with voyage separation requirements. *Flexible Services and Manufacturing Journal*, 27:180–199, 2015.
- [54] A. Agra, M. Christiansen, A. Delgado, and L. M. Hvattum. A maritime inventory routing problem with stochastic travel and service times. *Computers and Operations Research*, 61:18–30, 2015.
- [55] C. Gundegjerde, I. B. Halvorsen, E. E. Halvorsen-Weare, L. M. Hvattum, and L. M. Nonås. A stochastic fleet size and mix model for maintenance operations at offshore wind farms. *Transportation Research Part C: Emerging Technologies*, 52:74–92, 2015.
- [56] R. Bakkehaug, E. S. Eidem, K. Fagerholt, and L. M. Hvattum. A stochastic programming formulation for strategic fleet renewal in shipping. *Transportation Research Part E: Logistics and Transportation Review*, 72:60–76, 2014.
- [57] A. Hemmati, L. M. Hvattum, I. Norstad, and K. Fagerholt. Benchmark suite for a class of industrial and tramp ship routing and scheduling problems. *INFOR: Information Systems and Operational Research*, 52:28–38, 2014.
- [58] G. Pantuso, K. Fagerholt, and L. M. Hvattum. A survey on maritime fleet size and mix problems. *European Journal of Operational Research*, 235:341–349, 2014.
- [59] S. J. Rennemo, K. F. Rø, L. M. Hvattum, and G. Tirado. A three-stage stochastic facility routing model for disaster response planning. *Transportation Research Part E: Logistics and Transportation Review*, 62:116–135, 2014.
- [60] L. M. Hvattum. Analyzing information efficiency in the betting market for association football league winners. *The Journal of Prediction Markets*, 7:55–70, 2013.
- [61] E. E. Halvorsen-Weare, C. Gundegjerde, I. B. Halvorsen, L. M. Hvattum, L. M. Nonås. Vessel fleet analysis for maintenance operations at offshore wind farms. *Energy Procedia*, 35:167–176, 2013.
- [62] K. Fagerholt, L. M. Hvattum, T. A. V. Johnsen, and J. E. Korsvik. Routing and scheduling in project shipping. *Annals of Operations Research*, 207:67–81, 2013.
- [63] L. M. Hvattum, I. Norstad, K. Fagerholt, and G. Laporte. Analysis of an exact algorithm for the vessel speed optimization problem. *Networks*, 62:132–135, 2013.

- [64] A. Agra, M. Christiansen, R. Figueiredo, L. M. Hvattum, M. Poss, and C. Requejo. The robust vehicle routing problem with time windows. *Computers and Operations Research*, 40:856–866, 2013.
- [65] L. M. Hvattum, A. Duarte, F. Glover, and R. Martí. Designing effective improvement methods for scatter search: an experimental study on global optimization. *Soft Computing*, 17:49–62, 2013.
- [66] G. Tirado, L. M. Hvattum, K. Fagerholt, and J.-F. Cordeau. Heuristics for dynamic and stochastic routing in industrial shipping. *Computers and Operations Research*, 40:253–263, 2013.
- [67] L. M. Hvattum, A. Løkketangen, and F. Glover. Comparisons of commercial MIP solvers and an adaptive memory (tabu search) procedure for a class of 0–1 integer programming problems. *Algorithmic Operations Research*, 7:13–21, 2012.
- [68] H. E. S. Lilleby, P. Schittekat, T. E. Nordlander, L. M. Hvattum, and H. Andersson. Competence building with the use of nurse re-rostering. In P. Luangpaiboon, M. Moz, and V. Dedoussis, editors, *Proceedings of the 4th International Conference on Applied Operational Research*, volume 4 of *Lecture Notes in Management Science*, pages 70–78. Tadbir, Thailand, 2012.
- [69] A. Agra, M. Christiansen, R. Figueiredo, L. M. Hvattum, M. Poss, and C. Requejo. Layered formulation for the robust vehicle routing problem with time windows. In A. Mahjoub, V. Markakis, I. Milis, and V. Paschos, editors, *Combinatorial Optimization*, volume 7422 of *Lecture Notes in Computer Science*, pages 249–260. Springer, Berlin/Heidelberg, 2012.
- [70] B. O. Øvstebø, L. M. Hvattum, and K. Fagerholt. Routing and scheduling of RoRo ships with stowage constraints. *Transportation Research Part C: Emerging Technologies*, 19:1225–1242, 2011.
- [71] L. M. Hvattum and E. F. Esbensen. Metaheuristics for stochastic problems. In J. J. Cochran, L. A. Cox Jr., P. Keskinocak, J. P. Kharoufeh, and J. C. Smith, editors, *Wiley Encyclopedia of Operations Research and Management Science*, volume 5, pages 3218–3229. Wiley, New York, 2011.
- [72] B. O. Øvstebø, L. M. Hvattum, and K. Fagerholt. Optimization of stowage plans for RoRo ships. *Computers and Operations Research*, 38:1425–1434, 2011.
- [73] K. Fagerholt, M. Christiansen, L. M. Hvattum, T. A. V. Johnsen, and T. J. Vabø. A decision support methodology for strategic planning in maritime transportation. *Omega*, 38:465–474, 2010.
- [74] L. M. Hvattum, H. Arntzen, A. Løkketangen, and F. Glover. Alternating control tree search for knapsack/covering problems. *Journal of Heuristics*, 16:239–258, 2010.
- [75] L. M. Hvattum and H. Arntzen. Using ELO ratings for match result prediction in association football. *International Journal of Forecasting*, 26:460–470, 2010.
- [76] L. M. Hvattum and A. Løkketangen. Using scenario trees and progressive hedging for stochastic inventory routing problems. *Journal of Heuristics*, 15:527–557, 2009.
- [77] L. M. Hvattum, A. Løkketangen, and G. Laporte. Scenario tree based heuristics for stochastic inventory routing problems. *INFORMS Journal on Computing*, 21:268–285, 2009.
- [78] L. M. Hvattum, K. Fagerholt, and V. A. Armentano. Tank allocation problems in maritime bulk shipping. *Computers and Operations Research*, 36:3051–3060, 2009.
- [79] L. M. Hvattum and F. Glover. Finding local optima of high-dimensional functions using direct search methods. *European Journal of Operational Research*, 195:31–45, 2009.
- [80] L. M. Hvattum and A. Løkketangen. Experiments using scatter search for the multide-mand multidimensional knapsack problem. In K. F. Doerner, M. Gendreau, P. Greistorfer, W. J. Gutjahr, R. F. Hartl, and M. Reimann, editors, *Metaheuristics: Progress in Complex Systems Optimization*, volume 39 of *Operations Research/Computer Science Interfaces Series*, pages 3–24. Springer, Berlin, NY, 2007.
- [81] L. M. Hvattum, A. Løkketangen, and G. Laporte. A branch-and-regret heuristic for stochastic and dynamic vehicle routing problems. *Networks*, 49:330–340, 2007.

