Ivana LJUBIC

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ESSEC Business School
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RESEARCH INTERESTS

Artificial Intelligence (AI), Operations Research, Scheduling, Queueing and Location Optimization,

EDUCATION

2013	Habilitation in Operations Research, University of Vienna, Austria
2004	Ph.D. in Computer Science, Vienna University of Technology, Austria
2000	Master of Science degree (MSc), Department for Optimization and Numerical Analysis, Faculty of Mathematics, University of Belgrade, Serbia

EMPLOYMENT

Full-time academic positions

2016 - Present	Professor, ESSEC Business School, France
2015 - 2016	Associate Professor, ESSEC Business School, France
2011 - 2015	Ass./Assoc. Professor. ISOR, Faculty of Business, Economics and Statistics, University of Vienna, University of Vienna, Austria
2007 - 2010	Post-Doc Researcher & Lecturer, ISOR, University of Vienna, Austria
2000 - 2004	Research and Teaching Assistant (PhD candidate), Vienna University of Technology, Austria

Other affiliations and appointments

2024 - Present	Coordinator of PhD concentration in Operations Management and Operations Research, ESSEC Business School, France
2017 - 2021	Academic Director of the ESSEC & Mannheim EMBA program, ESSEC Business School, France
2016 - 2018	Member of the Scientific Committee, ESSEC Business School, France
2015 - 2015	Visiting Professor, University Adolfo Ibáñez, Chile
2014 - 2014	Visiting Professor, Paris-Dauphine, PSL University, France
2013 - 2015	Member of the doctoral advisory board at ISOR, University of Vienna, Austria
2012 - 2013	Visiting Researcher (APART Fellowship), COGA, Technische Universität Berlin, Germany

2012 - 2012	Visiting Researcher (APART Fellowship), Faculty of CS, TU Dortmund Universität, Germany
2011 - 2012	Visiting Professor, University of Maryland, United States of America

Other professional experiences

2018 - 2019	Member of the “Task Force: future directions, strategy, evaluation”, ESSEC Business School, France

GRANTS AND HONORS

Awards and Honors

2025	Best Paper Awards 2025 - European Journal of Operational Research - Category "Review"
2022	Marguerite Frank Award for the best EJCO paper in 2021 for the paper A Survey on Mixed-Integer Programming Techniques in Bilevel Optimization. Jointly with Thomas Kleinert, Martine Labbé, and Martin Schmidt
2021	The Glover-Klingman Prize for the best Networks paper in 2021 The Glover-Klingman Prize for the best Networks paper in 2021 for the article Ivana Ljubić: Solving Steiner trees: Recent advances, challenges, and perspectives, Networks 77 (2): 177-204, 2021
2016	Best Paper Award, INFORMS Telecommunications Conference 2016, for the paper "The Generalized Regenerator Location Problem, INFORMS Journal on Computing 27(2): 204 - 220, 2015, (coauthored with S. Chen, I. Ljubic, S. Raghavan)
2014	Winner of the DIMACS implementation challenge on Steiner trees (with M. Fischetti et al.)
2014	Finalist for the best paper award of the INFORMS Telecommunication Section (with L. Gouveia, M. Leitner)
2005	PhD award of Austrian Society for Operations Research, Austria

Grants

2017	Co-applicant Prescriptive Analytics – Operations research, Initiative d’Excellence Paris Seine
2015	Co-PI Optimization and Analysis of Large-Scale Networks (ICT 2015) WWTF
2014	Applicant and leader (PI): Network Optimization in Bioinformatics and Systems Biology, FWF
2014	Co-applicant: e4-share: Models for Ecological, Economical, Efficient, Electric Car-Sharing, JPI Urban Europe
2012	Applicant and leader (PI) of the Austrian team: Multi-Criteria Optimization of FTTx Networks, (DACH programme, cooperation with the TU Wien and ZIB Berlin), FWF & DFG
2011	APART Fellowship of the Austrian Academy of Sciences, Austria
2011	Member of the graduate school in Computational Optimization (Initiativkolleg programme), University of Vienna

