

Datum: 5. 11. 2023

Zadeva: **Poročilo SDI-SOR o SOR'23**

Sekcija za operacijske raziskave Slovenskega društva INFORMATIKA (SDI-SOR, Litostrojska cesta 53, SI 1000 Ljubljana, ki ji predseduje prof. dr. Lidija Zadnik Stirn, je skupaj s Fakulteto za organizacijske študije, Univerze v Mariboru (UM, FOV, Kidričeva cesta 55a, Kranj), ter Fakulteto za strojništvo, Univerze v Ljubljani (UL, FS, Aškerčeva cesta 6, Ljubljana), v dneh od 20. do 22. septembra 2023 organizirala 17. mednarodni simpozij iz operacijskih raziskav (The 17th International Symposium on Operational Research – SOR'23).

SOR'23 je bil strokovno brezhibno organiziran po zaslugi **članov Organizacijskega odbora SOR'23:**

- P. Gorjanc, University of Maribor, Faculty of Organizational Sciences, Kranj, Slovenia, predsednica, z ekipo kolegov: Klaro Knific, Aljažem Murkom in Ano Kraner Porenta,
- S. Drobne, University of Ljubljana, Faculty of Civil and Geodetic Engineering, Ljubljana, Slovenia, podpredsednik,
- N. Fileš, Slovenian Society Informatika, Ljubljana,
- M. Kljajić Borštnar, University of Maribor, Faculty of Organizational Science, Kranj, Slovenia,
- J. Povh, University of Ljubljana, Faculty of Mechanical Engineering, Ljubljana, Slovenia,
- L. Zadnik Stirn, University of Ljubljana, Biotechnical Faculty, Ljubljana, Slovenia,
- J. Žerovnik, University of Ljubljana, Faculty of Mechanical Engineering, Ljubljana, Slovenia.

Za kakovostno raven vabljenih prispevkov in recenziranih referatov so poskrbeli člani Programskega odbora SOR'23 in recenzenti prispevkov za SOR'23.

Člani Programskega odbora SOR'23 so bili:

- L. Zadnik Stirn, University of Ljubljana, Biotechnical Faculty, Ljubljana, Slovenia, predsednica
- M. Kljajić Borštnar, University of Maribor, Faculty of Organizational Sciences, Kranj, Slovenia, podpredsednica,
- J. Žerovnik, University of Ljubljana, Faculty of Mechanical Engineering, Ljubljana, Slovenia, podpredsednik
- J. Arnerić, University of Zagreb, Faculty of Economics and Business, Zagreb, Croatia
- N. Ban, University of Innsbruck, Department of Atmospheric and Cryosphere Sciences, Innsbruck, Austria
- F. Berberich, PRACE – The Partnership for Advanced Computing in Europe, Brussels, Belgium
- M. Bogataj, Zavod INRISK – Inštitut za raziskavo sistemov izpostavljenih rizikom, Slovenia
- M. Bohanec, Jožef Stefan Institute, Department of Knowledge Technologies, Ljubljana, Slovenia
- D. Bokal, University of Maribor, Faculty of Natural Sciences and Mathematics, Maribor, Slovenia
- S. Cabello, University of Ljubljana, Faculty of Mathematics and Physics, Ljubljana, Slovenia
- K. Cechlarova, P. J. Šafarik University, Faculty of Science, Košice, Slovakia
- T. Csendes, University of Szeged, Department of Applied Informatics, Szeged, Hungary
- V. Čančer, University of Maribor, Faculty of Business and Economics, Maribor, Slovenia
- S. Drobne, University of Ljubljana, Faculty of Civil and Geodetic Engineering, Ljubljana, Slovenia
- K. Dumičić, DOBA Business School, Maribor, Slovenia
- L. Ferbar Tratar, University of Ljubljana, Faculty of Economics, Ljubljana, Slovenia