- [82] L. M. Hvattum, A. Løkketangen, and G. Laporte. Solving a dynamic and stochastic vehicle routing problem with a sample scenario hedging heuristic. *Transportation Science*, 40:421–438, 2006.
- [83] H. Arntzen, L. M. Hvattum, and A. Løkketangen. Adaptive memory search for multidemand multidimensional knapsack problems. *Computers and Operations Research*, 33:2508–2525, 2006.
- [84] L. M. Hvattum, A. Løkketangen, and F. Glover. New heuristics and adaptive memory procedures for Boolean optimization problems. In J. Karlof, editor, *Integer Programming: Theory and Practice*, pages 1–18. CRC Press, Boca Raton, FL, 2006.
- [85] L. M. Hvattum, A. Løkketangen, and F. Glover. Adaptive memory search for Boolean optimization problems. *Discrete Applied Mathematics*, 142:99–109, 2004.
- [86] L. M. Hvattum, A. Løkketangen, and G. Laporte. A heuristic solution method to a stochastic vehicle routing problem. In *Norsk Informatikkonferanse 2003*, pages 229–240. Tapir, Trondheim, 2003.
- [87] L. M. Hvattum, A. Løkketangen, and F. Glover. Adaptivt lokalsøk for boolske optimeringsproblemer (in Norwegian). In *Norsk Informatikkonferanse 2002*, pages 109–119. Tapir, Trondheim, 2002.

Theses

- [88] L. M. Hvattum. Heuristics for stochastic vehicle and inventory routing problems. PhD Thesis. Molde University College, Norway, 2007. Parts of this material can be found in [76, 77, 81, 82].
- [89] L. M. Hvattum. Heuristics for a stochastic vehicle routing problem. Cand. Scient. Thesis. University of Bergen, Norway, 2003. Parts of this material can be found in [82, 86].
- [90] L. M. Hvattum. Heuristikker for boolske optimeringsproblemer (in Norwegian). Third-year assignment. Molde College, Norway, 2002. Parts of this material can be found in [84, 85, 87].

Submitted Papers

- [91] D. Hrabec, L. M. Hvattum, and A. Hoff. The value of integrated planning for production and inventory routing problems: A systematic review and meta-analysis.
- [92] H. Bentsen and L. M. Hvattum. Variable neighborhood search for binary integer programming problems.
- [93] F. Rodrigues, A. Agra, L. M. Hvattum, and C. Requejo. Weighted iterated local branching for the optimum satisfiability problem.
- [94] S. Moazzeni, S. Mostafayi Darmian, and L. M. Hvattum. Multiple criteria decision making and robust optimization to design a development plan for small and medium-sized enterprises in the east of Iran.
- [95] J. Balogh, G. Dósa, L. M. Hvattum, T. Olaj, and Zs. Tuza. Guillotine cutting is asymptotically optimal for packing consecutive squares.
- [96] M. Ben Ahmed, M. Hryhoryeva, L. M. Hvattum, and M. Haouari. A matheuristic for the robust integrated airline fleet assignment, aircraft routing, and crew pairing problem.
- [97] J. Pluskal, R. Šomplák, D. Hrabec, V. Nevrlý, and L. M. Hvattum. Optimal location and operation of waste-to-energy plants when future waste composition is uncertain.
- [98] A. Groll, L. M. Hvattum, C. Ley, F. Popp, G. Schauburger, H. Van Eetvelde, and A. Zeileis. Hybrid machine learning forecasts for the UEFA EURO 2020.
- [99] L. M. Hvattum, M.-A. Kriegl and M. Čulík. Identifying talent with plus-minus ratings in association football.
- [100] K. H. Bolstad, M. Joshi, L. M. Hvattum, and M. Stålhane. Composing vessel fleets for maintenance at offshore wind farms by solving a dual-level stochastic programming problem using GRASP.