2011	Applicant and leader (PI): Network Design Under Uncertainty: Algorithmic Aspects of Stochastic and Robust Optimization (APART programme), OEAW
2010	Applicant and leader (PI) of the Austrian team: Flow Projection Results in Telecommunication: Models and Algorithms (Acciones Integradas programme, in cooperation with the University of La Laguna, Spain), OEAD (Austrian exchange service)
2007	Hertha-Firnberg Post-Doc Fellowship of the Austrian Science Fund, Austria
2007	Applicant and leader (one of two PIs): Algorithmic Solutions for Optimal Design of Telecommunication Networks, (Bridge programme, cooperation with Telekom Austria AG), FFG
2007	Applicant and leader (PI): Algorithmic Solutions for Last-Mile Networks, (Hertha-Firnberg programme), FWFApplicant and leader (PI): Algorithmic Solutions for Last-Mile Networks, (Hertha-Firnberg programme), FWF
2003	Applicant and leader (PI): Combinatorial and Memetic Algorithms for Selected Network Design Problems (DOC programme). OEAW
2003	PhD Fellowship of Austrian Academy of Sciences, Austria
2002	Doctoral Scholarship Programme of the OEAW (DOC Programme)

PUBLICATIONS

Journal Articles

BECK, Y., LJUBIC, I. and SCHMIDT, M. (2026). Heuristic Methods for Γ-Robust Mixed-Integer Linear Bilevel Problems. *INFORMS Journal on Computing*, 38(1), pp. 189-206.

THÜRAUF, J., KLEINERT, T., LJUBIC, I., RALPHS, T. and SCHMIDT, M. (2026). BOBILib: Bilevel Optimization (Benchmark) Instance Library. *Mathematical Programming Computation*, In press.

LJUBIC, I., MARÍN, A., PUERTO, J. and TEMPRANO, F. (2026). Ordered Median Traveling Salesman Problem. *Networks*, In press, pp. 1-26.

CERULLI, R., LJUBIC, I. and SORGENTE, C. (2026). Obtaining k-degree anonymous networks via mathematical programming. *European Journal of Operational Research*, In press.

FADDA, E., LJUBIC, I. and MANERBA, D. (2026). A Tailored Branch-and-Benders-Cut Approach for Backup Covering Problems. *INFORMS Journal on Computing*, In press, pp. 1-19.

CLAUTIAUX, F. and LJUBIC, I. (2025). Last fifty years of integer linear programming: A focus on recent practical advances. *European Journal of Operational Research*, 324(3), pp. 707-731.

LI, Y., ARCHETTI, C. and LJUBIC, I. (2025). Emerging optimization problems for distribution in same-day delivery. *Computers & Operations Research*, 182, pp. 107105.

CASELLI, G., IORI, M. and LJUBIC, I. (2025). Bilevel optimization with sustainability perspective: A survey on applications. *European Journal of Operational Research*, In press.

CALAMITA, A., LJUBIC, I. and PALAGI, L. (2025). Benders decomposition for congested partial set covering location with uncertain demand. *European Journal of Operational Research*, In press.

FERNÁNDEZ, E., LJUBIC, I. and ZEREGA, N. (2025). The multi-commodity flow problem with outsourcing decisions. *Transportation Research Part B: Methodological*, 201, pp. 103333.

GAAR, E., LEE, J., LJUBIC, I., SINNL, M. and TANINMIS, K. (2024). On SOCP-based disjunctive cuts for solving a class of integer bilevel nonlinear programs. *Mathematical Programming*, 206, pp. 91-124.

KUZBAKOV, Y. and LJUBIC, I. (2024). New formulations for two location problems with interconnected facilities. *European Journal of Operational Research*, 31(1), pp. 51-65.

PETROPOULOS, F., LAPORTE, G., AKTAS, E., ALUMUR, S.A., ARCHETTI, C., AYHAN, H. ... ZHAO, X. (2024). Operational Research: methods and applications. *Journal of the Operational Research Society*, 75(3), pp. 423-617.

LJUBIC, I., POZO, M.A., PUERTO, J. and TORREJON, A. (2024). Benders decomposition for the discrete ordered median problem. *European Journal of Operational Research*, 317(3), pp. 858-874.

GHADDAR, B., LJUBIC, I. and QIU, Y. (2024). Three network design problems for community energy storage. *Networks*, 84(4), pp. 420-445.

LI, Y., ARCHETTI, C. and LJUBIC, I. (2024). Reinforcement Learning Approaches for the Orienteering Problem with Stochastic and Dynamic Release Dates. *Transportation Science*, 58(5), pp. 1143-1165.

CERULLI, M., ARCHETTI, C., FERNÁNDEZ, E. and LJUBIC, I. (2024). A Bilevel Approach for Compensation and Routing Decisions in Last-Mile Delivery. *Transportation Science*, 58(5), pp. 1076-1100.

KAHR, M., LEITNER, M. and LJUBIC, I. (2024). The Impact of Passive Social Media Viewers in Influence Maximization. *INFORMS Journal on Computing*, 36(6), pp. 1359-1756, C2.

HAERING, T., LEGAULT, R., TORRES, F., LJUBIC, I. and BIERLAIRE, M. (2024). Exact algorithms for continuous pricing with advanced discrete choice demand models. *OR Spectrum*, In press.

