

ISCO 2026 - Conference Program

MAY 6, WEDNESDAY

OPENING 08:45-09:00 | Smyrna Room

PLENARY	Tınaz Ekim 09:00-09:50	Room: Smyrna
	<i>Network Security and Emergency Preparedness: The Defensive Domination Model</i>	
W1 10:00 – 11:15	Parallel Sessions	
Session	Room A — Scheduling I: Job & Machine Scheduling	Chairperson: Alain Quilliot
#23	Minimizing the Total Weighted Completion Time using Restarts <i>Aflatoun Amouzandeh, Rob van Stee</i>	
#7	Job Scheduling under No-Idleness Constraints <i>Alain Quilliot, H�el�ene Toussaint, Philippe Chretienne</i>	
#10	Minimizing the Weighted Makespan <i>Aflatoun Amouzandeh, Klaus Jansen, Lis Piroton, Rob van Stee, Corinna Wambsganz</i>	
Session	Room B — Graph Theory & Tree Algorithms	Chairperson: Mahsa Dalirrooyfard
#12	On the co-k-plex polytopes of trees <i>Alexandre Dupont-Bouillard</i>	
#13	A practical FPT algorithm for Treedepth <i>Ernst Althaus, Jonas Blochwitz</i>	
#17	Cosigning Crossing Families and Outer-Planar Gadgets <i>Ahmad Abdi, Mahsa Dalirrooyfard, Meike Neuwohner</i>	
Session	Room C— Optical Networks & Flows	Chairperson: Francesca Giancola
#4	On lower bounds for the minimum spectrum width for routing and spectrum assignment <i>Victoria Kaial, Annegret K. Wagler</i>	
#97	A Two-stage Chance-Constrained Programming Approach to Wavelength Dimensioning of WDM Networks <i>Haoyuan Xue, Merve Bodur, Maryam Daryalal</i>	
#135	Network Congestion Modeling under Demand Uncertainty via Wardrop Equilibria <i>Yasmine Beck, Francesca Giancola, Ivana Ljubic, Sara Mattia</i>	

COFFEE BREAK 11:15-11:45

W2 11:45 – 13:00	Parallel Sessions	
Session	Room A — Scheduling II: Advanced Models	Chairperson: Giovanni Righini
#6	Parallel Machine Job Scheduling under Tree-Delay Precedence Constraints <i>Alain Quilliot, Djamel Rebaie</i>	
#40	Efficient and fair single-machine scheduling <i>Giovanni Righini</i>	
#56	Branch and Price for Job-Shop Scheduling with Time-Dependent Costs and Cardinality Resource Constraints <i>Marouane Felloussi, Mohammed Ghannam, Jo�ao Dion�sio, Paolo Gianessi, Xavier Delorme</i>	
Session	Room B — Polyhedral Combinatorics I	Chairperson: G�erard Cornu�ejols
#42	On disjunction convex hulls for generalized cross polytopes <i>Yushan Qu, Jon Lee</i>	
#53	The Chv�atal Rank of 2-Dimensional Integer-Free Polyhedra <i>Vrishabh Patil, G�erard Cornu�ejols</i>	
#64	On the Virtual Network Embedding polytope <i>Alexis Schneider, Pierre Fouilhoux, Lucas L�etocart, Nancy Perrot, Amal Benhamiche</i>	
Session	Room C — Matching & Assignment	Chairperson: Kanstantsin Pashkovich
#14	Approximation Algorithms for the b-Matching and List-Restricted Variants of MaxQAP <i>Jiratchaphat Nanta, Vorapong Suppakitpaisarn, Piyashat Sripratak</i>	
#58	The Meta-rotation Poset for Student Project Allocation <i>Peace Ayegba, Sofiat Olaosebikan</i>	
#65	Sequential Linear Contracts on Matroids <i>Kanstantsin Pashkovich, Jacob Skitsko, Yun Xing</i>	

LUNCH 13:00-14:30

W3 14:30 – 15:45	Parallel Sessions	
Session	Room A — Algorithms & Computational Complexity	Chairperson: Juanjo Peir�o
#16	The falsification problem: how hard is it to falsify heuristics? <i>Stefano Huber, Monaldo Mastrolilli, Eleonora Vercesi</i>	
#25	Translocation Distance in Unary Encodings <i>Maria Constantin, Adrian Miclaus, Alexandru Popa</i>	
#72	Exact Block-Decomposition Algorithms for the Generalized Vertex Cover Problem <i>Juan Francisco Correcher, Mercedes Landete, Juanjo Peir�o, Hande Yaman</i>	