- H. Gaspars-Wieloch, Poznan University of Economics and Business, Poznan, Poland
- N. Herakovič, University of Ljubljana, Faculty of Mechanical Engineering, Ljubljana, Slovenia
- E. Hontoria, Technical University of Cartagena, Business Management Department, Cartagena, Spain
- T. Illes, Corvinus Centre for Operations, Corvinus University of Budapest, Budapest, Hungary
- J. Jablonsky, University of Economics, Faculty of Informatics and Statistics, Prague, Czech Republic
- M. Jadrič, University of Split, Faculty of Economics, Business and Tourism, Split, Croatia
- V. Jeremič, University of Belgrade, Faculty of Organizational Sciences, Belgrade, Serbia
- S. Klavžar, University of Ljubljana, Faculty of Mathematics and Physics, Ljubljana, Slovenia
- V. Kojić, University of Zagreb, Faculty of Economics and Business, Zagreb, Croatia
- A. Košir, University of Ljubljana, Faculty of Electrical Engineering, Ljubljana, Slovenia
- J. Kušar, University of Ljubljana, Faculty of Mechanical Engineering, Ljubljana, Slovenia
- U. Leopold-Wildburger, University of Graz, Graz, Austria
- Z. Lukač, University of Zagreb, Faculty of Economics and Business, Zagreb, Croatia
- J. Michnik, University of Economics, Katowice, Poland
- M. Pejić Bach, University of Zagreb, Faculty of Economics and Business, Zagreb, Croatia
- T. Perić, University of Zagreb, Faculty Economics and Business, Zagreb, Croatia
- S. Pivac, University of Split, Faculty of Economics, Split, Croatia
- P. Patrinos, KU Leuven, Department of Electrical Engineering, Leuven, Belgium
- I. Podbregar, University of Maribor, Faculty of Organizational Sciences, Kranj, Slovenia
- J. Povh, Science and Technology Centre Rudolfovo, Novo mesto, Slovenia
- U. Rajkovič, University of Maribor, Faculty of Organizational Sciences, Kranj, Slovenia
- Č. Rozman, University of Maribor, Faculty of Agriculture and life sciences, Maribor, Slovenia
- N. Schlamberger, Slovenian Society Informatika, Ljubljana, Slovenia
- M. Sekavčnik, University of Ljubljana, Faculty of Mechanical Engineering, Ljubljana, Slovenia
- S. P. Sethi, The University of Texas at Dallas, Naveen Jindal School of Management, Dallas, USA
- J. Šilc, Jožef Stefan Institute, Computer Systems Department, Ljubljana, Slovenia
- T. Trzaskalik, University of Economics, Department of Operational Research, Katowice, Poland
- J. Žganec Gros, Alpineon Ltd, Ljubljana, Slovenia
- T. Wachowicz, University of Economics, Dept. of OR, Katowice, Poland
- G. W. Weber, Poznan University of Technology, Faculty of Engineering Management, Poznan, Poland

Recenzenti prispevkov za SOR'23 so bili:

- Josip Arnerić, University of Zagreb, Faculty of Economics and Business, Zagreb, Croatia
- Marija Bogataj, INRISK, Trebnje, Slovenia
- David Bogataj, Alma Mater Europaea-ECM, Maribor, and INRISK, Trebnje, Slovenia
- Drago Bokal, University of Maribor, Faculty of Natural Sciences and Mathematics, and DataBitLab d.o.o., Maribor, Slovenia
- Vesna Čančer, University of Maribor, Faculty of Economics and Business
- Balázs Dávid, InnoRenew CoE, Izola, and University of Primorska, FAMNIT, Koper, Slovenia
- Eneja Drobež, Evropska pravna fakulteta, Nova univerza, Ljubljana, Slovenia
- Samo Drobne, University of Ljubljana, Faculty of Civil and Geodetic Engineering, Ljubljana, Slovenia
- Ksenija Dumičić, University of Zagreb, Faculty of Economics and Business, Zagreb, Croatia
- Petra Grošelj, University of Ljubljana, Biotechnical Faculty, Ljubljana, Slovenia
- Eloy Hontoria, Technical University of Cartagena, Business Management Department, Cartagena, Spain
- Veljko Jeremič, University of Belgrade, Faculty of Organizational Sciences, Belgrade, Serbia
- Mirjana Kljajić Borštnar, University of Maribor, Faculty of Organizational Sciences, Kranj, Slovenia