LEITNER, M., LJUBIC, I., MONACI, M., SINNL, M. and TANINMIS, K. (2023). An Exact Method for Binary Fortification Games. *European Journal of Operational Research*, 307(3), pp. 1026-1039.

DELLE DONNE, D., ARCHETTI, C., ALFANDARI, L. and LJUBIC, I. (2023). Freight-on-Transit for urban last-mile deliveries: A strategic planning approach. *Transportation Research Part B: Methodological*, 169, pp. 53-81.

BECK, Y., LJUBIC, I. and SCHMIDT, M. (2023). A survey on bilevel optimization under uncertainty. *European Journal of Operational Research*, 311(2), pp. 401-426.

MOUACI, A., GOURDIN, , LJUBIC, I. and PERROT, N. (2023). Two extended formulations for the virtual network function placement and routing problem. *Networks*, 82(1), pp. 32-51.

CERULLI, M., SERRA, D., SORGENTE, C., ARCHETTI, C. and LJUBIC, I. (2023). Mathematical programming formulations for the collapsed k-core problem. *European Journal of Operational Research*, 311(1), pp. 56-72.

RAMIREZ-PICO, C., LJUBIC, I. and MORENO, E. (2023). Benders Adaptive-Cuts Method for Two-Stage Stochastic Programs. *Transportation Science*, 57(5), pp. 1252-1275.

BECK, Y., LJUBIC, I. and SCHMIDT, M. (2023). Exact methods for discrete Γ-robust interdiction problems with an application to the bilevel knapsack problem. *Mathematical Programming Computation*, 15(4), pp. 733-782.

FURINI, F., LJUBIC, I., MALAGUTI, E. and PARONUZZI, P. (2022). Casting light on the hidden bilevel combinatorial structure of the capacitated vertex separator problem. *Operations Research*, 70(4), pp. 2399–2420.

ALFANDARI, L., LJUBIC, I. and DE MELO DA SILVA, M. (2022). A tailored Benders decomposition approach for last-mile delivery with autonomous robots. *European Journal of Operational Research*, 299(2), pp. 510-525.

KESHVARI FARD, M., LJUBIC, I. and PAPIER, F. (2022). Budgeting in International Humanitarian Organizations. *Manufacturing & Service Operations Management*, 24(3), pp. 1562-1577.

ARCHETTI, C. and LJUBIC, I. (2022). Comparison of formulations for the Inventory Routing Problem. *European Journal of Operational Research*, 303(3), pp. 997-1008.

FERNÁNDEZ, E., LEITNER, M., LJUBIC, I. and RUTHMAIR, M. (2022). Arc Routing with Electric Vehicles: Dynamic Charging and Speed-Dependent Energy Consumption. *Transportation Science*, 56(5), pp. 1111-1408.

CONIGLIO, S., FURINI, F. and LJUBIC, I. (2022). Submodular maximization of concave utility functions composed with a set-union operator with applications to maximal covering location problems. *Mathematical Programming*, 196(1-2), pp. 9-56.

ÁLVAREZ-MIRANDA, E., GOYCOOLEA, M., LJUBIC, I. and SINNL, M. (2021). The Generalized Reserve Set Covering Problem with Connectivity and Buffer Requirements. *European Journal of Operational Research*, 289(3), pp. 1013-1029.

LJUBIC, I. (2021). Solving Steiner trees: Recent advances, challenges, and perspectives. *Networks*, 77(2), pp. 177-204.

ALFANDARI, L., HASSANZADEH, A. and LJUBIC, I. (2021). An Exact Method for Assortment Optimization under the Nested Logit Model. *European Journal of Operational Research*, 291(3), pp. 830-845.

FURINI, F., LJUBIC, I., SAN SEGUNDO, P. and ZHAO, Y. (2021). A branch-and-cut algorithm for the Edge Interdiction Clique Problem. *European Journal of Operational Research*, 294(1), pp. 54-69.

LJUBIC, I., MOUACI, A., PERROT, N. and GOURDIN, E. (2021). Benders decomposition for a node-capacitated Virtual Network Function placement and routing problem. *Computers & Operations Research*, 130(105227).

KLEINERT, T., LABBÉ, M., LJUBIC, I. and SCHMIDT, M. (2021). A Survey on Mixed-Integer Programming Techniques in Bilevel Optimization. *European Journal on Computational Optimization*, 9, pp. 100007.

LEITNER, M., LJUBIC, I., RIEDLER, M. and RUTHMAIR, M. (2020). Exact Approaches for Network Design Problem with Relays. *Omega*, 91.

