

40th International Conference on Mathematical Methods in Economics

September 7th - 9th, 2022, Jihlava

Conference is held under auspices of



College of Polytechnics
Jihlava



Czech Society for
Operations Research



Czech Econometric
Society

PROGRAMME

1. Information for participants [here](#)
2. General schedule [here](#)
3. Detailed programme [here](#)

Tuesday, September 6th 2022

18:00-19:30 Registration of participants

Wednesday, September 7th 2022

08:30 - 10:00 Registration of participants

10:00 - 12:00 Opening ceremony, plenary session

- MS Teams-A [Aula – link](#)

12:00 - 13:00 Lunch (Canteen – opened 11:15-13:30)

13:00 - 16:30 Parallel sessions

- MS Teams-A [Aula – link](#)
- MS Teams-B [P3 – link](#)
- MS Teams-C [P4 - link](#)

17:00 - 18:00 Meeting of the Czech Society for Operations Research

18:30 - 21:30 Welcome evening at the College of Polytechnics Jihlava

Thursday, September 8th 2022

08:30 - 12:00 Registration of participants

09:00 - 12:30 Sessions including PhD students' competition

- MS Teams-A **Aula – link**
- MS Teams-B **P3 – link**
- MS Teams-C **P4 - link**

12:30 - 13:30 Lunch (Canteen – opened 11:15-13:30)

13:30 - 18:00 Conference trip/Social programme

- 1.programme: ZOO (guided tour) + the church of St. Jacob + Underground
- 2.programme: ZOO (guided tour) + Brewery
- 3.programme: The church of St.Jacob + Underground + Brewery
- 4.programme: Gustav Mahler House + the church of St.Jacob + the Gate of Holy Mother

19:00 - 22:00 Conference dinner – **Radniční restaurant**

Friday, September 9th 2022

09:00 - 09:30 Morning coffee

09:30 - 11:00 Sessions

- MS Teams-A **Aula – link**
- MS Teams-B **P3 – link**

11:15 - 12:15 Lunch (Canteen – opened 11:15-13:30)

12:00 - 18:00 Possibility to attend Jihlava Zoo (free tickets available at registration during 3 conference days)



TUESDAY 6. 9. 2022

CONFERENCE PROGRAMME

18:00 - 19:30 **Registration**
(registration will continue during the conference)

WEDNESDAY 7. 9. 2022

CONFERENCE PROGRAMME

08:30 - 10:00 **Registration**
(registration will continue during the conference)

08:30 - 10:00 **Morning coffee** Near registration place



10:00 - 10:15 **Opening Session**

New Lecture Center

Martina Kuncová (Organizing Committee) - organization information
Zdeněk Horák, rector of the College of Polytechnics Jihlava

10:15 - 11:00 **Plenary Session I.**

MS Teams Support: Martina Chalupová

New Lecture Center

Jan Brůha

Labour Market Composite Indexes: Formulation, Estimation, and Implications

11:00 - 11:45 **Plenary Session II.**

MS Teams Support: Martina Chalupová

New Lecture Center

Sebastiano
Vitali

Stochastic optimization and stochastic dominance in Asset and Liability Management models

11:45 - 12:00 **Conference instructions and invitation**

MS Teams Support: Martina Chalupová

New Lecture Center

Martina
Kuncová,
Petr Jiříček

MME instructions; Invitation to conference Competition 2023 dedicated to Schumpeter

12:00 - 13:00 **Lunch** VŠPJ Canteen



13:00 - 14:30 Session W-A1

Old Auditorium

Chair: František Zapletal

MS Teams Support: Martina Chalupová

ID 987	Martin Branda	Optimal scheduling of loading/unloading vehicles in depots
ID 6472	Dušan Hrabec, Dominik Závada and Vlastimír Nevrlý	Time-dependent vehicle routing problem for waste collection
ID 6723	Tereza Sedlářová Nehézová and Robert Hlavatý	Robust optimization approach in travelling salesman problem with service time
ID 7273	Ondřej Sokol, Vladimír Holý and Jan Pelikan	A Sightseeing Tour That Maximizes Efficiency
ID 7661	František Zapletal, Petr Kozel and Lucie Chytilová	Waste collection vehicle routing using smart reports on the utilization of bin capacities

