Michele CEDOLIN, PhD

Assistant Professor in Industrial Engineering | IEEE Member
American University of the Middle East, Kuwait | E-mail: contact@michelecedolin.com
Website: michelecedolin.com

CAREER PROFILE

Assistant Professor of Industrial Engineering with over 10 years of teaching and research experience in universities and institutions. Research centres on combinatorial optimization (location-routing and vehicle routing problems) and metaheuristics, complemented by time series forecasting, simulation and decision analysis. Develops reproducible, openly shared research code (C++, Python) and interactive web and desktop tools that make complex optimization models understandable and usable by students, practitioners and researchers.

RESEARCH MISSION

To turn complex optimization problems into user-friendly applications that can be understood at every level, and, at the same time, to develop new methods that solve problems which remain open in the literature.

RESEARCH INTERESTS AND KEY STRENGTHS

- **Location-routing and vehicle routing:** capacitated location routing (CLRP), latency location routing (LLRP), CVRP/MDVRP
- **Metaheuristics:** trajectory (SA, TS, ILS, VNS), multi-start (GRASP), destroy-and-repair (ALNS), population-based (GA, ACO, scatter search), random-key (BRKGA, PSO)
- **Reproducible research:** open code and data, fixed-seed experimental protocols, parallel experiments on high-performance computing (HPC) clusters, archival with DOIs
- **Forecasting and analytics:** time series forecasting (statistical, neural-network and tree-based models), clustering, classification, exploratory data analysis
- **Simulation, supply chains and decision analysis:** simulation-optimization, bullwhip effect, DEA, MCDM
- **Academic management:** strategic plan preparation and execution, project and team management

CURRENT RESEARCH

- Latency location routing problem (LLRP): new metaheuristics, implemented in C++
- Capacitated location routing problem (CLRP): large-scale comparison of metaheuristics
- Browser-based and desktop solvers with learning material for routing problems (LLRP Solver & Learn, CLRP Lab, VRP-Learn)

EDUCATION

PhD in Industrial Engineering, Galatasaray University (GPA: 3.80) 2016 – 2022
Thesis: A Comprehensive Decision-Making Approach to the ATM Cash Flow Management

MSc in Industrial Engineering, Galatasaray University (GPA: 3.83) 2015 – 2016
Thesis: Fuzzy DEA Based Decision Approaches for Supplier Evaluation and Selection

BS in Industrial Engineering, Galatasaray University (GPA: 3.53) 2010 – 2014
Thesis: FOREX Market

BS in Business Management, Istanbul University 2012 – 2018

Galatasaray University is consistently ranked among the top universities in Turkiye, admitting students from the top 0.1% percentile in national exams.

ACADEMIC EXPERIENCE

Assistant Professor, American University of the Middle East (AUM), Kuwait* 02.2023 – present
Courses taught: Systems Simulation, Engineering Economics, Computing in Industrial Engineering, Transforming Ideas to Innovation

- Student development and progress; production and supply chain operations
- Programme accreditation (ABET); internships and graduation projects

Supervised graduation projects

- Used Car Price Evaluation using Artificial Intelligence Techniques
- Online Forecasting Kuwait Stock Market with Alternative Machine Learning Techniques
- Performance Evaluation of Conventional and Islamic Banks in Kuwait using DEA
- Energy Demand and Price Prediction using Computational Intelligence Techniques for Kuwait

** AUM's College of Engineering and Technology (six ABET-accredited programmes) was ranked =278th globally in Engineering & Technology in the QS World University Rankings by Subject 2025.*

Research and Teaching Assistant, Galatasaray University (GSU), Istanbul 2015 – 02.2023

Courses taught: Statistics, System Analysis, Decision Analysis, Production Planning and Control, Production Management

- Strategic plan coordination of the university; communication and relations with external stakeholders; programme accreditation (MUDEK)

Participated research projects

- Estimating Disease Risks with Computational Intelligence Methods
- Scenario Based Applications of Fuzzy Cognitive Maps Method
- Extended Fuzzy Set Based on Parametric and Non-Parametric Statistics in Decision Analysis
- Developing Group Decision Making Approaches Under Uncertainty in Different Sectors
- Analysis of the Concept of Agility in Production and Service Sectors with Decision Support Systems

INDUSTRY EXPERIENCE

Migros Ticaret, Investor Relations Department (a leading Turkish food retailer) 2013 – 2014

- Prepared the annual activity report, identified potential funding assets, benchmarked against other retailers

Yapi ve Kredi Bankasi, Treasury Department (a leading Turkish bank) 2012 – 2013

- Carried out operational functions; tracked syndication and securitization credits and supported internal and external communications

SELECTED PUBLICATIONS

Under review

- Cedolin M., Çanakoğlu E., Bal A. A Bi-objective Priority-Weighted Latency Location-Routing Problem for Pharmaceutical Distribution. *Computers & Operations Research*, under review (second round).