Conference Presentations

- Plus-minus ratings for association football: Feasible? Reasonable? Useful? First Molde workshop on Sports Analytics, Molde, Norway, October 25, 2019.
- Maximizing financial and on-field performances when composing teams in soccer. MathSport 2019, Athens, Greece, July 1–3, 2019 (with G. Pantuso).
- Exploring properties of combining solutions of the Boolean optimization problem. EURO 2019, Dublin, Ireland, June 23–26, 2019 (with R. F. da Silva and F. Glover).
- Profit maximization in inventory routing problems. IEEM 2018, Bangkok, Thailand, December 16–19, 2018 (with A. Zaitseva and S. Urrutia).
- Modelling clubs' financial investment in association football players. MathSport 2017, Padua, Italy, June 26–28, 2017 (with O. D. Sæbø).
- Solving complex optimization problems in practical settings based on findings in the research literature. Fred80fest, Boulder, CO, USA, March 9–10, 2017.
- Statistical analysis of randomization in adaptive large neighborhood search. EURO 2016, Poznań, Poland, July 3–6, 2016 (with A. Hemmati).
- Evaluating the efficiency of the association football transfer market using regression based player ratings. NIK 2015, Ålesund, Norway, November 23–25, 2015 (with O. D. Sæbø).
- Routing and scheduling of vessels to perform maintenance tasks at offshore wind farms. CM3, Jyväskylä, Finland, May 25–27, 2015 (with M. Stålhane, N. Raknes, and K. Ødeskaug).
- Time is of the essence in stochastic and dynamic maritime routing and scheduling problems. LOT, Molde, Norway, September 1–2, 2014 (with G. Tirado).
- A maritime inventory routing problem with uncertain travel times. IFORS 2014, Barcelona, Spain, July 13–18, 2014 (with A. Agra, M. Christiansen, and A. Delgado).
- A comparison of aspiration criteria in tabu search. LION 8, Gainesville, FL, USA, February 16–21, 2014.
- A stochastic programming model for determining a vessel fleet to perform maintenance operations at offshore wind farms. SOAK/NOS6, Gothenburg, Sweden, October 24–26, 2013 (with H. M. Vefsnmo, M. Stålhane, E. E. Halvorsen-Weare, and L. M. Nonås).
- Improving solutions for dynamic and stochastic maritime pick-up and delivery problems using local search. MIC 2013, Singapore, August 4–8, 2013 (with G. Tirado).
- A two-stage stochastic programming model for determining a vessel fleet to perform maintenance operations at offshore wind farms. EURO XXVI, Rome, Italy, July 1–4, 2013 (with H. M. Vefsnmo, M. Stålhane, E. E. Halvorsen-Weare, and L. M. Nonås).
- Incorporating local search in heuristics for dynamic and stochastic maritime pick-up and delivery problems. IEEM 2012, Hong Kong, December 10–13, 2012 (with G. Tirado).
- Heuristics for stochastic and dynamic maritime pickup and delivery problems. EURO XXV, Vilnius, Lithuania, July 8–11, 2012 (with G. Tirado, K. Fagerholt, and J.-F. Cordeau).
- A stochastic and dynamic maritime pickup and delivery problem. IFORS 2011, Melbourne, Australia, July 10–15, 2011 (with G. Tirado, K. Fagerholt, and J.-F. Cordeau).
- Heuristics for a stochastic and dynamic routing problem in industrial shipping. ICOTA 8, Shanghai, China, December 10–13, 2010 (with G. Tirado, K. Fagerholt, and J.-F. Cordeau).
- The fleet deployment problem with fairly evenly spread voyages. NOW 2010, Ajaccio, France, August 23–25, 2010 (with H. S. Arnulf, A. Bjørkli, K. Fagerholt, and I. Norstad).
- Using decision trees for a stochastic maritime routing problem. EURO XXIV, Lisbon, Portugal, July 11–14, 2010 (with E. F. Esbensen, K. Fagerholt, and B. Nygreen).
- Routing and scheduling of roll-on/roll-off ships with simultaneous cargo selection and stowage decisions. TRISTAN VII, Tromsø, Norway, June 20–25, 2010 (with B. O. Øvstebø and K. Fagerholt).
- Scenario tree based heuristics for stochastic inventory routing problems. INFORMS 2009 Annual Meeting, San Diego, CA, USA, October 11–14, 2009 (with A. Løkketangen and G. Laporte).
- Scenario trees and metaheuristics for stochastic inventory routing problems. DOMinant workshop, Molde, Norway, September 20–22, 2009 (with A. Løkketangen and G. Laporte).

