

Berk Görgülü

CONTACT	DeGroote School of Business, DSB414 1280 Main Street West, Hamilton, ON L8S 4M4	e-mail: gorgulub@mcmaster.ca website: www.berkgorgulu.com
RESEARCH INTERESTS	Service and healthcare operations, healthcare analytics, stochastic modeling and optimization, queueing theory, interpretable machine learning	
WORK EXPERIENCE	McMaster University , Hamilton, ON, Canada Assistant Professor, <i>DeGroote School of Business</i> 2023 - current Member, <i>Computational Science and Engineering</i> 2023 - current Associate Member, <i>Computing & Software</i> 2024 - current	
EDUCATION	University of Toronto , Toronto, ON, Canada <i>Ph.D. in Mechanical and Industrial Engineering</i> 2018 - 2023 • Advisors: Vahid Sarhangian and Jing Dong • GPA: 4.00/4.00 Boğaziçi University , Istanbul, Turkey <i>M.S. in Industrial Engineering</i> 2017 - 2018 • Advisor: Mustafa Gökçe Baydoğan • GPA: 4.00/4.00 <i>B.S. in Industrial Engineering</i> 2012 - 2017 • GPA: 3.70/4.00 <i>Minor in Management (Finance)</i> 2012 - 2017 • GPA: 4.00/4.00	
WORKING PAPERS	1. Approximate Dynamic Programming for Multiclass Scheduling under Slowdown. With Jing Dong and Vahid Sarhangian <i>Minor Revision in Operations Research</i> 2. Enhanced Tree-Based Learners for Forecasting Tasks. With Mustafa G. Baydoğan and Ş. İlker Birbil <i>Under Second Round Review in International Journal of Forecasting</i> 3. Tree-based Feature Learning for Time-series Forecasting. With Oğuzhan Engin and Mustafa G. Baydoğan 4. Scalable Matching Algorithms for Municipal Bond Tax-Loss Harvesting Using Mixed-Integer Linear Programming. With Kyle Verma and Mucahit Cevik 5. A Concurrent CNN-RNN Approach for Multi-Step Wind Power Forecasting. With S. Kazmi, Mucahit Cevik and Mustafa G. Baydoğan 6. Analysis of Multiclass Queues with Load-Dependent Service Rates. With Jing Dong and Vahid Sarhangian	

1. **A Novel Adaptive Testing Scheme for Multi-disease Testing.** With Ebru K. Bish, Douglas R. Bish and Merve Bodur
Operations Research (2026)
 - Winner, 2025 INFORMS Public Sector Operations Research Best Paper Competition
2. **Behaviorally-informed Strategies for Infectious Disease Mitigation: Balancing Incentives and Screening.** With Sait Tunc, Marie J. Rabil, Douglas R. Bish and Ebru K. Bish
Operations Research (2026)
3. **Improving Hard-to-Place Kidney Allocation: A Machine Learning Approach to Center Ranking.** With Sean Berry, Mucahit Cevik, Sait Tunc and Matthew J. Ellis
Health Care Management Science (2026)
4. **Interpretable Machine Learning for Personalized Breast Cancer Screening Recommendations.** With Sean Berry, Sait Tunc and Mucahit Cevik
Health Care Management Science (2026)
5. **Prototype Forest in Multiple Instance Learning.** With Ozgur E. Sivrikaya, Ali E. Banak and Mustafa G. Baydoğan
Knowledge-Based Systems (2026)
6. **Predicting offer burden to optimize batch sizes in simultaneously expiring kidney offers.** With Sean Berry, Sait Tunc and Mucahit Cevik
Frontiers in Artificial Intelligence (2025)
7. **Inventory Management with Advance Booking Information: The Case of Surgical Supplies and Elective Surgeries.** With Jacky Chan and Vahid Sarhangian.
Manufacturing & Service Operations Management (2024)
8. **What Causes Delays in Admission to Rehabilitation Care? A Structural Estimation Approach.** With Jing Dong and Vahid Sarhangian.
Manufacturing & Service Operations Management (2024)
 - Selected for presentation at the 2022 Healthcare Operations SIG at MSOM Conference.
9. **Column generation-based prototype learning for optimizing area under the receiver operating characteristic curve.** With Erhan Can Ozcan and Mustafa Gökçe Baydoğan
European Journal of Operational Research (2024)
10. **Association Between Delayed Discharge from Acute Care and Rehabilitation Outcomes and Length-of-Stay: A Retrospective Cohort Study.** With Jing Dong, Karen Hunter, Krista M. Bettio, Betty Vukusic, Jonathan Ranisau, Gary Spencer, Terence Tang and Vahid Sarhangian
Archives of Physical Medicine and Rehabilitation (2023)
11. **A Newsvendor Approach to Design of Surgical Preference Cards.** With Vahid Sarhangian
Service Science (2022)
12. **Randomized trees for time series representation and similarity.** With Mustafa Gökçe Baydoğan
Pattern Recognition (2021)