Session	Room B — Vehicle Routing & Green Logistics	Chairperson: Elham Jelodari Mamaghani
#36	Time-Dependent Carbon-Aware Electric Vehicle Routing for Last-Mile Delivery <i>Aysenur Bal, Ecem Yavuzdogan, Milad Elyasi</i>	
#104	AI-Guided Multi-Objective Optimization for Green Centralized Collaborative Logistics <i>Elham Jelodari Mamaghani</i>	
#143	An Integrated ALNS–LSP Approach for the Pickup and Delivery Problem with Two Cross-Docks and 3D Loading Constraints <i>Mehmet Asaf Düzen, Vildan Özkır, Umman Mahir Yıldırım</i>	
Session	Room C — Graph Coloring & Combinatorial Structures	Chairperson: Martina Cerulli
#122	Modeling the Colorful Components Problems via Representative Formulations <i>Carmine Sorgente, Martina Cerulli, Claudia Archetti, Diego Delle Donne</i>	
#124	On the Polyhedral Structure of the Split-Interval Coloring Problem <i>Diego Delle Donne, Javier Marenco</i>	
#155	The weak k-metric dimension of $K_n \times K_n$ <i>Mohammad Farhan, Dorota Kuziak, Ismael G. Yero</i>	

COFFEE BREAK 15:45-16:30

W4 16:15 – 17:30 Parallel Sessions		
Session	Room A — Polyhedral Combinatorics II	Chairperson: Zacharie Ales
#92	The Integrality Gap of the Traveling Salesman Problem is $4/3$ if the LP Solution Has at Most $n+6$ Non-Zero Components <i>Tullio Villa, Eleonora Vercesi, Janos Barta, Monaldo Mastrolilli</i>	
#103	Valid Equalities and Dimension of the Optimal Classification Tree Problem <i>Zacharie Ales</i>	
#133	Improving rank inequalities for covering and packing problems <i>Leonardo de Abreu, Manoel Campêlo</i>	
Session	Room B — Heuristics & Approximation	Chairperson: Hande Yaman
#19	Reformulations and Heuristics for the Shortest Positive Path Problem in Signed Digraphs <i>João Sombra, Rafael Andrade</i>	
#88	Approximation schemes for covering and packing mixed-integer programs with a fixed number of constraints <i>Kobe Grobber, Phablo F. S. Moura, Hande Yaman</i>	
#170	A MILP approach to Regular MaxSAT <i>Jordi Coll, Marcelo Finger, Felip Manyà, Sandro Preto, Elifnaz Yangin</i>	
Session	Room C — Production Scheduling & Lot-Sizing	Chairperson: Gökem Yılmaz
#136	A Branch-and-Price Approach for Lot-sizing and Scheduling Problem in Co-Production Systems <i>Eyüp Ensar Işık, Nabil Absi, Semra Ağralı</i>	
#158	Time-Dependent Quality Degradation in Harvest-to-Mill Scheduling: A Mixed-Integer Programming Approach <i>Haluk Ellis, Ozan Pembe, Ayhan Özgür Toy</i>	
#167	Simultaneous Lot Sizing and Scheduling for a Production Planning Problem Including Shift and Overtime Decisions <i>Öykü Özel, Gorkem Yilmaz</i>	

WELCOME RECEPTION 17:30-18:30

MAY 7, THURSDAY

PLENARY	Miguel F. Anjos 09:00-09:50	Room: Smyrna
	<i>Discrete Optimization Models for Electric Vehicle Charging Operations</i>	
Th1 10:00 – 11:15 Parallel Sessions		
Session	Room A — UAVs & Post-Disaster Operations	Chairperson: Selin Özpeynirci
#57	Use of Unmanned Aerial Vehicles for Post-Disaster Response <i>Mert Kara, Selin Özpeynirci, Arya Sevgen Misiç</i>	
#129	Optimized Deployment of UAV-Base Stations in Post-Earthquake Scenarios <i>Safiye Aybala Kılıç, Betül Çoban Yelken, Eda Yücel</i>	
#160	Optimization of Shelter Placement in Post-Disaster Management <i>Mehmet Melikşah Çalışkan, Cemal Bolat, Didem Gözüpek</i>	
Session	Room B — Domination & Security Networks	Chairperson: Tınaz Ekim
#94	A Benders Decomposition Framework for the k-Defensive Domination Problem <i>Bilge Varol, Tınaz Ekim, Kübra Tanınmış</i>	
#98	Exact and Heuristic Methods for Variants of the Secure Domination Problem <i>Burcu Çeştan, Tınaz Ekim</i>	
#114	Minimizing Response Time in District-Based Security Networks via Integrated Policy Comparison <i>Fatih Mehmet Yilmaz, Tınaz Ekim</i>	