- On the value of aspiration criteria in tabu search. MIC 2009, Hamburg, Germany, July 13–16, 2009.
- Heuristics for stochastic vehicle and inventory routing problems. EURO XXIII, Bonn, Germany, July 5–8, 2009.
- Neighborhood exploration using MIP solvers for a tank allocation problem. EURO XXIII, Bonn, Germany, July 5–8, 2009 (with K. Fagerholt and V. A. Armentano).
- Routing and scheduling of RoRo-ships with stowage constraints. ROUTE 2009, Skodsborg, Denmark, June 21–24, 2009 (with B. O. Øvstebø and K. Fagerholt).
- Stowage planning for RoRo-ships. Optimization Days 2009, Montréal, Canada, May 4–6, 2009 (with B. O. Øvstebø and K. Fagerholt).
- Tank allocation problems in maritime bulk shipping. OR50, York, England, September 9–11, 2008 (with K. Fagerholt and V. A. Armentano).
- When feasibility of routes is difficult to determine: an example from maritime bulk shipping. VIP’08, Oslo, Norway, June 12–14, 2008 (with K. Fagerholt and V. A. Armentano).
- Stowage planning in maritime bulk shipping. ECCO XXI, Dubrovnik, Croatia, May 29–31, 2008 (with K. Fagerholt and V. A. Armentano).
- Finding local optima of high-dimensional functions using direct search methods. EURO XXII, Prague, Czech Republic, July 8–11, 2007 (with F. Glover).
- Using scenario trees and progressive hedging for stochastic inventory routing problems. INFORMS 2006 Annual Meeting, Pittsburgh, PA, USA, November 5–8, 2006 (with A. Løkketangen and G. Laporte).
- Heuristics for stochastic inventory routing problems. CORS/Optimization Days 2006, Montréal, Canada, May 8–10, 2006 (with A. Løkketangen and G. Laporte).
- Experiments using scatter search for the multidemand multidimensional knapsack problem. MIC 2005, Vienna, Austria, August 22–26, 2005 (with A. Løkketangen).
- A two-phase staged heuristic for stochastic and dynamic vehicle routing problems. ROUTE 2005, Bertinoro, Italy, June 23–26, 2005 (with A. Løkketangen and G. Laporte).
- A two-phase staged heuristic for stochastic and dynamic vehicle routing problems. Workshop on Solving Rich VRP Models, Molde, Norway, June 16–17, 2005 (with A. Løkketangen and G. Laporte).
- A heuristic solution method to a stochastic vehicle routing problem. TRISTAN V, Le Gosier, Guadeloupe (French West Indies), June 13–18, 2004 (with A. Løkketangen and G. Laporte).
- New heuristics and adaptive memory procedures for the Boolean optimization problem. Optimization Days 2004, Montréal, Canada, May 10–12, 2004 (with A. Løkketangen and F. Glover).
- A heuristic solution method to a stochastic vehicle routing problem. NIK 2003, Oslo, Norway, November 24–26, 2003 (with A. Løkketangen and G. Laporte).
- Adaptivt lokalsøk for boolske optimeringsproblemer. NIK 2002, Kongsberg, Norway, November 25–27, 2002 (with A. Løkketangen and F. Glover).
- Iterative and constructive learning based heuristics for Boolean optimization problems. Nordic MPS’02, Bergen, Norway, September 19–21, 2002 (with A. Løkketangen and F. Glover).
- Surrogate constraint guidance for Boolean optimization problems. IFORS 2002, Edinburgh, Scotland, July 8–12, 2002 (with A. Løkketangen and F. Glover).

Other Presentations

- Regression-based player ratings in soccer. SAL/SIS Sports Analytics Seminar, online, November 6, 2020.
- An introduction to plus-minus ratings for football players. Quetelet seminar at Ghent University, Ghent, Belgium, February 17, 2020.
- Heuristics for stochastic and dynamic maritime routing and scheduling problems. Seminar at Center for R&D in Mathematics and Applications, University of Aveiro, Aveiro, Portugal, October 29, 2014.

- Optimization of stowage planning in maritime transportation. Presentation at Facultad de Ciencias Matemáticas, Universidad Complutense de Madrid, Madrid, Spain, October 20, 2008.
- Dynamic and stochastic vehicle routing problems. Seminar at the Dept. of Industrial Economics and Technology Management, the Norwegian University of Science and Technology, Trondheim, Norway, October 22, 2007.
- Scenario tree based heuristics for stochastic inventory routing problems. Systems seminar at the Leeds School of Business, University of Colorado at Boulder, Boulder, CO, USA, October 27, 2006.
- Heuristics for stochastic inventory routing problems. Seminar at the Centre for Research on Transportation and the Canada Research Chair in Distribution Management, Montréal, Canada, March 17, 2006.
- A stochastic and dynamic VRP: heuristic solution methods, part 2. Presentation at SINTEF Applied Mathematics, Oslo, Norway, September 5, 2005.
- A stochastic and dynamic VRP: heuristic solution methods. Presentation at SINTEF Applied Mathematics, Oslo, Norway, October 8, 2004.

