Mirel Yavuz

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My research is in multi-objective decision making. I design interactive optimization algorithms that identify the alternative most aligned with a possibly inconsistent decision-maker whose value function is unknown (under revision at Management Science); develop methods for allocating resources under efficiency-fairness trade-offs (European Journal of Operational Research, 2022); and run experiments on how such trade-offs are actually made in practice.

RESEARCH

Published and under review:

Interactive Preference-based Optimization with Unknown Value Function: Application to Sustainable Sourcing in the Apparel Supply Chain with Charles J. Corbett. Under revision for resubmission, Management Science.

Interactive algorithm aiming to find the optimal alternative for a decision-maker whose implicit value function is unknown, by asking pairwise comparison questions and generating alternatives on demand rather than enumerating them; guaranteed to return her optimal alternative without eliciting weights when her responses are consistent. The extension in progress handles a decision-maker who answers inconsistently: a flip-and-erase mechanism quarantines responses identified as possibly corrupted rather than reversing them, with an impossibility result for noisy pairwise elicitation and conditions under which the optimum is still found.

Influence of Irrelevant Alternatives on Choices with Environmental Attributes with Guia Bianchi, Charles J. Corbett, Deepak Rajagopal and Francesco Testa. Resubmitted following major revision, International Journal of Life Cycle Assessment.

Lab and online experiments showing that the attraction and compromise effects operate on choices involving trade-offs between environmental attributes as much as they do on conventional ones, so that a third and irrelevant option predictably shifts the choice between two others. Run with environmental science students and alumni at UCLA, further cohorts through the UCLA Behavioral Lab, and general population samples through MTurk.

Fair Resource Allocation: Using Welfare-based Dominance Constraints with Nikolaos Argyris and Özlem Karsu. European Journal of Operational Research 297(2), 560–578, 2022. doi.org/10.1016/j.ejor.2021.05.003

Supports resource allocation under efficiency-fairness trade-offs without committing to a particular fairness index or social welfare function, instead requiring that the resulting distribution dominate a reference distribution with respect to a whole set of social welfare functions, parameterized by inequality aversion and with tractable reformulations. Case studies in workload allocation and healthcare provisioning.

Working papers:

Comparative Experimental Evaluation of Interactive Preference-based Optimization Using oTree with Charles J. Corbett. In preparation.

Online experiments evaluating the interactive elicitation method against the aggregate impact-score methods currently used in practice, including the Higg Material Sustainability Index.

An Interactive Approach for Fair Resource Allocation with Özlem Karsu. In preparation.

Combines inequality-index and social welfare function approaches within an interactive procedure, to identify allocations that are both efficient and equitably acceptable to the decision-maker.

Impact of Repair- and Subscription-based Circular Business Models on Durable Goods with Zeynep Göze Gürkan and Anna Saez de Tejada Cuenca. In preparation.

Environmental and economic impacts of repair and subscription-based business models for durable goods.

TECHNICAL SKILLS

Programming: Python, Julia, R, MATLAB, SQL

Optimization: Gurobi, CPLEX, Xpress, GAMS

Experimental: oTree, R, IRB protocols, UCLA Behavioral Lab, MTurk

Other: LaTeX, Minitab, Arena Simulation

Languages: Turkish (native), English (advanced), German (B2), Spanish and Italian (beginner)

Hobbies: Chess, Piano, Reading, Solving Puzzles, Cooking, Online Gaming, Skiing

APPOINTMENT AND EDUCATION

IESE Business School, Barcelona, Spain Sep 2024 – Present

Assistant Professor of Operations, Information and Technology

UCLA Anderson School of Management, Los Angeles, CA, United States 2024

PhD, Decisions, Operations and Technology Management

Thesis: Making Better Decisions in Sustainable Operations: Behavioral and Optimization Based Perspectives

Bilkent University, Ankara, Turkey 2016, 2018

MSc Industrial Engineering (2018). Thesis: Two Approaches for Fair Resource Allocation

BSc Industrial Engineering (2016)

PROFESSIONAL SERVICE

Editorial Review Board Member, Decision Sciences (Public Policy and Global Supply Chains department), 2026 – present

Referee: Manufacturing & Service Operations Management; Production and Operations Management; INFORMS MSOM Conference (Sustainability track); Decision Sciences

Judge, 2025 POMS College of Sustainable Operations Student Paper Competition

Session chair, INFORMS Annual Meeting, 2023, 2025 and 2026

PhD committee member, 2025 – present.

Academic hiring committee member, IESE Business School, 2025

Working group member, Behavioural Operations Research, Association of European Operational Research Societies, 2021 – present

PhD representative, Equity, Diversity and Inclusion Advisory Council, UCLA Anderson, 2022 – 2024

TEACHING

IESE Business School: Operations Management for MBAs (Winter 2025, 2026, 2027) and for the Executive Education PMD program (Spring and Fall, 2025 – 2027)

UCLA Anderson School of Management: Teaching assistant and associate across seven courses, 2019 – 2024: Data and Decisions (Full-Time, Fully Employed and Executive MBA), Optimization (MSBA), and Global Supply Chain Management (MBA). Average teaching evaluations of 4.92 and 5.00 out of 5.00 in the Executive and Fully Employed MBA programs.

Bilkent University: Teaching assistant, 2016 – 2018: Decision Making in Healthcare, Sustainable Operations, and Quality Assurance and Reliability.

SELECTED PRESENTATIONS

Interactive preference-based optimization: INFORMS Annual Meeting (2023, 2025, 2026); IFORS (2026); INFORMS MSOM Conference (2023, 2025); POMS Annual Conference (2024, 2027); Behavioral Operations Conference (2025); European Technology and Operations Management Seminar Series (2025); invited talks at the University of San Diego and the Frankfurt School of Finance and Management (2023).

Influence of irrelevant alternatives: INFORMS Annual Meeting (2021, 2022, 2023); POMS Annual Conference (2022); UCLA Anderson Behavioral Decision-Making Lab (2021).

AWARDS AND EARLIER EXPERIENCE

Finalist, 2016 INFORMS Doing Good with Good OR Student Paper Competition — the only undergraduate study among the finalists, for a decision support system I designed to improve the allocation of aid-in-kind donations across branches of the Turkish Red Crescent by coordinating information between them.

UCLA Anderson Doctoral Fellowship (2018 – 2022); UCLA Anderson and Easton Center Summer Doctoral Fellows Program (2019 – 2021); TÜBİTAK ARDEB Research Fellowship (2016 – 2018); Bilkent University Graduate School of Engineering and Science Fellowship (2016 – 2018); Bilkent University Merit Scholarship (2013 – 2015); Bilkent University High Honor Certificate, eight times.

Earlier internships in the R&D department of the Arçelik dishwasher manufacturing plant (2014) and in sales at Doğuş Oto, Ankara (2015).