13:00 - 14:30 Session W-B1

P3

Chair: Miroslav Žižka

MS Teams Support: Jakub Dostál

ID 8281	Xiaoshan Feng	How Do Risk Appetite and Size Matter for Banking Credit Risk Management?
ID 8794	Eva Štichhauerová and Miroslav Žižka	The effect of business clustering on scale efficiency
ID 3890	Natalie Pelloneová and Michal Tomíček (ONLINE)	Measuring the efficiency of football players by DEA model
ID 2369	Natalie Pelloneová (ONLINE)	Measuring the Performance of Czech Cluster Organizations: Malmquist Index Approach
ID 5091	Michal Krejčí and Michaela Staňková (ONLINE)	The Position of the Czech Republic within the Metallurgical Sector

13:00 - 14:30 Session W-C1

P4

Chair: Quang Van Tran

MS Teams Support: Marie Slabá

ID 3737	Jana Heckenbergerová and Irena Honková	Is there any dependence between a football club's financial health and its first league performance?
ID 9894	Marie Šimpachová Pechrová and Ondřej Šimpach	Stakeholder's Support by Agricultural Holdings: Analysis of Determinants by Logit Model
ID 772	Jan Kalina and Patrik Janáček (ONLINE)	A Bootstrap Comparison of Robust Regression Estimators
ID 8413	Michaela Chocholata (ONLINE)	Volatility of Corn Futures with Markov Regime Switching GARCH Model
ID 3731	Quang Van Tran and Jiří Málek	VAR and CVaR of Czech Financial Assets Returns Using GARCH models with Heavy Tails Distributions

14:30 - 15:00 **Coffee Break** Near registration place



15:00 - 16:30 **Session W-A2**

Old Auditorium

Chair: Miloš Kopa

MS Teams Support: Martina Chalupová

ID 1414	Pavla Říhová and Milan Svoboda	Is the Czech capital market weak form efficient?
ID 1541	Adam Borovička	Impact of the incoming pandemic on investment decision discussed through a weighted moving mean-absolute negative deviation model
ID 6542	Andrea Čížků	Potential Output during Great Recession and Covid-19 Crisis
ID 6478	Juraj Pekár, Ivan Brezina and Marian Reiff	Identification of Investment Strategies for Portfolio Selection Utilizing the Markov Switching Model and Optimization Model of Portfolio Selection with Conditional Value at Risk
ID 8703	Miloš Kopa	Stochastic dominance constrained portfolio optimization with distortion risk measures
ID 9451	Audrius Kabašinskas, Miloš Kopa, Kristina Šutienė, Aidas Malakauskas and Aušrinė Lakštutienė	Performance evaluation of Lithuanian II pillar pension funds using rolling window technique

15:00 - 16:30 **Session W-B2**

P3

Chair: Markéta Matulová

MS Teams Support: Jakub Dostál

ID 9929	Jakub Hanousek	Evaluation of the health condition and medical resources in the municipalities in the Czech Republic
ID 8741	Martin Dlouhý (ONLINE)	Non-homogeneity in data envelopment analysis and reference set restrictions
ID 4225	Martin Flegl and Eva Selene Hernández Gress (ONLINE)	Data Envelopment Analysis – Vehicle Routing Problem op-timization for the inter-municipal cooperation in the public security
ID 2012	Barbora Staňková and Hana Stojanová (ONLINE)	Secondary education efficiency in selected countries
ID 6189	Markéta Matulová and Hana Fitzová	Robust efficiency analysis of Czech and Slovak universities