LJUBIC, I., FURINI, F., MALAGUTI, E. and PARONUZZI, P. (2020). On Integer and Bilevel Formulations for the k-Vertex Cut Problem. *Mathematical Programming Computation*, 12, pp. 133-164.

BRANDSTÄTTER, G., LEITNER, M. and LJUBIC, I. (2020). Location of Charging Stations in Electric Car Sharing Systems. *Transportation Science*, 54(5), pp. 1408-1438.

GOUVEIA, L., LEITNER, M. and LJUBIC, I. (2020). A polyhedral study of the diameter constrained minimum spanning tree problem. *Discrete Applied Mathematics*, 285, pp. 364-379.

CORDEAU, J.F., FURINI, F. and LJUBIC, I. (2019). Benders Decomposition for Very Large Scale Partial Set Covering and Maximal Covering Location Problems. *European Journal of Operational Research*, 275(3), pp. 882-896.

ALFANDARI, L., DAVIDOVIC, T., FURINI, F., LJUBIC, I., MARAS, V. and MARTIN, S. (2019). Tighter MIP models for Barge Container Ship Routing. *Omega*, 82, pp. 38-54.

FURINI, F., LJUBIC, I., MARTIN, S. and SAN SEGUNDO, P. (2019). The Maximum Clique Interdiction Problem. *European Journal of Operational Research*, 277(1), pp. 112-127.

FISCHETTI, M., LJUBIC, I., MONACI, M. and SINNI, M. (2019). Interdiction Games and Monotonicity, with Application to Knapsack Problems. *INFORMS Journal on Computing*, 31(2), pp. 390-410.

ARULSELVAN, A., BLEY, A. and LJUBIC, I. (2019). The Incremental Connected Facility Location Problem. *Computers & Operations Research*, 112.

SAN SEGUNDO, P., CONIGLIO, S., FURINI, F. and LJUBIC, I. (2019). A new branch-and-bound algorithm for the maximum edge-weighted clique problem. *European Journal of Operational Research*, 278(1), pp. 76-90.

LEITNER, M., LJUBIC, I., RIEDLER, M. and RUTHMAIR, M. (2019). Exact Approaches for Network Design Problems with Relays. *INFORMS Journal on Computing*, 31(1), pp. 171-192.

LEITNER, M., LJUBIC, I., LUIPERSBECK, M. and SINNL, M. (2018). A Dual Ascent-Based Branch-and-Bound Framework for the Prize-Collecting Steiner Tree and Related Problems. *INFORMS Journal on Computing*, 30(2), pp. 402-420.

LEITNER, M., LJUBIC, I., LUIPERSBECK, M. and SINNL, M. (2018). Decomposition Methods for the Two-Stage Stochastic Steiner Tree Problem. *Computational Optimization and Applications*, 69(3), pp. 713-752.

FISCHETTI, M., LJUBIC, I., MONACI, M. and SINNL, M. (2018). On the Use of Intersection Cuts for Bilevel Optimization. *Mathematical Programming*, 172(1-2), pp. 77-103.

LJUBIC, I. and MORENO, E. (2018). Outer Approximation and Submodular Cuts for Maximum Capture Facility Location Problems with Random Utilities. *European Journal of Operational Research*, 266(1), pp. 46-56.

LEITNER, M., LJUBIC, I., SALAZAR-GONZALEZ, J.J. and SINNL, M. (2018). The Connected Facility Location Polytope. *Discrete Applied Mathematics*, 234, pp. 151-167.

FISCHETTI, M., LJUBIC, I., MONACI, M. and SINNL, M. (2017). A New General-Purpose Algorithm for Mixed-Integer Bilevel Linear Programs. *Operations Research*, 65(6), pp. 1615-1637.

BLEY, A., LJUBIC, I. and MAURER, O. (2017). A Node-Based ILP Formulation for the Node-Weighted Dominating Steiner Problem. *Networks*, 69(1), pp. 33-51.

LEITNER, M., LJUBIC, I., SALAZAR-GONZALEZ, J.J. and SINNL, M. (2017). An Algorithmic Framework for the Exact Solution of Tree-Star Problems. *European Journal of Operational Research*, 1(261), pp. 54-66.

FURINI, F., LJUBIC, I. and SINNL, M. (2017). An Effective Dynamic Programming Algorithm for the Minimum-Cost Maximal Knapsack Packing Problem. *European Journal of Operational Research*, 262(2), pp. 438-448.

FISCHETTI, M., LJUBIC, I. and SINNL, M. (2017). Redesigning Benders Decomposition for Large-Scale Facility Location. *Management Science*, 63(7), pp. 2146-2162.