13. **Explainable boosted linear regression for time series forecasting.** With Igor Ilic, Mucahit Cevik and Mustafa Gökçe Baydoğan.
Pattern Recognition (2021)
14. **Augmented out-of-sample comparison method for time series forecasting techniques.** With Igor Ilic and Mucahit Cevik.
Canadian Conference on Artificial Intelligence (2020)
15. **An Adaptive Large Neighborhood Search Heuristic for Jointly Solving Storage Location Assignment and Picker Routing Problem.** With Necati Aras.
Operations Research Proceedings 2018: Selected Papers of the Annual International Conference of the German Operations Research Society (GOR) (2019)
16. **A Data Adaptive Biological Sequence Representation for Supervised Learning.** With Hande Cakin, Mustafa Gökçe Baydoğan, Na Zou and Jing Li.
Journal of Healthcare Informatics Research (2018)

RESEARCH GRANTS

SSHRC Insight Development Grant 2025/06 – 2027/06

Source Agency: The Social Sciences and Humanities Research Council (SSHRC)

Amount: \$61,305

Title: Designing Fair Allocation Mechanisms for Food Rescue and Allocation

Co-applicant: Merve Bodur

NSERC Discovery Grant 2025/04 – 2030/04

Source Agency: The Natural Sciences and Engineering Research Council of Canada (NSERC)

Amount: \$202,500

Title: Control of Stochastic Queueing Networks with Endogenous Effects

IIMF Micro Fund 2025/04 – 2027/04

Source Agency: The Office of International Affairs, McMaster University

Amount: \$5,000

Title: Simultaneous Disease and Specimen Pooling in Infectious Disease Testing

SSHRC Explore 2024/01 – 2026/01

Source Agency: McMaster University

Amount: \$7,000

Title: Reducing Delays in Admission to Rehabilitation

DeGroote School of Business Research Support 2023/10 – present

Source Agency: DeGroote School of Business, McMaster University

Amount: \$25,000

DeGroote School of Business Faculty Start-up Grant 2023/10 – present

Source Agency: DeGroote School of Business, McMaster University

Amount: \$50,000

RESEARCH GROUP

Xinxin Li, PhD student (McMaster) (co-supervised with Yun Zhou)

Oğuzhan Engin, MSc student (McMaster)

Süleyman Topdemir, MSc student (TMU), graduated 2026 (co-supervised with Mucahit Cevik)

Kyle Verma, MSc (TMU), graduated 2026 (co-supervised with Mucahit Cevik)

TEACHING
EXPERIENCE

McMaster University, Hamilton, ON, Canada
Instructor

- Commerce 3DA3 - Predictive Analytics Fall 2024, Fall 2025
- IBH 2AD3 - Statistical Data Analysis Winter 2024, Fall 2024, Fall 2025
- BUS Q773 / CSE 776 - Mathematical Programming: Theory and Algorithms Winter 2024, Winter 2026

University of Toronto, Toronto, ON, Canada
Teaching Assistant

- MIE 360 - System Modelling & Simulation Fall 2018, 2019, 2020, 2021, 2022
- MIE 335 - Algorithms & Numerical Methods Winter 2019, 2020, 2021, 2022, 2023

Boğaziçi University, Istanbul, Turkey
Teaching Assistant

- IE 360 - Statistical Forecasting & Time Series Winter 2018
- IE 312 - Facility Design & Planning Fall 2016, Winter 2017, Fall 2017
- IE 306 - System Simulation Fall 2015

CONFERENCE
PRESENTATIONS

A Novel Adaptive Testing Scheme for Multi-disease Testing

- INFORMS Annual Meeting, Atlanta, GA October 2025

Approximate Dynamic Programming for Multiclass Scheduling under Slowdown

- INFORMS Annual Meeting, Atlanta, GA October 2025
- AIMOR Workshop, Banff, AB May 2025
- INFORMS Computing Society Conference, Toronto, ON March 2025
- INFORMS Annual Meeting, Seattle, WA October 2024
- MSOM Annual Conference, Minneapolis, MN July 2024
- CORS Annual Meeting, London, ON June 2024
- INFORMS Annual Meeting, Phoenix, AZ October 2023
- INFORMS Healthcare, Toronto, ON July 2023
- MSOM Annual Conference, Montreal, QC June 2023

What Causes Delays in Admission to Rehabilitation Care? A Structural Estimation Approach

- INFORMS Healthcare, Toronto, ON July 2023
- INFORMS Annual Meeting, Indianapolis, IN Oct. 2022
- INFORMS Annual Meeting, Online Nov. 2021
- CORS Annual Meeting, Online July 2020
- MSOM Annual Conference, Online June 2020
- INFORMS Annual Meeting, Seattle, WA Nov. 2019
- INFORMS Annual Meeting, Phoenix, AZ Nov. 2018

A Newsvendor Approach to Design of Surgical Preference Cards

- CORS Annual Meeting, Online July 2020
- INFORMS Healthcare Conference, MIT, Cambridge, MA July 2019

Randomized trees for time series representation and similarity

- INFORMS Annual Meeting, Phoenix, AZ Nov. 2018

HONORS AND
AWARDS

INFORMS Public Sector Operations Research (PSOR) Best Paper Award	2025
Nomination, McMaster Students Union Teaching Award	2025
SGS Conference Grant	2022
MIE Teaching Assistant Award	2021
Doctoral Fellowship, Department of Mechanical & Industrial Engineering, University of Toronto	2018 - 2022
University Dean's High Honor List	2012 - 2017
Placed in Dean's High Honor List for 8 consecutive semesters (all semesters)	