

Mohamed Ben Ahmed

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Education

Doctor of Philosophy, Quantitative Logistics, Molde University College, Molde, Norway (2023).

Master of Science, Industrial Engineering, National School of Engineering, Tunis, Tunisia (2013).

Bachelor of Science, Physics & Chemistry, Preparatory Institute Of Engineering Studies, Monastir, Tunisia (2010).

Employment History

Norwegian University of Science and Technology (NTNU) , Trondheim, Norway Post-doctoral	September 2023 - now
Møreforskning , Molde, Norway Research scientist	2021 - 2023
Norwegian University of Science and Technology (NTNU) , Trondheim, Norway Research scientist	May - September 2021
Molde University College. , Molde, Norway Doctoral research fellow	2018 - 2021
Ceng. Research Center, Qatar University , Doha, Qatar Research assistant	2013 - 2017
SOTRAPIL , Tunis, Tunisia Intern	2013

Language skills

Arab: Bilingual.

French: Bilingual.

English: Full Professional.

Norwegian: Intermediate.

Peer-reviewed Publications

Journal articles

Jørgen Skålnes, Mohamed Ben Ahmed, Lars Magnus Hvattum, and Magnus Stålhane. "New benchmark instances for the Inventory Routing Problem". In: *European Journal of Operational Research* (2023), in press.

Mohamed Ben Ahmed, Even Molland, and Tore Tomasgard. "Challenges and Opportunities for Adopting Green Technologies in Maritime Transportation Planning". In: 2023, in press.

Mohamed Ben Ahmed, Lars Magnus Hvattum, and Agostinho Agra. "The effect of different mathematical formulations on a matheuristic algorithm for the production routing problem". In: *Computers & Operations Research* (2023), p. 106232.

Mohamed Ben Ahmed, Maryia Hryhoryeva, Lars Magnus Hvattum, and Mohamed Haouari. "A matheuristic for the robust integrated airline fleet assignment, aircraft routing, and crew pairing problem". In: *Computers & Operations Research* 137 (2022), p. 105551.

Mohamed Ben Ahmed, Onyemaechi Linda Okoronkwo, Edwin Chimezie Okoronkwo, and Lars Magnus Hvattum. "Long-term effects of short planning horizons for inventory routing problems". In: *International Transactions in Operational Research* (2022).

Mohamed Ben Ahmed, Farah Zeghal Mansour, and Mohamed Haouari. "Robust integrated maintenance aircraft routing and crew pairing". In: *Journal of Air Transport Management* 73 (2018), pp. 15–31.

Mohamed Ben Ahmed, Wisal Ghroubi, Mohamed Haouari, and Hanif D Sherali. "A hybrid optimization-simulation approach for robust weekly aircraft routing and retiming". In: *Transportation Research Part C: Emerging Technologies* 84 (2017), pp. 1–20.

Mohamed Ben Ahmed, F Zeghal Mansour, and Mohamed Haouari. "A two-level optimization approach for robust aircraft routing and retiming". In: *Computers & Industrial Engineering* 112 (2017), pp. 586–594.

Nayla Ahmad Al-Thani, Mohamed Ben Ahmed, and Mohamed Haouari. "A model and optimization-based heuristic for the operational aircraft maintenance routing problem". In: *Transportation Research Part C: Emerging Technologies* 72 (2016), pp. 29–44.

Mohamed Ben Ahmed, Farah Zeghal Mansour, and Mohamed Haouari. "A PSO approach for robust aircraft routing". In: *2015 IEEE International Conference on Industrial Engineering and Engineering Management (IEEM)*. IEEE. 2015, pp. 219–223.

Mohamed Ben Ahmed, Farah Zeghal Mansour, and Mohamed Haouari. "A simulation-optimization approach for robust aircraft routing". In: *45th International Conference on Computers & Industrial Engineering (CIE45)*. CIE. 2015, pp. 17–14.

Working papers

Mohamed Ben Ahmed, Mohamed Kais Msakni, Arild Hoff, and Lars Magnus Hvattum. "A matheuristic for several classes of location routing problems". In: *Working paper* (2022).

Anna Konovalenko and Mohamed Ben Ahmed. "Dynamic Ambulance Dispatch via Deep Reinforcement Learning". In: *Working paper* (2023).

Mohamed Ben Ahmed and Lars Magnus Hvattum. "Long-term analysis of inventory routing policies". In: *Working paper* (2023).

Mohamed Ben Ahmed and Lars Magnus Hvattum. "The weekly airline scheduling problem". In: *Working paper* (2023).

Conference Presentations

Ben Ahmed, Mohamed (2023). Challenges and opportunities for adopting green technologies in maritime transportation planning. APMS (2023), Trondheim, Norway, 2023.

Ben Ahmed, Mohamed (2021). A matheuristic for the robust integrated airline scheduling problem. EURO (2021), Athens, Greece, 2021.