Popular Dissemination

- Interview published by Panorama, June 11, 2021, based on [98]: Molde-forsker peker ut Frankrike som EM-favoritt (in Norwegian).
- Interview published by rbnett, April 5, 2019, based on [28]: Professor: - Denne spilleren er viktigst for at Molde skal vinne (in Norwegian).
- Interview published by Panorama, March 29, 2019, based on [28]: Simulerte Eliteserien 2019 basert på spillerstyrke: Mest sannsynlig at RBK tar gullet (in Norwegian).
- Hosting the YouTube channel Football Player Ratings, presenting material based on [6, 3, 16, 20, 26, 28, 49] (since 2017).
- Interview published by Panorama, November 3, 2015, based on [50]: Kunstgressfordel på 2,5 poeng per sesong (in Norwegian).
- Published and maintained the smart phone app Football League Simulator, which used regression and simulation to forecast final league placements in association football league tournaments based on [60] (2012–2018)

Selected Teaching Experience

- Heuristics in Analytics, LOG734, Molde University College, 2018, 2019, 2020, 2021.
- Models for Production Management, LOG713, Molde University College, 2015, 2016, 2017, 2018, 2019, 2020.
- Exact Optimization Methods in Logistics, LOG733, Molde University College, 2016, 2017, 2018, 2019, 2020.
- Heuristics for Stochastic Optimization, DRL027, Molde University College, 2019.
- Operations Research, Introduction, TIØ4120, NTNU, 2011, 2012, 2013, 2014.
- Management Science Modeling, TLOG2003, Sør-Trøndelag University College, 2014.
- Industrial Optimization and Decision Support, TIØ4150, NTNU, 2013.
- Optimization and Decision Support for Industrial Business Planning, TIØ4126, NTNU, 2009, 2010, 2011, 2012.
- Optimization in Transport and Process Production, TIØ5, NTNU, 2008.
- Heuristic Optimization Methods, INF740, Molde University College, 2007.
- Programming Languages and Compiler Techniques, IN330, Molde University College, 2004.

Educational Training

- NTNU educational training course, 2012.
- One-day course in lecture dramaturgy by Company Stories, 2011.
- NTNU educational training course, module for teaching large groups, 2011.

Supervised (and Co-supervised) PhD Students

- Alessandro Di Mattia, *On effects of tournament design in sports competitions* (co-supervisor, since 2021).
- Anna Konovalenko, *The use of data mining, simulation and optimization to improve healthcare logistics* (co-supervisor, since 2020).
- Erik Langelo, *The profit-maximizing lot size problem with marketing and lag effects* (main supervisor, since 2019).
- Homayoun Shaabani, *Multi-product maritime inventory routing problem under uncertainty* (co-supervisor, since 2019).
- Mohamed Ben Ahmed, *Matheuristics for inventory routing problems* (main supervisor, since 2018).
- Håkon Bentsen, *Heuristics for binary integer programming problems* (main supervisor, since 2017).
- Markus Brachner, *Evaluating and optimizing an emergency response system for helicopter transportation in the Arctic region* (main supervisor, 2015–2019; co-supervisor, 2013–2015).
- Anders Nordby Gullhav, *Optimization-based resource allocation in cloud computing* (co-supervisor, 2011–2016).
- Urooj Pasha, *Solution methods for fleet composition and routing problems* (co-supervisor, 2013–2015).
- Ahmad Hemmati, *Heuristics for rich maritime inventory routing problems* (main supervisor, 2011–2015).

Supervised (and Co-supervised) MSc Students

- Thomas A. Lindberg and Kristian Schnell, *Developing a model predictive control framework for competing in the Fantasy Premier League*, 2021.
- Alexandr Reznik, *Heuristics for binary integer programming problems*, 2021.
- Even Molland and Sunniva Haukvik Knudseth, *Allocating farmed fish to customer orders using multi-objective optimization*, 2021.
- Otto Petter Thomassen, *Discrete event simulation for an inventory rental problem at Deep Sea Mooring*, 2021.
- Tristan Kristoffer Cook, Eivind Keil, and Inge Dovre Sætherø, *Modelling off-ball decision making in Swedish top division football*, 2020.
- Daniel Moreno Rendón, *Development and integration of vehicle routing concepts for the decision making: A case study for a third party logistics in Mexico*, 2020.
- Sadok Aguel and Thi Thao Uyen Ngo, *Analyzing the effect of time-dependent travel times on last-mile deliveries*, 2020.
- Maryia Hryhoryeva, *Robust integrated models for airline planning*, 2020.
- Robin Andersen and Vegard Hassel, *In-game betting and the FA English Premier League: the contribution of prediction models*, 2019.
- Onyemaechi Linda Okoronkwo and Edwin Chimezie Okoronkwo, *Dynamic inventory routing problem with profit maximization*, 2019.
- Anna Konovalenko, *Developing a heuristic algorithm for classification of problems with binary attributes*, 2019.
- Hans Jacob Brun, *Testing the betting market efficiency with the use of heuristics*, 2019.
- Knut Olav Brathaug Sørset and Andres Haugen Vikhagen, *A heuristic approach to the three-dimensional bin packing problem with weight constraints*, 2019.
- Maksim Hardziyenak, *Soccer player performance ranking for Molde FK and Norwegian Eliteserien*, 2019.
- Else Marie Håland and Astrid Salte Wiig, *Evaluating passing behaviour in association football*, 2018.

