9th International Symposium & 31st National Conference on Operational Research (HELORS 2 0 2 3)
June 29-30 and July 1, Athens, Greece

Programme

CONFERENCE PROGRAM – DAY OVERVIEW
Thursday, June 29, 2023
University of West Attica Conference Center, Ancient Grove Campus
20 min of Presentation + 5 min of Q/A

09:00 – 11:00	Registration
11:00 –11:20	**Opening and welcome address** (Central Amphitheatre) *Isaak Vryzidis, Dimitrios Em. Alexakis, Vassilios C. Moussas*
11:20 – 11:30	**HELORS Awards and Prizes** (Central Amphitheatre) *Nikolaos Matsatsinis*
11:30 – 12:30	**Invited Plenary Speaker** (Central Amphitheatre) *Professor Christos H. Papadimitriou*

12:30 – 12:45	**Coffee Break**

12:45 – 14:30	**Parallel Sessions**

Session 1 Room 1	**Decision Making Applications**	*Chair: Takis Varelas*

12:45 – 13:10	MCDA in the Context of Health Technology Assessment (HTA). *Ioannis Agorastos, Elpida Pavi and Kostas Athanasakis*
13:10 – 13:35	A discount-enabled mixed integer linear programming model with discrete states of changeover costs for the production planning of a steel tube mill. *Paraskevas Georgiou and Nikolaos Tsaparas*
13:35 – 14:00	Optimizing complexus Bunkering Plan Plan B. *Artemis Flori, Dimitris Kaklis and Takis Varelas*
14:00 – 14:30	Turn Benefit of Doubt to trustworthiness of MCDA. *Takis Varelas, Dimotikalis John, Dimitris Kaklis, Sofia Archontaki and Artemis Flori*

Session 2 Room 2	**Data Envelopment Analysis and Data Analysis**	*Chair: Maria Trnovska*

12:45 – 13:10	Advanced preprocessing methods for large-scale Data envelopment analysis. *Terézia Fulová, Mária Trnovská and Lenka Filová*
13:10 – 13:35	Utilizing Process Mining Techniques to Improve Chemotherapy Treatment for Breast Cancer Patients. *Fatin Ramli*
13:35 – 14:00	Prospects from a European Study on OR/MS Education - The Transition of Graduates onto the Labor Area. *Joao Luis de Miranda*
14:00 – 14:30	Path-based models in Data envelopment analysis. *Maria Trnovska and Margareta Halicka*

Session 3 Room 3	**Operations Management & Optimization**	*Chair: Iris Forma*

12:45 – 13:10	Treatment effect estimation of initial attack activities in wildfire suppression. *Mostafa Rezaei, Ilbin Lee and Jen Beverly*
13:10 – 13:35	An Iterative Matheuristic for the Traveling Purchaser Problem with Fast Service Option. *Mustafa Avci*
13:35 – 14:00	Building Wildfire Resilience into the Forest Road Network Design. *Mualla Gonca Avci*
14:00 – 14:30	Maximizing Company Profit through Employee Retention: A bi-level Optimization Approach. *Iris Forma, Inbal Singer, Yossi Bukchin, Gonen Singer and Hila Chalutz-Ben Gal*

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14:30 -15:15	Lunch

15:15 – 17:00	Parallel Sessions

Session 4 Room 1	OR in Energy	Chair: Haris Doukas

15:15 – 15:40	Sustainable investment in the building sector: A critical review of financing tools and methods. *Ioanna Andreoulaki, Aikaterini Papapostolou, Charikleia Karakosta, Filippos Dimitrios Mexis and John Psarras*
15:40 – 16:05	An integrated indexing system for assessing the climate resilience of buildings. *Elissaios Sarmas, Eustathios Stamatopoulos, Katerina Forouli and Vangelis Marinakis*
16:05 – 16:30	Invastigating a Building Typology for Supproting Renovation Investments. *Aikaterini Papapostolou, Ioanna Andreoulaki, Konstantinos Touloumis, Panagiotis Kapsalis and John Psarras*
16:30 – 17:00	A data-driven methodology for optimizing power recharging management. *Eustathios Stamatopoulos, Elissaios Sarmas and Haris Doukas*