15:00 - 16:30 Session W-C2

P4

Chair: František Koblasa

MS Teams Support: Marie Slabá

ID 1810	Jiří Hozman and Tomáš Tichý	Numerical valuation of the investment project flexibility based on the PDE approach: An option to contract
ID 370	Anna Łyczkowska-Hanćkowiak and Aleksandra Wójcicka-Wójtowicz (ONLINE)	The impact of COVID19 lockdown on imprecision indexes of TrOFNs portfolio analysis
ID 5442	Havazík Ondřej, Pavlíčková Petra and Rydval Jan	Model design for team roles in agile IT projects
ID 6291	Petr Fiala and Renata Majovská	Closed-loop supply chain coordination by contracts
ID 4226	František Koblasa and Miroslav Vavroušek	Facility Layout Problem with logistic constraints

16:30 - 17:00 Coffee Break Near registration place



17:00 - 18:00 General meeting CSOR (Valná hromada ČSOV)

Old Auditorium

18:30 - 21:30 Welcome party at the College of Polytechnics Jihlava

Near Lecture Center

09:00 - 10:30 Session T-A1 Ph.D. Competition

Old Auditorium

Chair: Petr Fiala

MS Teams Support: Stanislav Rojčík

ID 2867	Lukáš Veverka	The Optimal Settings of a Genetic Algorithm for Variable Selection in a Non-linear Time Series Model
ID 3059	Michal Tomíček	Measuring the Efficiency of English Football Clubs: Empirical Evidence from Professional Football
ID 8237	David Neděla	Application of ARMA–GARCH Returns Generation in Portfolio Selection Process
ID 8262	Anna Selivanova	Application of a System Dynamics model of recovery
ID 9512	Pavel Šálek	EU Artificial intelligence Act in banking sector: Impact and implementation
ID 4023	Petr Pokorný (ONLINE)	Reverse Channel Competition in a Dual Sustainable Closed-Loop Supply Chain

09:00 - 10:30 Session T-B1

P3

Chair: Dušan Teichmann

MS Teams Support: Ivana Oľivková

ID 1588	Jakub Cíleček, David Mičulka and Dušan Teichmann	Mathematical Model for Allocation of Aircraft on Airport's Apron
ID 5999	Jiri Horinka, Dusan Teichmann and Lenka Kontrikova	Mathematical model for air carrier irregularity operation management under conditions of partial uncertainty
ID 9711	Tomáš Majer and Dalibor Gonda	MILP model of crew scheduling in public bus transport
ID 6905	Tomáš Majer and Dalibor Gonda	Grouping Genetic Algorithm application while minimizing the risk of connection delays
ID 8707	Dusan Teichmann, Denisa Mockova, Michal Dorda, Pavel Edvard Vancura, Ivana Oľivkova and Vojtech Graf	Design of Optimization Model for Network Coordination of Public Transport Connections with Periodically Alternating Headway

09:00 - 10:30 Session T-C1

P4

Chair: David Bartl

MS Teams Support: Andrea Kubišová

ID 7864	Diana Bílková	Application of L-Moments into Labour Market Data Analysis: Czech Sectors with the Lowest Earnings
ID 2769	Nikola Kaspříková (ONLINE)	Single sampling LTPD plans for inspection by variables with known standard deviation
ID 4256	Helena Myšková	Weak solvability of interval max-min matrix equations
ID 6890	Monika Molnárová	On the ordering of cycles in the threshold digraphs of concave Monge matrices in max-min algebra with respect to robustness
ID 4907	David Bartl and Jaroslav Ramík	Indices of Desirable Properties of a Pairwise Comparison Matrix with Fuzzy Elements

10:30 - 11:00

Coffee Break Near registration place



11:00 - 12:30

Session T-A2
Ph.D. Competition

Old Auditorium

Chair: Petr Fiala

MS Teams Support: Stanislav Rojík

Ph.D. Competition Committee Petr Fiala, Helena Brožová, Miroslav Žížka, Jana Klicnarová, František Zapletal, Petr Suchánek	Evaluation of the Ph.D. competition
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11:00 - 12:30