ÁLVAREZ-MIRANDA, E., LJUBIC, I., LUIPERSBECK, M. and SINNL, M. (2017). Solving Minimum-Cost Shared Arborescence Problems. *European Journal of Operational Research*, 258(3), pp. 887-901.

LJUBIC, I., MUTZEL, P. and ZEY, B. (2017). Stochastic Survivable Network Design Problems: Theory and Practice. *European Journal of Operational Research*, 256(2), pp. 333-348.

FISCHETTI, M., LEITNER, M., LJUBIC, I., LUIPERSBECK, M., MONACI, M. and RESCH, M. (2017). Thinning out Steiner Trees: A Node-Based Model for Uniform Edge Costs. *Mathematical Programming Computation*, 9(2), pp. 203-229.

EHRGOTT, M., LJUBIC, I. and PARRAGH, S.N. (2017). Feature cluster: Recent advances in exact methods for multi-objective optimisation. *European Journal of Operational Research*, 260(3), pp. 805-806.

SINNL, M. and LJUBIC, I. (2016). A Node-Based Layered Graph Approach for the Steiner Tree Problem with Revenues, Budget and Hop-Constraints. *Mathematical Programming Computation*, 8(4), pp. 461–490.

FICHETTI, M., LJUBIC, I. and SINNL, M. (2016). Benders Decomposition without Separability: A Computational Study for Capacitated Facility Location Problems. *European Journal of Operational Research*, 253(3), pp. 557-569.

LEITNER, M., LJUBIC, I., SINNL, M. and WERNER, A. (2016). ILP Heuristics and a New Exact Method for Bi-Objective 0/1 ILPs: Application to FTTx-Network Design. *Computers & Operations Research*, 72, pp. 128-146.

ÁLVAREZ-MIRANDA, E., FERNÁNDEZ, E. and LJUBIC, I. (2015). The Recoverable Robust Facility Location Problem. *Transportation Research Part B: Methodological*, 79(1), pp. 93-120.

CHEN, S., LJUBIC, I. and RAGHAVAN, S. (2015). The Generalized Regenerator Location Problem. *INFORMS Journal on Computing*, 27(2), pp. 204-220.

GOUVEIA, L., LEITNER, M. and LJUBIC, I. (2015). The Two-Level Diameter Constrained Spanning Tree Problem. *Mathematical Programming*, 150(1), pp. 49-78.

LJUBIC, I., PUTZ, P. and SALAZAR-GONZALEZ, J.J. (2014). A MIP-based Heuristic Approach to solve a Prize-Collecting Local Access Network Design Problem. *European Journal of Operational Research*, 235(3), pp. 727-739.

GOUVEIA, L., LEITNER, M. and LJUBIC, I. (2014). Hop constrained Steiner trees with multiple root nodes. *European Journal of Operational Research*, 236(1), pp. 100-112.

LEITNER, M., LJUBIC, I. and SINNL, M. (2014). The bi-objective prize-collecting Steiner tree problem. *INFORMS Journal on Computing*, 27(1), pp. 118-134.

ÁLVAREZ-MIRANDA, E., LJUBIC, I. and RAGHAVAN, S. (2014). The Recoverable Robust Two-Level Network Design Problem. *INFORMS Journal on Computing*, 27(1), pp. 1-19.

GOLLOWITZER, S., GENDRON, B. and LJUBIC, I. (2013). A cutting plane algorithm for the Capacitated Connected Facility Location Problem. *Computational Optimization and Applications*, 55(3), pp. 647-674.

ALVAREZ-MIRANDA, E., LJUBIC, I. and TOTH, P. (2013). A note on the Bertsimas & Sim algorithm for robust combinatorial optimization problems. *4OR: A Quarterly Journal of Operations Research*, 11(4), pp. 349-360.

GOLLOWITZER, S., GOUVEIA, L. and LJUBIC, I. (2013). Enhanced Formulations and Branch-and-Cut for the Two Level Network Design Problem with Transition Facilities. *European Journal of Operational Research*, 225(2), pp. 211-222.

ALVAREZ-MIRANDA, E., LJUBIC, I. and TOTH, P. (2013). Exact Approaches for Solving Robust Prize-Collecting Steiner Tree Problems, European Journal of Operational Research. *European Journal of Operational Research*, 229(3), pp. 599-612.

BLEY, A., LJUBIC, I. and MAURER, O. (2013). Lagrangian decompositions for the two-level FTTx network design problem. *Computational Optimization and Applications*, 1(3), pp. 221-252.