Ben Ahmed, Mohamed (2019). Testing the importance of the planning horizon when solving inventory routing

problems. EURO (2019), Dublin, Ireland, 2019.

Ben Ahmed, Mohamed (2015). A simulation-optimization approach for robust aircraft routing. CIE45, Metz, France, 2015.

Other Presentations

Assessing the performance of mathematical programming components in matheuristics: the case of MILP problems. Annual PhD seminar at Molde University College. Molde, Norway, April 6, 2022.

Operations research in the time of Covid-19: New interest, older methods? [Forskningsdagane](#), October 2021.

A matheuristic solution for the robust integrated airline scheduling problem. Annual PhD seminar at Molde University College. Molde, Norway, April 7, 2021.

Long-term effects of short planning horizons for inventory routing problems. Annual PhD seminar at Molde University College. Molde, Norway, March 9, 2020.

Matheuristics applications for the inventory routing problem. Seminar at the Dept. of Industrial Economics and Technology Management, the Norwegian University of Science and Technology, Trondheim, Norway, November 14, 2019

Extending metaheuristics to matheuristics: The case of the inventory routing problem. Presentation at SINTEF Applied Mathematics, Oslo, Norway, November 23, 2018.

Development of Advanced Models and Algorithms for Robust Airline Planning. Seminar at National School of Engineering of Tunis. Tunis, Tunisia, May 18, 2017.

A compact formulation for the operational aircraft maintenance routing problem. Seminar at Department of Mechanical & Industrial Engineering, Qatar University. Doha, Qatar. December 15, 2016.

Scientific workshops & seminars

Recent Advances in Selection Hyper-heuristics - Online seminar. 17 December 2021, School of Computer Science, University of Nottingham, Nottingham, UK.

Metaheuristics Summer School MESS 2020+1: Learning and Optimization from Big Data. 15-18 June 2021, University of Catania, Catania, Italy.

5th AIRO Young Workshop: "Optimization and Data Science: Trends and Applications". 8-12 February 2021, University of Naples Federico II, Naples, Italy.

COWork Online Workshop: "Algorithmic Intelligence in Practice". 14-25 October 2020. Technical University of Berlin, Berlin, Germany.

Solving Constraint Integer Programs (SCIP) - Online workshop, 3-4 June 2020, University of Exeter, Exeter, UK.

SPOC20: "Autumn School on Advanced BCP Tools: VRPSolver and Coluna", 21-22 November 2019, Université Panthéon Sorbonne, Paris.

Industry conferences & seminars

NTNU Energy Transition Conference 2023: Crisis, Crossroads, and Courage. 21 March 2023, NTNU, Trondheim, Norway.

Ammonia as an energy carrier - technology and value chain. 28 October 2022, GCE Blue Maritime Cluster, ÅKP AS, Ålesund, Norway.

Hydrogen as an energy carrier - technology and value chain. 18 October 2022, GCE Blue Maritime Cluster, ÅKP AS, Ålesund, Norway.

Teaching Experience

Exact Optimization Methods in Logistics [LOG 733](#), Molde University College, Spring 2021.

Business Economics Analysis [BØK711](#), Molde University College, Autumn 2020.

Supervised (and Co-supervised) MSc Students

Maryia Hryhoryeva, "Robust Integrated Models for Airline Planning", Molde University College, 2020.

Onyemaechi Linda Okoronkwo and Edwin Chimezie Okoronkwo, "Dynamic Inventory Routing Problem with Profit Maximization", Molde University College, 2019.

Nayla Ahmad Al-Thani, "Mathematical Formulations for the Operational Aircraft Maintenance Routing Problem", Qatar University, 2016.

Professional Affiliations

Member of the Norwegian Operations Research Society (NORS), since 2018.

Member of the Tunisian Operational Research Society (TORS), 2013 - 2017.

Member of the Junior chamber International (JCI), Tunisia, 2011-2013.

Research Visits

University of Aveiro, Department of Mathematics, Aveiro, Portugal. Invited by Prof. Agostinho Agra, November-December, 2022.

University of Aveiro, Department of Mathematics, Aveiro, Portugal. Invited by Prof. Agostinho Agra, January-February, 2020.

Research Projects

Autoport, When AI optimizes port logistics and management, funded by the Research Council of Norway. Total budget of NOK 12M (2023–2025). Role: Postdoctoral researcher at NTNU.

MARLOG, robust plans for service operations in aquaculture, funded by Regionale forskningsfond (RFF), Møre og Romsdal. Role: Research scientist at Møreforskning.

AXIOM, research 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: PhD fellow at Molde University College.

NPRP 6-818-5-094, research project on Models and Algorithms for Robust Airline Planning Problem, partly funded by Qatar National Research Fund (2013-2017). Role: Research Assistant.