Session	Room C — Supply Chain & Logistics Analytics	Chairperson: Bilge Bilgen
#132	Neural Approximate Dynamic Programming for the Ultra-fast Order Dispatching <i>Mucahit Cevik, Merve Bodur, Arash Dehghan</i>	
#96	A Flexible Weight Approach for the Logistics Performance Index Methodology <i>Işıl Can, Özgür Özpeynirci, Sinem Tokcaer</i>	
#105	Olive oil supply chain planning under uncertainty <i>Bilge Bilgen</i>	
Session	Room D — Applied OR in Dispatch, Delivery & Education	Chairperson: İpek Nur Yiyit Yılmaz
#35	Curriculum prioritization in disruptive educational contexts: A solution approach based on the Knapsack Problem with Scheduled Items <i>Valentina Ugalde-Calderón, Jessica Rodríguez-Pereira, Sebastian Dávila-Gálvez, Óscar C. Vásquez</i>	
#93	A Feature Engineering Based Market Prediction for the Traveling Purchaser Problem <i>Aykut Sen, Ilker Kucukoglu</i>	
#154	Scenario-Based Stochastic Last-Mile Pharmaceutical Delivery: MILP Formulation <i>İpek Nur Yiyit Yılmaz, Muhammed Emre Keskin</i>	

COFFEE BREAK 11:15-11:45

PLENARY	Hande Yaman Paternotte 11:45-12:35 <i>Partitioning a Graph into Connected Components</i>	Room: Smyrna
Th2 12:40 – 13:30	Parallel Sessions	
Session	Room A — Optimization under Uncertainty	Chairperson: Frédéric Meunier
#91	Geoffrion's theorem beyond finiteness and rationality <i>Santanu S. Dey, Frédéric Meunier, Diego A. Morán R.</i>	
#99	Interval Optimization under Bounded Capacity Constraints <i>Arthur Mazeyrat, Ammar Oulamara, Tifenn Rault, Ameer Soukhal</i>	
Session	Room B — Finance & Sustainable Investment	Chairperson: Emre Sefer
#137	The Effect of Carbon Emission on Production and Investment Planning <i>İrem Sultan Ünver, Çağrı Koç, Eda Yücel, Bahar Yetiş Kara</i>	
#152	Robust Portfolio Optimization with Return Prediction <i>Burak Kara, Emre Sefer, İhsan Yanıkoğlu</i>	
Session	Room C	
	HEXALY MATHEMATICAL OPTIMIZATION PLATFORM	

LUNCH 13:30-14:30

Th3 14:30 – 15:20	Parallel Sessions	
Session	Room A — Districting & Facility Networks	Chairperson: Alaittin Kırtıçoğlu
#26	A Heuristic Approach for Balanced, Compact and Contiguous Districting <i>Firdawss Bouamlat, Cléa Martinez, Pr. Safa Bhar Layeb</i>	
#175	FalCom: An MCMC Sampling Framework for Districting and Hierarchical Capacitated Facility Location Problems <i>Hemanshu Kaul, Alaittin Kırtıçoğlu</i>	
Session	Room B — Fair & Online Combinatorial Optimization	Chairperson: Manzurul Hasan
#134	An Exact Method for Fair Influence Maximization <i>Kübra Tanınmış, Meryem Şırmak</i>	
#63	Expected Cost of Greedy Online Facility Assignment on Regular Polygons <i>Rawha Siddiqi Riad, Tanzeem Rahat, Manzurul Hasan</i>	
Session	Room C — Drones: Data Collection & Routing	Chairperson: Fatiha Bendali
#159	A Drone-Based Multi-Warehouse Vehicle Routing Model for Post-Disaster Emergency Supply Distribution <i>Onat Düzgün, Selin Özpeynirci, Arya Sevgen Misiç, Ozan Baran Demirçivi</i>	
#164	A mixed-integer linear programming model for data collection with a drone avoiding obstacles <i>Yuankang Hu, Fatiha Bendali, Jean Mailfert, Christophe Cariou, Laure Moiroux-Arvis</i>	
Session	Room D — Pharmaceutical Logistics	Chairperson: İhsan Sadati
#95	A Pre-processing Approach for Integrated 3D Bin Packing Problem in Pharmaceuticals <i>Seray Çakırgil, Elif Atar, Eda Yücel</i>	
#120	Specimen Collection Problem with Multiple Facilities and Batch Deliveries <i>İhsan Sadati, Halenur Şahin, Sibel Salman, Eda Yücel</i>	