LJUBIC, I., PUTZ, P. and SALAZAR-GONZALEZ, J.J. (2012). Exact approaches to the single-source network loading problem. *Networks*, 59(1), pp. 89-106.

LJUBIC, I. and GOLLOWITZER, S. (2012). Layered Graph Approaches to the Hop Constrained Connected Facility Location Problem. *INFORMS Journal on Computing*, 25(2), pp. 256-270.

FROMMLET, F., LJUBIC, I., BJÖRK ARNARDÓTTIR, H. and BOGDAN, M. (2012). QTL Mapping Using a Memetic Algorithm with Modifications of BIC as Fitness Function. *Statistical Applications in Genetics and Molecular Biology*, 11(4).

GOLLOWITZER, S. and LJUBIC, I. (2011). MIP models for connected facility location: A theoretical and computational study. *Computers & Operations Research*, 38(2), pp. 435-449.

LJUBIC, I. (2010). A branch-and-cut-and-price algorithm for vertex-biconnectivity augmentation. *Networks*, 56(3), pp. 169-182.

CHIMANI, M., KANDYBA, M., LJUBIC, I. and MUTZEL, P. (2010). Orientation-based models for {0,1,2}-survivable network design: theory and practice. *Mathematical Programming*, 124(1), pp. 413-440.

LJUBIC, I. and CHEN, S. (2010). The regenerator location problem. *Networks*, 55(3), pp. 205-220.

LJUBIC, I., CHIMANI, M., KANDYBA, M. and MUTZEL, P. (2009). Obtaining optimal k-cardinality trees fast. *ACM Journal of Experimental Algorithmics (JEA)*, 14(5), pp. 5.1-5.23.

LJUBIC, I., WEISKIRCHER, R., PFERSCHY, U., KLAU, G., MUTZEL, P. and FISCHETTI, M. (2006). An Algorithmic Framework for the Exact Solution of the Prize-Collecting Steiner Tree Problem. *Mathematical Programming*, 105(2), pp. 427-449.

LJUBIC, I. and RAIDL, G.R. (2003). A Memetic Algorithm for Minimum-Cost Vertex-Biconnectivity Augmentation of Graphs. *Journal of Heuristics*, 9(5), pp. 401-428.

RAIDL, G.R. and LJUBIC, I. (2002). Evolutionary Local Search for the Edge-Biconnectibity Augmentation Problem. *Information Processing Letters*, 82(1), pp. 39-45.

LJUBIC, I., TOŠIC, D., FILIPOVIC, V. and KRATICA, J. (2001). Solving the simple plant location problem by genetic algorithms. *RAIRO - Operations Research*, 35(1), pp. 127-142.

Books and book editor

LJUBIC, I., BARAHONA, F., DEY, S.S. and MAHJOUB, A.R. [Eds] (2022). *Combinatorial Optimization*. New York: Springer.

LJUBIC, I. [Eds] (2022). *Combinatorial Optimization*. Springer International Publishing.

LJUBIC, I., DOERNER, K., TRAGLER, G. and PFLUG, G. [Eds] (2016). *Operations Research Proceedings 2015*. Springer.

Book chapters

GOUVEIA, L., LJUBIC, I. and LEITNER, M. (2024). Common-Flow Formulations for the Diameter Constrained Spanning and Steiner Tree Problems. In: Teodor Gabriel Crainic, Michel Gendreau, Antonio Frangioni eds. *Combinatorial Optimization and Applications*. 1 ed. Cham: Springer Nature Switzerland, pp. 37-58.

LJUBIC, I. (2023). Connected Facility Location Problems. In: Pardalos P.M., Prokopyev O.A. eds. *Encyclopedia of Optimization*. 3rd ed. Cham: Springer, pp. 1-11.

GAAR, E., LEE, J., LJUBIC, I., SINNL, M. and TANINMIŞ, K. (2022). SOCP-Based Disjunctive Cuts for a Class of Integer Nonlinear Bilevel Programs. In: Karen Aardal, Laura Sanità eds. *Integer Programming and Combinatorial Optimization*. 1st ed. Cham: Springer, pp. 262-276.

FISCHETTI, M., LJUBIC, I., MONACI, M. and SINNL, M. (2016). Intersection Cuts for Bilevel Optimization. In: *Integer Programming and Combinatorial Optimization*. 1st ed. Berlin: Springer Computer Science, pp. 77-88.

FURINI, F., LJUBIC, I. and SINNL, M. (2015). ILP and CP Formulations for the Lazy Bureaucrat Problem. In: Laurent Michel (ed.). *Integration of AI and OR Techniques in Constraint Programming (CPAIOR 2015)*. 1st ed. Cham, New York: Springer, pp. 255-270.