Session 5 Room 2	OR and Digital Business	Chair: Dimitris Papakyriakopoulos

15:15 – 15:40	Factors influencing Greek consumers' willingness-to-pay for online streaming services. *Georgios Katsamperis, Maria Kamariotou and Fotis Kitsios*
15:40 – 16:05	Customer satisfaction and online ratings in the tourism sector: An evaluation of MUSA on Greek islands. *George Okantaridis, Maria Kamariotou and Fotis Kitsios*
16:05 – 16:30	Public crisis response strategy and innovation performance: Perceptions on digital transformation during COVID-19. *Fotis Kitsios, Evangelia Nousopoulou and Maria Kamariotou*
16:30 – 17:00	Network theory for market basket analysis: A Do-It-Yourself home improvement retail case. *Dimitris Papakyriakopoulos and Anastasia Griva*

Session 6 Room 3	Data Analysis	Chair: Vassilis Kostoglou

15:15 – 15:40	Forecasting Models and Subjective Predictions in the Forecasting of Pharmaceutical Market Demand. *Dimitrios Kallivokas, Stavros Tzevelekis*
15:40 – 16:05	Tackling the Balance of Performance (BoP) Debate in Motorsports: Development and Simulated Application of Algorithm for BoP Scheme Evaluation and Adjustment. *Angelos Kottas, Michail Bozoudis and Michael Madas*
16:05 – 16:30	Benchmarking of European Countries in terms of sustainability: A DEA approach. *Magda Benjelloun Arabi and Michael Madas*
16:30 – 17:00	Climate change opinion analysis on tweets using machine learning techniques. *Maria Papaeftymiou, Georgios Tsaples, Jason Papathanasiou and Vassilis Kostoglou*

17:00 -17:15	Coffee Break

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17:15 – 19:00   Parallel Sessions

Session 7 Room 1	**MCDA and Decision Support Systems**	*Chair: Nikos Tsotsolas*

17:15 – 17:40	Generating criteria in a Decision Support System for use in Circular Economy Decisions. *Lykourgos Lalis, Nikos Tsotsolas*
17:40 –18:05	Towards the application of Multi-Criteria Decision-Making (MCDM) approaches in Corporate Risk Disclosure. *Iakovina Kanellopoulou, Nikos Tsotsolas*
18:05 –18:30	The application of Supply Chain Operations Reference (SCOR) model with Multi-Criteria Decision-Making (MCDM) methods in the Agri-food sector: A systematic literature review. *Georgios Sidiropoulos, Vasileios Zeimpekis, Nikos Tsotsolas*
18:30 – 19:00	Towards the development of a MCDA DSS supporting the evaluation of agri-food products at B2B and B2C level. *Nikos Tsotsolas, Georgios Sidiropoulos, Eleni Koutsouraki, Aspasia Antonakaki, Achilleas Kontogeorgos, Angelos Patakas*

Session 8 Room 2	**Multi-Criteria Decision Analysis**	*Chair: Athanasios Spyridakos*

17:15 – 17:40	Evaluation of earthquake vulnerability of existing buildings: Towards a Multi-Criteria Decision Aid Approach. *Isaak Vryzidis, Konstantinos Repapis and Pnevmatikos Nikos*
17:40 –18:05	A multicriteria assessment of alternative structural and anti-seismic solutions for buildings design considering sustainability factors. *Zoi Staikou, Konstantinos Repapis and Isaak Vryzidis*
18:05 –18:30	Applying Multicriteria value systems for the estimation of global environmental footprint in refractories. *Athanasios Spyridakos, Dimitrios Alexakis, Isaak Vryzidis, Nikolaos Tsotsolas, George Varelidis and Efthimios Kagiaras*
18:30 – 19:00	Multicriteria approach for the assessment of water lakes ecological status. *Athanasios Spyridakos, Dimitrios Alexakis, Isaak Vryzidis and Constantin Zopounidis*

20:00 –	**Gala Dinner**

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Friday, June 30, 2023
University of West Attica Conference Center, Ancient Grove Campus
20 min of Presentation + 5 min of Q/A