- Vedran Kojić, University of Zagreb, Faculty of Economics & Business, Zagreb, Croatia
- Andrej Košir, University of Ljubljana, Faculty of Electrical Engineering, Ljubljana, Slovenia
- Miklós Krész, InnoRenew CoE, Izola, and University of Primorska, Andrej Marušič Institute, Koper Slovenia
- Zrinka Lukač, University of Zagreb, Faculty of Economics and Business, Zagreb, Croatia
- Milica Maričić, University of Belgrade, Faculty of Organizational Sciences, Belgrade, Serbia
- Jerzy Michnik, University of Economics in Katowice, Operations Research Department, Katowice, Poland
- Karmen Pažek, University of Maribor, Faculty of Agriculture and Life Sciences
- Mirjana Pejić Bach, Faculty of Economics & Business, University of Zagreb, Croatia
- Snježana Pivac, University of Split, Faculty of Economics, Split, Croatia
- Janez Povh, University of Ljubljana, Faculty of Mechanical Engineering, Ljubljana, and Rudolfovo Institute, Novo mesto, Slovenia
- Uroš Rajkovič, University of Maribor, Faculty of Organizational Sciences, Kranj, Slovenia
- Črtomir Rozman, University of Maribor, Faculty of Agriculture and Life Sciences
- Darja Rupnik Poklukar, University of Ljubljana, Faculty of Mechanical Engineering, Ljubljana, Slovenia
- Tamás Solymosi, Corvinus University of Budapest, Budapest, Hungary
- Tadeusz Trzaskalik, University of Economics, Department of Operational Research Katowice, Poland
- Lidija Zadnik Stirn, University of Ljubljana, Biotechnical Faculty, Ljubljana, Slovenia
- Janez Žerovnik, University of Ljubljana, Faculty of Mechanical Engineering, Ljubljana, Slovenia
- Jaka Žgajnar, University of Ljubljana, Biotechnical Faculty, Ljubljana, Slovenia

Na simpoziju je bilo predstavljeno pet vabljenih predavanj in 91 recenziranih referatov, ki jih je napisalo 198 avtorjev in soavtorjev; od tega jih je bilo 63 iz Slovenije in 135 iz tujine: Hrvaška (35), Madžarska (20), Srbija (16), Slovaška (13), Češka (11), Poljska (9), Španija (7), Turčija (6), ZDA (4), Francija (3), Nemčija (3), Italija (2), Avstrija (1), Izrael (1), Pakistan (1), Severna Makedonija (1), Nizozemska (1) in Združeno kraljestvo (1). Posebej je treba omeniti 4 vabljenih predavateljev iz tujine in 1 iz Slovenije in častne govornike na otvoritveni slovesnosti.

Častni govorniki na otvoritveni slovesnosti, ki jo je povezovala prof. dr. Mirjana Kljajić Borštnar, so bili:

- g. Niko Schlamberger, predsednik Slovenskega društva Informatika,
- Prof. dr. Andrej Škraba, prodekan za razvoj, Fakultete za organizacijske vede, Univerza v Mariboru,
- Prof. dr. Marc Sevaux, nekdanji predsednik EURO (The Association of European Operational Research Societies),
- dr. Sarah Fores, generalna managerka EURO,
- Assist. Prof. dr. Tea Šestanović, predsednica Hrvaškega društva za operacijske raziskave,
- Prof. dr. Alf Kimms, nekdanji predsednik GOR (Gesellschaft für Operations Research),
- prof. dr. Lidija Zadnik Stirn, predsednica Sekcije za operacijske raziskave, Slovensko društvo Informatika.

Vabljeni predavatelji (plenarna predavanja) so bili:

- Prof. Marc Sevaux (EURO plenarno predavanje), Université Bretagne Sud, Centre de recherche, Lab-STICC, Lorient, France,
- Prof. Suresh P. Sethi, PhD, Eugene McDermott Chair Professor of Operations Management, Director, Center of Intelligent Supply Networks, Naveen Jindal School of Management, The University of Texas at Dallas, Dallas, ZDA,
- Prof. Mirjana Pejić Bach, University of Zagreb, Faculty of Economics and Business, Department of Informatics, Zagreb, Croatia,
- Dr. Victor Magron, Institute of Mathematics from Toulouse, Laboratoire d'analyse et d'architecture des systèmes (LAAS-CNRS), Équipe POP, Toulouse, France,

- Assist. Prof. Andrej Kastrin, University of Ljubljana, Faculty of Medicine, Institute of Biostatistics and Medical Informatics, Ljubljana, Slovenia.