LJUBIC, I., ALVAREZ-MIRANDA, E. and MUTZEL, P. (2013). The Maximum Weight Connected Subgraph Problem. In: *Facets of Combinatorial Optimization*. 1st ed. Springer, pp. 245-270.

LJUBIC, I. (2007). A Hybrid VNS for Connected Facility Location. In: Thomas Bartz-Beielstein, María José Blesa Aguilera, Christian Blum, Boris Naujoks, Andrea Roli, Günter Rudolph, Michael Sampels eds. *Hybrid Metaheuristics*. 1 ed. Springer Berlin Heidelberg, pp. 157-169.

KLAU, G.W., LJUBIC, I., MOSER, A., MUTZEL, P., NEUNER, P., PFERSCHY, U. and WEISKIRCHER, R. (2004). Combining a Memetic Algorithm with Integer Programming to Solve the Prize-Collecting Steiner Tree Problem. In: Kalyanmoy Deb (ed.). *Genetic and Evolutionary Computation – GECCO 2004*. 1 ed. Springer Berlin Heidelberg, pp. 1304-1315.

KRATICA, J., LJUBIC, I. and TOŠIĆ, D. (2003). A Genetic Algorithm for the Index Selection Problem. In: Stefano Cagnoni, Colin G. Johnson, Juan J. Romero Cardalda, Elena Marchiori, David W. Corne, Jean-Arcady Meyer, Jens Gottlieb, Martin Middendorf, Agnès Guillot, Günther R. Raidl, Emma Hart eds. *Applications of Evolutionary Computing*. 1 ed. Springer Berlin Heidelberg, pp. 280-290.

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LJUBIC, I. (2013). The Maximum Weight Connected Subgraph Problem: Applications in Bioinformatics. In: The Centre for Bioinformatics, Biomarker Discovery and Information-Based Medicine (CIBM), University of Newcastle. Newcastle.

LJUBIC, I. (2012). Solving 2-Stage Stochastic Network Design Problems by 2-Stage Branch- and-Cut. In: Seminarios CIO, Centro de Investigacao Operacional, Faculdade de Ciencias, Universidade de Lisboa. Lisboa.

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LJUBIC, I. (2012). The Recoverable Robust Two-Level Network Design Problem. In: Kolloquium Optimierung und Operations Research der Wirtschafts- und Sozialwis- senschaftlichen Fakultät, der Fakultät für Informatik und der Fakultät für Mathematik, TU Dortmund. Dortmund.

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LJUBIC, I. (2010). Dissaggregated Flow Formulation for the Single-Source Network-Loading Problem. In: COGA, TU Berlin.

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LJUBIC, I. (2006). Optimization in Telecommunication Networks: Multicommodity Flow, Facil- ity Location and Steiner Tree Problems. In: CI-Colloquium, Sonderforschung-bereich Computational Intelligence, University of Dortmund. Dortmund.

Invited speaker

LJUBIC, I. (2024). Benders Adaptive-Cuts for Two-Stage Stochastic Optimization. In: Benders Day, Eindhoven University of Technology. Eindhoven.

LJUBIC, I. (2024). [Plenary] Benders Adaptive-Cuts for Network Design and Facility Location Problems Under Uncertainty. In: International Network Optimization Conference (INOC) 2024, University College Dublin.

LJUBIC, I. (2024). Introduction to computational bilevel optimization with an application to a pricing problem for last-mile delivery. In: Gerhard Woeginger Research Colloquium, RWTH Aachen University, Germany. Aachen.

LJUBIC, I. (2024). Introduction to computational bilevel optimization with an application to a pricing problem for last-mile delivery. In: Workshop on Ordered Structures in Games and Decision (OSGaD), Centre d'Economie de la Sorbonne. Paris.

LJUBIC, I. (2024). Benders decomposition for the discrete ordered median problem. In: 13 Journées Thématiques du Groupe de Travail "Optimisation dans les Réseaux". Paris.

LJUBIC, I. (2024). Interdiction and Blocking Problems. In: Winter School on Network Optimization, organized by University of Lisbon. Estoril.

BECK, Y., LJUBIC, I. and SCHMIDT, M. (2022). [Plenary Speaker] Bilevel Optimization Under Uncertainty. In: PGMODays 2022. Palaiseau.

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FURINI, F., LJUBIC, I. and SAN SEGUNDO, P. (2022). Lower bounds for Ramsey numbers on circulant graphs. In: Women in Optimization 2022. Berlin.

ARCHETTI, C. and LJUBIC, I. (2022). Comparison of Formulations for the Inventory Routing Problem. In: 3rd Workshop on Combinatorial Optimization. Online.