- Nikolai Mathisen Bratsberg and Anne-Marie Mellbye, *Early-stage real estate development using nonlinear optimization*, 2018.
- Line Eide and Gro Cecilie Håhjem Årdal, *Speed optimization in a maritime inventory routing problem*, 2018.
- Sindre Loug, *Scheduling of public transport after Ryfast*, 2018.
- Anatol Husakou, *Vehicle routing planning for Mjøndalen Mur & Puss AS*, 2018.
- Haakon Sveiverud Haave and Håkon Høiland, *Evaluating association football player performances using Markov models*, 2017.
- Anna Zaitseva, *Introducing profit maximization in inventory routing problems*, 2017.
- Francisca Johnsen and Torkil Rasmussen, *Flexibility in operation theatres*, 2017.
- Nataliia Evsikova, *Speed optimization in maritime inventory routing*, 2017.
- Kamilla Hamre Bolstad and Manu Joshi, *Heuristics for a dual-level stochastic fleet size and mix problem for maintenance operations at offshore wind farms*, 2016.
- Fredrik Berg Stien, *Optimization models for emergency preparedness in the Arctic region*, 2016.
- Yassine Louahabi, *The implementation of a bi-temperature warehouse in the northern region of Morocco*, 2016.
- Vegard Bjertnes, Olav Nørstebø, and Eirik Vabo, *Valuing individual player involvements in Norwegian association football*, 2016.
- Katrine Ødeskaug and Nora Raknes, *Optimal scheduling of maintenance tasks and routing of a joint vessel fleet for multiple offshore wind farms*, 2015.
- Pål Eskild Rasmussen and Mads Falmår Wilthil, *A price-based algorithm for multi-player equilibrium problems*, 2015.
- Olav Drivenes Sæbø, *Modelling clubs' financial investment in association football players*, 2015.
- Vidar Skaar, *Optimization of routing and scheduling for performing maintenance at offshore wind farms*, 2014.
- Geir Martin Bakken and Michael Wiik, *Optimal lagerstyring av kontanter i minibanker med usikker etterspørsel (in Norwegian)*, 2014.
- Eirik Røysem Haug, *Subsea investments and well placements in the oil production industry*, 2013.
- Mats Alfsen, *Optimization of subsea investments*, 2013.
- Hanne Merete Vefsnmo, *Determining the optimal vessel fleet for maintenance of offshore wind farms*, 2013.
- Sigrid Rennemo and Kristina Fogner Rø, *A multi-stage stochastic facility routing model for humanitarian logistics planning*, 2012.
- Sondre Steen, *Fleet deployment optimization in liner shipping*, 2012.
- Sofie Døving Agdestein, *Operating room scheduling problem*, 2012.
- Ina Blomseth Halvorsen and Christian Gundegjerde, *Vessel fleet size and mix for maintenance of offshore wind farms*, 2012.
- Hilde Elise Sæther Lilleby, *Nurse rostering — a strategic tool for competence building*, 2012.
- Rikard Bakkehaug and Eirik Stamsø Eidem, *Strategic fleet renewal in shipping*, 2011.
- Hans Sveipe Arnulf and Amund Bjørkli, *Fleet deployment in liner shipping*, 2010.
- Lars Lundsbakken and Magnar Vestli, *Scheduling of training missions at a fighter squadron*, 2009.
- Bernt Olav Øvstebø, *Optimisation of stowage planning for RoRo-ships*, 2009.

Supervised BSc Students

- Eirik Martin Blix Madsen and Marius Bråten, *Hvordan kan Glamox håndtere ujevn arbeidsmengde på varemottaket sitt, og også forbedre varemottaket ved hjelp av LEAN-verktøy? (In Norwegian)*, 2021.
- Sondre Holtmo Rød, *Hvordan blir produksjonen i Nektan Havbruk optimalisert, slik at det oppnås en maksimal utnyttelse av matfiskkonsesjoner (in Norwegian)*, 2021.

Mats Mørch, *Quantifying footballing: using multiple regression analysis and ELO ratings to identify the most important KPI's for goalkeepers*, 2020.

PhD Evaluation Committee Work

Filipe Manuel Gonçalves Rodrigues, *Inventory routing under uncertainty*, University of Aveiro, Portugal, 2019.

Maria Elbek, *Modeling and optimization of collection problems*, Aarhus University, Denmark, 2018.

Brice Assimizele, *Optimal positioning of tug vessels along the northern Norwegian coast*, Molde University College, Norway, 2017.

Magnus Stålhane, *Optimization of maritime routing and scheduling problems with complicating inter-route constraints*, NTNU, IØT, Trondheim, Norway, 2013.