Na SOR'21 smo organizirali **osem posebnih sekcij**, ki jih je vodilo **petnajst priznanih domačih in tujih strokovnjakov**; in sicer:

- Applications of OR in Agricultural Economics (Prof. Dr. Črtomir Rozman, Prof. Dr. Karmen Pažek in SDI-SOR),
- Applications of OR in Industry and Mechanical Engineering (Assist. Prof. Dr. Darja Rupnik Poklukar, Prof. DDr. Janez Žerovnik in SDI-SOR),
- Artificial Intelligence in Business: Obstacles and Perspectives (Prof. Dr. Mirjana Pejić Bach in SDI-SOR),
- Discrete Optimization Methods and Models for Real-world Problem Domain (Assist. Prof. Dr. Balázs Dávid, Assoc. Prof. Dr. Miklós Krész in SDI-SOR),
- Game Theory (Prof. Dr. Tamás Solymos in SDI-SOR),
- Industry & Society 5.0: Optimization and Learning in Human and Industrial Environments (Prof. Dr. Drago Bokal, Prof. Dr. Janez Povh in SDI-SOR),
- Social Innovations in Ageing Studies Supported by OR Models (Prof. Marija Bogataj, Assoc. Prof. David Bogataj, Assoc. Prof. Samo Drobne in SDI-SOR),
- Unravelling the Business Models of Sharing Economy by Applying Methods of OR and Statistics (Assist. Prof. Dr. Milica Maričić, Prof. Dr. Veljko Jeremić in SDI-SOR).

Proceedings of the 17th International Symposium on Operational Research in Slovenia, SOR'23, ki so uredili izr. prof. dr. Samo Drobne, prof. dr. Lidija Zadnik Stirn, prof. dr. Mirjana Kljajić Borštner, izr. prof. dr. Janez Povh in prof. dr. Janez Žerovnik, ISBN 978-961-6165-61-7 (PDF), COBISS SI-ID 164343555 in obsega 444 strani ter dodatek s seznamom vseh 198 avtorjev (19 strani), je letos prvič izdan samo v elektronski različici in je objavljen na spletni strani SDI: <https://www.drustvo-informatika.si/sekcije-drustva?stran=publikacije-sor>. Zbornik bo eferiran v: ISI (Index to Scientific & Technical Proceedings on CD-ROM and ISI/ISTP&B online database), Current Mathematical Publications, Mathematical Review, MathSci, Zentralblatt für Mathematic / Mathematics Abstracts, MATH on STN International, CompactMath, INSPEC, Journal of Economic Literature.

Prispevki v zborniku del so razdeljeni v šestnajst poglavij (številka v oklepaju pomeni število prispevkov v sekciji): Plenary Lectures (5); osem posebnih sekcij: Applications of OR in Agricultural Economics (8), Applications of OR in Industry and Mechanical Engineering (4), Artificial Intelligence in Business: Obstacles and Perspectives (4), Discrete Optimization Methods and Models for Real-world Problem Domain (15), Game Theory (5), Industry & Society 5.0: Optimization and Learning in Human and Industrial Environments (9), Social Innovations in Ageing Studies Supported by OR Models (7), Unravelling the Business Models of Sharing Economy by Applying Methods of OR and Statistics (3), in šest sekcij: Econometric Models and Statistics (4), Human Resources (5), Finance and Investments (8), Location and Transport, Graphs and their Applications (7), Mathematical Programming and Optimization (5), and Multi-Criteria Decision-Making (7).

Vsebina in struktura prispevkov je bila, podobno kot zadnja leta, tudi tokrat vidno usmerjena v korist problemskim sklopom, čeprav je bilo tudi veliko zelo kakovostnih metodoloških prispevkov. Opazno je, da se operacijske raziskave vse bolj vključujejo v neposredno reševanje gospodarskih težav - navkljub velikemu številu udeležencev, ki so običajno avtorji, zlasti teoretičnih prispevkov, z univerz in raziskovalnih inštitutov. Nadalje je treba poudariti, da je bilo med avtorji veliko predstavnikov mlajše generacije, kar pomeni, da imajo operacijske raziskave tudi, kar se tiče kadrov, svetlo prihodnost.