Session T-B2

P3

Chair: Jaroslav Janáček

MS Teams Support: Ivana Oličková

ID 9487	Jaromír Zahrádka	The Exact Solution of Travelling Salesman by Mixed Integer Programming in Matlab
ID 9272	Daniel Pilát, Karel Ječmen, Dušan Teichmann and Olga Mertlová	Optimization of Transport Infrastructure Investment Projects Portfolio Using a Cascade Approach
ID 6970	Andrea Hrníčková, Dušan Teichmann and Denisa Mocková	Location of Capacitated Completion Centers in Distribution Systems with Heterogeneous Vehicle Fleet
ID 938	Marek Kvet and Jaroslav Janáček	Pareto Front Approximation using Restricted Neighborhood Search
ID 9031	Jaroslav Janáček and Marek Kvet	Directed Search for Pareto Front Approximation with Path-relinking Method

11:00 - 12:30 Session W-C2

P4

Chair: Petra Vašaničová

MS Teams Support: Andrea Kubišová

ID 2911	Petra Vašaničová and Sylvia Jenčová	Determinants of International Tourism Inbound Receipts: The Quantile Regression Approach
ID 646	Radmila Krkošková (ONLINE)	Comparison of the relationship between CPI and PPI in the Czech Republic and Slovakia
ID 5629	Pavel Pražák	Shooting method for boundary value problems of ordinary differential equations in economics
ID 251	Radoslav Lacko	Significance of web search data in research of sales in automotive industry
ID 9696	Lucie Chytilová, Jiří Franek and Hana Štverková (ONLINE)	A Regression Analysis of International Migration in the Czech Republic

12:30 - 13:30 Lunch VŠPJ Cateen



13:30 - 18:00 Social Programme in Jihlava

19:00 - 22:00 Conference Dinner at Radniční restaurant

09:00 - 09:30 **Morning Coffee** Near registration place

09:30 - 11:00 **Session F-A1**

Old Auditorium

Chair: Helena Brožová

MS Teams Support: Lenka Lízalová

ID 8750	Robert Hlavatý and Helena Brožová	Optimisation Approach to Dealing with Saaty's Inconsistency
ID 7686	Petra Bláhová and Helena Brožová	DSS capabilities evaluation using ANP with methods for consistency improvement
ID 5126	Martina Kuncova and Jana Sekničková	Influence of the inclusion of the dominated alternative on the final arrangement of alternatives in selected MCDA methods
ID 5212	Jana Klicnarová and Michaela Brabcová	A comparison of MCDM and DEA models
ID 6440	Martina Kuncová, Lenka Lízalová, Petra Kozáková and Petra Zýková	Analysis of the efficiency of the Czech companies in the NACE sector "Accommodation and food service activities"
ID 8188	Mira Mauleshova and Igor Krejčí	Dynamics of economic-ecological system of Aral Sea

09:30 - 11:00 **Session F-B1**

P3

Chair: Petr Volf

MS Teams Support: Roman Fiala

ID 1775	Jitka Bartošová and Vladislav Bína	Housing affordability – comparison of situation and identification of influential factors in V4 countries
ID 4523	Petr Jiříček and Stanislava Dvořáková	Comparison of bond yields to maturity using Hawawini-Vora and IRR methods
ID 2279	Petr Volf	Analysis of impact of covariates entering stochastic optimization problem
ID 1273	Ján Plavka (ONLINE)	Interval versions of eigenspaces in idempotent semirings
ID 1785	Petr Suchánek and Robert Bucki (ONLINE)	Modeling the process of selecting satisfactory methods of controlling system tasks

11:15 - 12:15 **Lunch** VŠPJ Cateen

12:00 - 18:00 **Possibility to visit Zoo Jihlava**

free tickets available at registration during 3 conference days



MME 2022