Journal articles

- Cedolin M., Bal A. (2026). A Comprehensive Simulation-Optimization Framework for Pharmaceutical Distribution Networks. *Journal of Industrial and Production Engineering*, 43(3), 338–370.
- Sarıcıoglu A., Genevois M.E., Cedolin M. (2025). Impact of COVID-19 on the Bullwhip Effect Across U.S. Industries. *International Journal of Industrial Engineering: Theory, Applications, and Practice*, 32(3), 751–769.
- Sarıcıoglu A., Genevois M.E., Cedolin M. (2024). Analyzing One-Step and Multi-Step Forecasting to Mitigate the Bullwhip Effect and Improve Supply Chain Performance. *IEEE Access*, 12, 180161–180174.
- Cedolin M., Orhan D., Genevois M.E. (2024). Statistical and Artificial Intelligence Based Forecasting Approaches for Cash Demand Problem of ATMs. *Academic Platform Journal of Engineering and Smart Systems*, 12(1), 21–27.
- Cedolin M., Genevois M.E. (2022). An averaging approach to individual time series employing econometric models: a case study on NN5 ATM transactions data. *Kybernetes*, 51(9), 2673–2694.
- Goker N., Dursun M., Cedolin M. (2020). A novel IFCM integrated distance based hierarchical intuitionistic decision-making procedure for agile supplier selection. *Journal of Intelligent & Fuzzy Systems*, 38(1), 653–662.

Book chapters

- Birlik A.B., Tozan H., Köse K.B., Köse İ., Cedolin M., Erkanlı K., Çakır K. (2025). Exploratory Data Analysis in Cardiac Surgery: Enhancing Risk Prediction with Machine Learning. *Data Processing and Networking, Lecture Notes in Networks and Systems*, Springer, 735–750.
- Bal A., Cedolin M. (2024). Evaluating the Economic Viability of Solid Waste Recycling Facilities: A Stochastic Approach Using Monte Carlo Simulation. *Proceedings of INFUS 2024, Lecture Notes in Networks and Systems*, Springer, 75–82.
- Cedolin M., Genevois M.E., Canbulat Z. (2024). Hepatitis C Diagnosis Using Computational Intelligence Techniques. *Proceedings of INFUS 2024, Lecture Notes in Networks and Systems*, Springer, 29–36.
- Genevois M.E., Cedolin M. (2022). A Comparative Analysis of Forecasting Models on COVID-19. In *New Perspectives in Operations Research and Management Science*, Springer, Cham, 207–232.

Conference papers

- Genevois M.E., Cedolin M. (2024). Cash Demand Prediction Problem using Econometric and Computational Intelligence Forecasting Models. *10th International Conference on Control, Decision and Information Technologies (CoDIT)*, IEEE, 103–108.
- Genevois M.E., Cedolin M. (2019). A comparative study on the economic development level of the countries by fuzzy DEA methodologies. *Advances in Intelligent Systems and Computing*, Springer.

TECHNICAL SKILLS

- **Programming:** C++, Python, R, MATLAB, SQL, Arena and GAMS
- **Optimization:** metaheuristic design and benchmarking, exact validation (dynamic programming, MILP), automatic algorithm configuration
- **Research infrastructure:** parallel experiments on an HPC cluster, Git and GitHub (including GitHub Actions and GitHub Pages), reproducible experimental protocols

PROFESSIONAL MEMBERSHIP AND LANGUAGES

Membership: Institute of Electrical and Electronics Engineers (IEEE), Member

Languages: English (fluent, certified) | Italian (fluent, certified) | Turkish (fluent, certified) | French (fluent, certified)

For detailed information on research, software and the full publication archive, please visit michelecedolin.com