09:30 – 11:10	**Parallel Sessions**

Session 9 Room 1	**Mathematical Modeling & Optimization**	*Chair: Sergiy Yakovlev*

09:30 – 09:55	The Coordinate Method of Solving Multi-Objective Problems Optimization on the Combinatorial Configuration on Permutations. *Liudmyla Koliechkina, Olena Dvirna, and Oksana Pichugina*
09:55 – 10:20	New Classes of Polynomially Solvable Permutation-based Linear Optimization Problem. *Oksana Pichugina, Sergiy Yakovlev, Liudmyla Koliechkina and Iryna Yakovleva*
10:20 – 10:45	Sustainability Factors Affecting Manual Assembly Lines. *Rhitankar Saha Roy, Mahdi Bashiri and Benny Tjahjono*
10:45 – 11:10	Mathematical Modeling and Solving of Maximum Coverage Location Problem with Irregular Geometric Items. *Sergiy Yakovlev, Adam Wojciechowski, Dmytro Podzeha and Iryna Yakovleva*

Session 10 Room 2	**Urban Planning and Sustainability**	*Chair: George Varelidis*

09:30 – 09:55	Urban Accessibility and Walkability: Current Approaches and Future Prospects. *Athina Mela, Isaak Vryzidis and George Varelidis*
09:55 – 10:20	Integration of Passenger Unmanned Aerial Vehicles (UAVs) in Urban Areas Transportation. *Nektarios Fotios Pouresfantiani Karagiannis, Vassilios Moussas and Isaak Vryzidis*
10:20 – 10:45	Opening the agenda for proposing standards on "sustainability proofing" of inland transport infrastructure investments and networks, targeting Resilience. *Ioulia Moraitou*
10:45 – 11:10	Introducing a "Smart" Urban Governance concept through novel policy and process holistic approaches. *Ioulia Moraitou, Georgios Varelidis*

Session 11 Room 3	**Organizational Processes**	*Chair: Angelos L. Protopapas*

09:30 – 09:55	Modelling and deployment of Internal Affairs processes for automated anti-corruption reactive measures. *Konstantinos Dimitriadis, George Fakidis, George Tsakalidis and Kostas Vergidis*
09:55 – 10:20	Advanced integrated systems in Non-Governmental Organizations. *John Issaris*
10:20 – 10:45	A Tool for Automated Assessment of Organizational Business Processes. *George Fakidis, George Tsakalidis, Michael Madas and Kostas Vergidis*
10:45 – 11:10	Agent-based Modeling Social Systems – The Case of COVID-19. *Angelos L. Protopapas, Eudokia T. Mitsou and Eleftheria N. Katsiri*

11:10 – 11:30	**Coffee Break**

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11:30 – 13:10	**Parallel Sessions**

Session 12 Room 1	**OR in Social Care Management**	*Chair: George Pierrakos*

11:30 – 11:55	The risk of poverty and social exclusion for single-parent families and big families during the crisis. *Dimitra Melidi, Dimitra Latsou, Chrysostomos Natsis, Anastasios Sepetis and George Pierrakos*
11:55 – 12:20	Sustainable Development without exclusions (Agenda 2030 for Sustainable Development to''Leave No One Behind'') with emphasis on social protection in Greece. *Eleni Apostolos Karanasiou, Anastasios Sepetis, Vasileios Kormazos, Aspasia Goula, George Pierrakos and Konstantinos Dalakouras*
12:20 – 12:45	Sustainable Local Development without exclusion: A case study on social protection programmes within the region of Athens. *Anastasia Kremmida, Anastasios Sepetis, George Pierrakos and Aspasia Goula*
12:45 – 13:10	Sustainable local development without exclusive: a focus on migration social policy in Greece. *Eleni Karanasiou, Anastasios Sepetis, Aspasia Goula, George Pierrakos and Konstantinos Dalakouras*