Ephesus Tour and Temple of Artemis 15:30-19:15

GALA DINNER 19:45

MAY 8, FRIDAY

MAY 8, FRIDAY		
PLENARY	Sebastian Pokutta 09:00-09:50	Room: Smyrna
When Algorithms Learn: Discrete Optimization Meets Machine Learning		
F1 10:00 – 11:15	Parallel Sessions	
Session	Room A — Spanning Trees & Graph Dynamics	Chairperson: Massinissa Merabet
#30	Cycle Basis-Driven ILP Bounds for the Minimum Branch Vertices Spanning Tree Problem <i>Massinissa Merabet, Matthieu Desprez</i>	
#108	A Simple Backtracking Algorithm for Solving the Minimum Spanning Tree Problem with Disjunctive Conflict Constraints <i>Murat Umut İzer, Temel Öncan, İ. Kuban Altınel</i>	
#139	Effects of Density Changes on a Novel Graph Burning Algorithm <i>Arianne Nantel, Arda Utku, Erin Meger</i>	
Session	Room B — Transport & Healthcare Scheduling	Chairperson: Sven Mallach
#39	Electric Bus Scheduling and Charging Problem with Parking Constraints: Model and Heuristic <i>Amira Bendjebba, Ammar Oulamara, Lhassane Idoumghar, Michel Basset</i>	
#43	Integrating crew scheduling and crew rostering for rail freight with train delays <i>Héloïse Gachet, Frédéric Meunier, Juliette Pouzet</i>	
#51	A new modeling approach to elective surgery scheduling <i>Sven Mallach</i>	
Session	Room C — Network Analytics	Chairperson: Carmine Sorgente
#125	Anonymizing networks via mathematical programming <i>Raffaele Cerulli, Ivana Ljubić, Carmine Sorgente</i>	
#22	Minmax sink location problem on path networks with capacitated sinks <i>Jannatul Maowa, Robert Benkoczi</i>	
#138	Robustness of Centrality-Based Influence Maximization under Structural Noise <i>Melike Karatay, Yasemin Demirel, Fidan Nuriyeva, Onur Uğurlu</i>	
COFFEE BREAK 11:15-11:45		
F2 11:45 – 13:00	Parallel Sessions	
Session	Room A — MIP, Decomposition & Structured Optimization	Chairperson: Mercedes Landete
#70	Solving convex quadratic optimization with indicators over structured graphs <i>Aaresh Bhathena, Salar Fattahi, Andrés Gómez, Simge Küçükyavuz</i>	
#90	Some formulations for the capacitated dispersion problem <i>Juanjo Peiró, Mercedes Landete, Hande Yaman</i>	
#163	Subproblem Solving in Benders Decomposition for Affine Potential-Based Flow Problems with Topology Switching and Robustness Scenarios <i>Tim Donkiewicz, Oliver Gaul</i>	
Session	Room B — Assignment & Preference-Based Optimization	Chairperson: Malek Mouhoub
#61	GPU-Accelerated Harris Hawks Optimization with Robust Tabu Search for Solving Quadratic Assignment Problems <i>Cem Serimer, Deniz Cantürk</i>	
#156	Preference-Based Combinatorial Optimization <i>Malek Mouhoub</i>	
#173	Polyhedral Analysis of an Envy-Free Assignment Problem <i>Pierre Fouilhoux, Eric Gourdin, Roland Grappe, Jules Nicolas-Thouvenin, Emilie Sirvent-Hien</i>	
Session	Room C — AI, LLMs & Machine Learning in OR	Chairperson: Sebastian Pokutta
#32	Global Optimization for Combinatorial Geometry Problems Revisited in the Era of LLMs <i>Timo Berthold, Dominik Kamp, Gioni Mexi, Sebastian Pokutta, Imre Polik</i>	
#37	Automatic Value Optimization and Semantic Option Matching in Sports Betting Markets using Vector-Based Logical Containment Framework <i>Osman Dogukan Kefeli, Dogugun Özkaya, Serdar Eric, Gokhan Ince</i>	
#171	Large Language Models in Job Shop Scheduling: A Structured Analysis of Current Approaches <i>Hasan Demir, Deniz DEMİRKAN, Kürşat Mustafa Karaoğlan, Hakan Kutucu</i>	
CLOSING 13:00-13:20 Smyrna Room		
LUNCH 13:20		