Proceedings of the 17th International Symposium on Operational Research in Slovenia, SOR'23, je dosegljiv v okviru spletnih strani SDI: <https://www.drustvo-informatika.si/sekcije-drustva?stran=publikacije-sor>, kjer so tudi zborniki prejšnjih konferenc: SOR'19, SOR'17, SOR'15, SOR'13, SOR'11, SOR'09, SOR'07 in SOR'05.

Poleg zbornika Proceedings of the 17th International Symposium on Operational Research in Slovenia bodo rezultat SOR'23 tudi posebne številke znanstvenih revij s faktorjem vpliva: CEJOR (Central European Journal of Operations Research) z gostujočimi uredniki Janez Povh, Lidija Zadnik Stirn in

Janez Žerovnik, Mathematics z gostujočima urednikoma Mirjano Kljajić Borštnar in Črtomirjem Rozmanom, ter BSRJ (Business Systems Research Journal), kjer so gostujoči uredniki Samo Drobne, Lidija Zadnik Stirn in Berislav Žmuk (Univerza v Zagrebu). Vabila za oddajo prispevkov v posebnih številkah CEJOR, Mathematics in BSRJ so na <https://sor.fov.um.si/publications/> pod Call for papers.

V okviru SOR'23 smo pozornost posvetili tudi 60-letnici operacijskih raziskav v Sloveniji in 30-letnici sekcije za operacijske raziskave (SDI-SOR oz. v angleščini SSI-SOR). Daljši članek o zgodovini operacijskih raziskav v Sloveniji, o 30-letnem delovanju sekcije SDI-SOR, predvsem o njenem poslanstvu, publikacijah (monografijah, posebnih številkah mednarodnih revij in zbornikih) in organizaciji mednarodnih simpozijev v Sloveniji je objavljen v zborniku del SOR'23 (Proceedings of the 17th International Symposium on Operational Research in Slovenia, SOR'23, str. VII-XXII). Nadalje smo se na SOR'23 spomnili tudi ustanoviteljev SDI-SOR, predvsem prof. dr. Janeza Grada in prof. ddr. Viljema Rupnika ob njuni 90-letnici (Proceedings of the 17th International Symposium on Operational Research in Slovenia, SOR'23, str. XXIII-XXX).

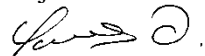
Na SOR'23 smo izvedli tudi dva družabna dogodka: prvi dan popoldne v obliki ekskurzije v Kranj (voden ogled podzemlja in starega mestnega jedra) ter svečane večerje ob 30. letnici SDI-SOR (gostišče Lectar v Radovljici), drugi dan pa s klavirskim koncertom odličnega pianista, Prof. dr. Tadeusz Trzaskalik, v hotelu Bled Rose.

Na koncu lahko ugotovimo, da je SOR'23, ki je tokrat obeležil že 17. izvedbo, presegel naša pričakovanja tako v strokovnem kot tudi moralnem pogledu. Velika udeležba tujih strokovnjakov je potrdila zaupanje v naše strokovne sile, obenem pa nudila domačim strokovnjakom priložnost, da se seznanijo z dosežki, ki razvitemu svetu pomenijo generator njihove diferencialne rente.

SOR'23 so finančno podprli Mathematics (MDPI), EURO (Association of European Operational Research Societies), EuroCC2 (Association of European Operational Research Societies), Excellerat P2 (The European Centre of Excellence for Engineering Applications), Rudolfovo (The Scientific and Technological Centre in Novo Mesto), and L7-3188 (ARIS Research project: Hierarchical design and financing of social infrastructure of smart silver villages).

Še več detajlov o samem simpoziju lahko dobite na spletnih straneh SOR'23 (<https://sor.fov.um.si/>).

Tajnik SDI-SOR:



izr. prof. dr. Samo Drobne

Predsednica SDI-SOR:



prof. dr. Lidija Zadnik Stirn