Session 13 Room 2	**Environmental Management**	*Chair: Dimitrios Dimitriou*

11:30 – 11:55	Climate change mitigation and adaptation in the public sector: placing municipal enterprises in the heart of the problem *George Stravodimos, Apostolis Arsenopoulos, Anastasia Spanou, Sofoklis Strobolas, Ioannis Georgizas and Theodora Andrinopoulou*
11:55 – 12:20	An integrated framework of Sustainability Balanced Scorecard with neutrosophic AHP for smart port performance evaluation. *Antonios Paraskevas and Michael Madas*
12:20 – 12:45	A multi-criteria decision methodology for academic staff selection in a neutrosophic environment. *Antonios Paraskevas and Michael Madas*
12:45 – 13:10	Sustainability Performance Evaluation based on a Contract Theory Perspective. *Aristi Karagkouni, Maria Sartzetaki and Dimitrios Dimitriou*

Session 14 Room 3	**OR in Structural Engineering**	*Chair: Aristotelis E. Charalampakis*

11:30 – 11:55	Performance of a Concrete Crack Detection Tool using Convolutional Neural Networks (CNN). *Dionisios Nikolopoulos, Moussas Vassilios and Vryzidis Isaak*
11:55 – 12:20	Multi-Criteria Decision Analysis: Presentation and Comparison of Methods. *Pantelis Broukos, Zafiris Dimitriadis, Georgios Hatzigeorgiou and Nikos Pnevmatikos*
12:20 – 12:45	Heuristic optimization design of Reinforced Concrete Retaining Walls. *Foteini Konstandakopoulou, Maria Tsimirika, Nikos Pnevmatikos and George Hatzigeorgiou*
12:45 – 13:10	Discrete Optimization of Truss Structures using Differential Evolution: A Preliminary Investigation. *Aristotelis E. Charalampakis, Isaak Vryzidis and Constantinos C. Repapis*

13:10 – 14:15	**Lunch**

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14:15 – 16:00   Parallel Sessions

Session 15 Room 1	**OR Applications I**	*Chair: Christos Gogos*

14:15 – 14:40	Estimator comparison for the prediction of election results and applications. *Papageorgiou Georgios and Miltiadis Chalikias*
14:40 – 15:05	Energy Market Volatility Modeling and Forecasting *Maria Tantoula, Konstantinos Gkillas and Christina Diakaki*
15:05 – 15:30	A quadratic assignment formulation for minimizing power consumption in deep submicron technology buses. *Konstantinos Papalamprou and Leonidas Pitsoulis*
15:30 – 16:00	Industrial chocolate production as an optimization problem. *Christos Gogos, Christos Valouxis, Panayiotis Alefragkis and Alexios Birbas*

Session 16 Room 2	**Logistics**	*Chair: Vasileios Zeimpekis*

14:15 – 14:40	Solving the van-drone routing problem with multiple delivery drop points. *Eleftherios Athanasiadis, Vasilis Koutras and Vasileios Zeimpekis*
14:40 – 15:05	Surveillance in Logistics Facilities and Ports via UAVs Using YOLOv3 Algorithm *Georgios Tepteris, Konstantinos Mamasis and Ioannis Minis*
15:05 – 15:30	Comparative assessment of alternative order picking technologies: Evidence from laboratory experiments *Nikolaos Chondromatidis and Vasileios Zeimpekis*
15:30 – 16:00	Adopting Unmanned Aerial Vehicles (UAVs) for real-time stock count process in warehouse facilities: Evidence from experimental. *Nikolaos Christoforos Thomaidis and Vasileios Zeimpekis*

16:00 – 16:15   Coffee Break

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16:15 – 18:00	Parallel Sessions

Session 17 Room 1	**OR and Customer Satisfaction**	*Chair: Evangelos Grigoroudis*

16:15 – 16:40	A Multicriteria DSS for Spatial Consumers Satisfaction Analysis. *Anastasia Saridou, Athanasios Vavatsikos and Evangelos Grigoroudis*
16:40 – 17:05	Key Performance Indicators in the Retail Sector: A Literature Review. *Anastasia Saridou, Aristi Karagkouni, Athanasios Vavatsikos and Dimitrios Dimitriou*
17:05 – 17:30	Robustness in ordinal regression analysis: The effect of additional constraints on the MUSA method. *Stratos Kartsonakis and Evangelos Grigoroudis*
17:30 – 18:00	Marketing strategies based on multicriteria analysis of consumer behavior: The case of a cosmetics company. *Nikolaos Kalogerakis, Fotini Kalafati, Efstathios Gerampinis and Nikolaos Matsatsinis*