Jørgen Glomvik Rakke, *Optimization models and methods for maritime routing and scheduling problems*, NTNU, IØT, Trondheim, Norway, 2012.

Elin Espeland Halvorsen-Weare, *Maritime fleet planning and optimization under uncertainty*, NTNU, IØT, Trondheim, Norway, 2012.

Frank Hennig, *Optimization in maritime transportation: crude oil tanker routing and scheduling*, NTNU, IØT, Trondheim, Norway, 2010.

External Examiner

Optimization Methods with Applications, TIØ4130, NTNU, IØT.

Complex examination committee member, University of Pannonia, Hungary.

Master's Dissertation in Statistical Data Analysis, Ghent University, Belgium.

Industrial Optimization and Decision Support, TIØ4150, NTNU, IØT.

Master's Thesis in Managerial Economics and Operations Research, TIØ4905, NTNU, IØT.

Management Science Modeling, TLOG2003, NTNU, Department of Mechanical and Industrial Engineering.

Master's Degree Thesis in Logistics, LOG950, Molde University College.

Master's Degree Thesis in Informatics, INF950, Molde University College.

Classical Optimization Methods, LOG735 (INF735), Molde University College.

Managerial Economics and Operations Research, Specialization Project, TIØ4500, NTNU, IØT.

Editorial Assignments

Associate editor for *Omega: The International Journal of Management Science* (since 2020).

Guest editor for a special issue of *Annals of Operations Research* on "Logistics, Optimization and Transportation – in memory of the late Arne Løkketangen", volume 253, issue 2, June 2017.

Editorial board member of *Suranaree Journal of Science and Technology* (2009–2012).

Selected Assignments as Reviewer of Journal Papers

Applied Artificial Intelligence, Asia-Pacific Journal of Operational Research, AStA Advances in Statistical Analysis, Communications of the IIMA, Computational Management Science, Computational Optimization and Applications, Computational Statistics and Data Analysis, Computers and Industrial Engineering, Computers and Operations Research, Engineering Optimization, European Journal of Operational Research, Expert Systems With Applications, Flexible Services and Manufacturing Journal, German Journal of Exercise and Sport Research, IEEE Transactions on Systems, Man, and Cybernetics: Systems, IMA Journal of Management Mathematics, Information Systems and Operational Research, INFORMS Journal on Computing, International Journal of Forecasting, International Journal of Procurement Management, International Journal of Production Economics, International Journal of Production Research, International Transactions in

Operational Research, Journal of Electromagnetic Analysis and Applications, Journal of Heuristics, Journal of Modelling in Management, Journal of the Operational Research Society, Journal of Optimization Theory and Applications, Journal of Sports Analytics, Journal of Sports Economics, Journal of Quantitative Analysis in Sports, Manufacturing and Service Operations Management, Mathematics, Naval Research Logistics, Networks, Omega, Operational Research, Operations Research, Operations Research Letters, Optimization, Optimization Letters, PLoS ONE, Proceedings of the Institution of Mechanical Engineers, Part P: Journal of Sports Engineering and Technology, Public Transport, Sensors, Statistical Methods & Applications, Songklanakarin Journal of Science and Technology, Swarm Intelligence, Systems, Transportation Research Part E, Transportation Science.

Assignments as External Reviewer of Research Proposals

The Research Grants Council of Hong Kong (2008–2016).
Israeli Ministry of Science, Technology and Space (2015).
Research Foundation Flanders (2015).
National Center for Metropolitan Transportation Research (US) (2010).

Contributions to Organizing Conferences

ODYSSEUS 2021, Tangier, Morocco, May 31–June 4, 2021 (member of the scientific committee).
EURO 2019, Dublin, Ireland, June 23–26, 2019 (member of the program committee).
ODYSSEUS 2018, Cagliari, Italy, June 3–8, 2018 (member of the scientific committee).
LOGMS 2017, Bergen, Norway, August 23–26, 2017 (member of the organizing committee).
ODYSSEUS 2015, Ajaccio, France, June 1–5, 2015 (member of the scientific committee).
LOT, Molde, Norway, September 1–2, 2014 (chair of the scientific committee).
IFORS 2014, Barcelona, Spain, July 13–18, 2014 (session organizer).
VeRoLog 2014, Oslo, Norway, June 22–25, 2014 (member of the organizing and program committee).
MIC 2013, Singapore, August 4–8, 2013 (member of the program committee).
VeRoLog 2013, Southampton, United Kingdom, July 7–10, 2013 (member of the scientific committee).
ODYSSEUS 2012, Mykonos, Greece, May 21–25, 2012 (member of the scientific committee).
EURO XXIV, Lisbon, Portugal, July 11–14, 2010 (session organizer).
TRISTAN VII, Tromsø, Norway, June 20–26, 2010 (member of the scientific committee).
Stochastics in Logistics and Transportation, Håholmen, Norway, June 12–14, 2006 (member of the local committee).
Transportation and Logistics, Molde, Norway, August 25–27, 2004 (member of the local committee).