Session 18 Room 2	**OR in Educational Management**	*Chair: Yannis Psaromiligkos*

16:15 – 16:40	The statistical investigation of the diffusion of knowledge within the learning organizations as a factor in creating an innovative student-centered model of education. *Evangelia Kossieri, Iro Mylonakou Keke and Athanasios Spyridakos*
16:40 – 17:05	Barometer of teachers' satisfaction in terms of the organization and operation of the educational system. *Sofia Meretaki*
17:05 – 17:30	Teacher contentment as regards State Support, Recruitment and Intergration in Schools. *Xristina Kouroukli, Ioanna - Antonia Roussou*
17:30 – 18:00	Exploring the Trainers' Digital Competences of Public Vocational Training in Greece during COVID-19 period. *Dimitrios Kiriakos, Christos Kytagias, Kalliopi Rigopouli, Anastasia Themeli and Yannis Psaromiligkos*

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CONFERENCE PROGRAM – DAY OVERVIEW
Saturday, July 1, 2023
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20 min of Presentation + 5 min of Q/A

10:00 – 11:40	**Parallel Sessions**

Session 19 Room 1	**OR and Covid-19**	*Chair: Vryzidis Isaak*

10:00 – 10:25	The Impact of the COVID-19 Pandemic on the Digital Transformation of SMEs: An Empirical Study. *Christos Ziakis*
10:25 – 10:50	Consumption behaviors and COVID-19 revealed through credit cards usage. *Chloe Kim*
10:50 – 11:15	Designing optimal mitigation strategies for COVID-19 with the prevention effects and the economic consequences in Korea: an optimization. *Chansoo Kim, Haneol Cho and Kyu-Hwan Lee*

Session 20 Room 2	**MCDA in Education: Enhancing Decision-Making and Educational Quality (Special Session)**	*Chair: Christos Troussas*

10:00 – 10:25	An Adaptive Weighted Sum Model for Assessing Learning Content in E-Learning Systems. *Christos Troussas, Akrivi Krouska, Phivos Mylonas, Cleo Sgouropoulou*
10:25 – 10:50	A Comprehensive Analysis of E-Learning Material Personalization: An Investigation of AHP, TOPSIS, and PROMETHEE within Multiple Criteria Decision Analysis. *Christos Troussas, Akrivi Krouska, Phivos Mylonas, Cleo Sgouropoulou*
10:50 – 11:15	Enhancing Learner Engagement in E-Learning through Weighted Sum Model-based Adaptive Recommendations. *Christos Troussas, Akrivi Krouska, Phivos Mylonas, Cleo Sgouropoulou*
11:15 – 11:40	Evaluating the Effectiveness of E-Learning Platforms: A Weighted Sum Model Perspective. *Christos Troussas, Akrivi Krouska, Phivos Mylonas, Cleo Sgouropoulou*

Session 21 Room 3	**OR Applications II**	*Chair: Petros Kalantonis*

10:00 – 10:25	Mission Planning for Heterogeneous Agile Earth-Observation Satellites Virtual Constellation. *Wasanchai Vongsantivanich, Supatcha Chaimatanan, Jer Ling and Daniel Delahaye*
10:25 – 10:50	The retail interest rate pass-through in Algeria. *Mohamed Benbouziane and Zoheir Tafer*
10:50 – 11:15	A revisit of the purchasing power parity in the Maghreb countries: A nonlinear perspective. *Rabia Meriem Benbouziane, Abdelhak Benamar and Mohamed Benbouziane*
11:15 – 11:40	Board Diversity and Firm Performance: Evidence from retail industry firms in Europe. *Marios Sotiropoulos and Petros Kalantonis*

11:40 – 12:00	**Closing session** (Central Amphitheatre)