Other Professional Contributions

Deputy member of the appointments committee at Molde University College (since 2020).
Member of the evaluation committee for a PhD scholarship position in Logistics at Molde University College (2019).
Chaired one PhD defence at Molde University College (2019).
Member of the evaluation committee for a position as Professor/Associate Professor in Supply Chain Management at Molde University College (2018).
Member of the expert committee for the Norwegian Operations Research Society award for best Master thesis in the field of operations research (2017–2020).
President of the Norwegian Operations Research Society (2016–2017).
Member of the evaluation committee for a position as Adjunct Associate Professor in Quantitative Health Care Logistics at IØT, NTNU (2016).

Member of the evaluation committee for a promotion to Researcher I position at Møreforskning Molde (2016).

Leader of the Planning, Optimization and Decision Support Group at Molde University College (since 2015).

Member of the Doctoral Degree Committee in Logistics at Molde University College (since 2015).

Chair of the expert committee of Bernt Fossum's Fund for Research within Applied Engineering Economics at the Norwegian University of Science and Technology (2014–2015).

Deputy member of the research panel at IØT, NTNU (2013–2015).

Chaired three PhD defences at IØT, NTNU (2013–2014).

Jury member in the semi-final of TIMES (Tournament In Management and Engineering Skills) organized by ESTIEM NTNU, Trondheim, Norway (2011).

Professional Societies

Member of the EURO Working Group on OR in Sports (since 2016).

Member of the Norwegian Operations Research Society (since 2015).

Member of the EURO Working Group on Vehicle Routing and Logistics Optimization, VeRoLog (since 2011).

Member of the Mathematical Optimization Society (2011–2012).

Member of the Operational Research Society (2008–2009).

Member of the European Chapter on Metaheuristics, EU/ME (since 2004).

Member of the Institute for Operations Research and Management Sciences, INFORMS (2004–2015).

Research Visits

University of Colorado at Boulder, Leeds School of Business, Boulder, CO, USA. Invited by Prof. Fred Glover, September 1–December 20, 2006.

Canada Research Chair in Distribution Management, Montréal, Canada. Invited by Prof. Gilbert Laporte, February 1–May 31, 2006.

Research Projects

FishTraOpt, innovation project on automated and optimized planning for traders of farmed fish, partly funded by the Research Council of Norway. Total budget of NOK 2.2 (2020–2021). Role: project member.

AXIOM, researcher project on the design and analysis of integrated optimization methods, partly funded by the Research Council of Norway. Total budget of NOK 14.7M (2017–2021). Role: project manager at Molde University College and PhD supervisor.

DOMinant II, researcher project on discrete optimization methods in maritime and road-based transportation, partly funded by the Research Council of Norway. Total budget of NOK 14.3M (2011–2015). Role: project member and PhD supervisor.

FAROFF, research and development project on far offshore operation and maintenance vessel concept development and optimization, partly funded by the Research Council of Norway. Total budget of NOK 9.5M (2012–2013). Role: project manager at NTNU.

Resources Utilization in Cloud Computing, collaborative research project, funded by Telenor. Total budget of NOK 0.6M (2011–2012). Role: project member.

DESIMAL, competence building project on decision support systems in maritime logistics, partly funded by the Research Council of Norway. Total budget of NOK 12.8M (2008–2011). Role: postdoctoral fellow.

Educational Projects

Coordinated optimization of ports and ships. Funded by the Norwegian Centre for International Cooperation in Education. Total budget of NOK 0.3M (2017–2018). Role: project coordinator.

Rural logistics. Funded by the Norwegian Centre for International Cooperation in Education. Total budget of NOK 0.3M (2017–2018). Role: network partner.

Development of a multidisciplinary Norwegian-Belarusian study program in logistics analytics promoting Bologna process reforms. Funded by the Norwegian Centre for International Cooperation in Education. Total budget of NOK 5.8M (2016–2019). Role: project member.

Norway-Belarus cooperation in promoting Bologna process standards for higher education within quantitative logistics and information systems in logistics. Seed money, funded by the Norwegian Centre for International Cooperation in Education. Total budget of NOK 0.1M (2015). Role: project member.

Entrepreneurial Projects

Mentor for Zendera AS, a student entrepreneurship project on optimizing transporters' activities, partly funded by the Research Council of Norway with a budget of NOK 1M (2018–2019)

Awards and Grants

Winner of the Research Award 2021 at Molde University College.

One of four nominees to the Prize for Pedagogical Activities at Molde University College in 2019 and 2020.

Co-supervised N. M. Bratsberg and A.-M. Mellbye who won the Norwegian Operations Research Society award for best Master thesis in the field of operations research 2017/2018.

Supervised F. B. Stien who won the national prize for Best Master Thesis in Logistics 2016.

Travel grants from Bernt Fossum's Fund for Research within Applied Engineering Economics at the Norwegian University of Science and Technology, in 2009 and 2010.

Finalist in the 2009 Euro Doctoral Dissertation Award, based on [88].

Honorable Mention in the 2008 Best Paper in Transportation Science & Logistics Award Competition, awarded for [82].

This document was updated on August 25, 2021.