LJUBIC, I. (2021). New Integer and Bilevel Formulations for the k-Vertex Cut Problem, In: 5th AIRO Young Workshop. Napoli (online).

LJUBIC, I. (2021). [Plenary Speaker] Mixed Integer Bilevel Optimization. In: SIAM Conference on Optimization (OP21). Virtual.

LJUBIC, I., FURINI, F., MALAGUTI, E. and PARONUZZI, P. (2020). Casting Light on the Hidden Bilevel Combinatorial Structure of the Capacitated Vertex Separator Problem. In: Mixed Integer Programming Workshop 2020 Online Edition.

LJUBIC, I. (2018). Recent Developments on Exact Solvers for the (Prize-Collecting) Steiner Tree Problem (Invited Tutorial). In: Winter School on Network Optimization NetOpt2018.

LJUBIC, I. (2015). On optimal design of charging stations for electric vehicles. In: PGMO Seminar, École Polytechnique. Paris.

LJUBIC, I. (2015). MIP Approaches to the Lazy Bureaucrat and Greedy Boss Problems. In: Séminaire Pôle 2 Optimisation Combinatoire, University Paris Dauphine. Paris.

LJUBIC, I. (2015). A New Modeling Concept for Facility Location Under Uncertainty. In: Seminar of the Operations Group, Universidad Adolfo Ibanez. Santiago.

Prefaces of a book

LJUBIC, I., BARAHONA, F., DEY, S.S. and MAHJOUB, A.R. (2022). Preface. In: *Combinatorial Optimization*. 1st ed. Springer, pp. vi.

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BARAHONA, F., DEY, S., MAHJOUB, A.R. and LJUBIC, I. (2025). Preface: Combinatorial Optimization ISCO 2022. *Discrete Applied Mathematics*, In press.

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EHRGOTT, M., LJUBIC, I. and PARRAGH, S.N. (2017). EDITORIAL: Feature Cluster: Recent Advances in Exact Methods for Multi-Objective Optimization. *European Journal of Operational Research*, 260(3), pp. 805-806.

Working Papers

DELLE DONNE, D., ALFANDARI, L., ARCHETTI, C. and LJUBIC, I. (2021). *Freight-on-Transit for urban last-mile deliveries: A Strategic Planning Approach*. 2104, ESSEC Business School.

ALFANDARI, L., LJUBIC, I. and DE MELO DA SILVA, M. (2019). *Onlast-mile Delivery with Autonomous Robots*. ESSEC Business School.

Press

DELLE DONNE, D., ARCHETTI, C., LJUBIC, I. and ALFANDARI, L. (2023). When public transport delivers. *ESSEC Knowledge*.

ALFANDARI, L., ARCHETTI, C. and LJUBIC, I. (2021). Sustainable city logistics. *ESSEC Knowledge*.

OTHER RESEARCH ACTIVITIES

Associate Editor

Since 2021	Transportation Science
Since 2019	Networks
2017 - 2021	Journal of Global Optimization
2016 - 2021	Omega

Editorial Board Membership

Since 2023	Operations Research
Since 2021	Transportation Science
Since 2020	Networks
2018 - 2025	European Journal of Operational Research
Since 2016	Computers & Operations Research

Ad-hoc reviewer for :

4OR: A Quarterly Journal of Operations Research, Annals of Operations Research, Computational Management Science, Computational Optimization and Applications, Computers & Operations Research, Discrete Applied Mathematics, Discrete Optimization, European Journal of Operational Research, European Journal on Computational Optimization, Evolutionary Computation, IEEE Transactions on Evolutionary Computation, IIE Transactions, INFOR, INFORMS Journal on Computing, International Transactions in Operational Research, Journal of Combinatorial Optimization, Journal of Global Optimization, Journal of Global Optimization, Journal of Heuristics, Management Science, Mathematical Methods of Operations Research, Mathematical Programming, Networks, Omega, Operations Research, Operations Research Letters, Optimization Letters, OR Spektrum, Plos One, SIAM Journal on Optimization, Transportation Science

Organisation of a conference

2019	Autumn school on advanced BCP tools: VRPSolver and ColunaAutumn school on advanced BCP tools: VRPSolver and Coluna, France
2019	EURO 2019 Conference, Stream “Network Analytics and Optimization”, Ireland
2019	Optimization and Data Science, France
Since 2019	Member of Editorial Advisory Board - SN Operations Research Forum, SN Operations Research Forum
2018	Optimization, Games and Data Analysis” Workshop (OGDA2018), Austria
2018	“Machine Learning, Networks and Combinatorial Optimization” Workshop, France
2018	“Cologne-Twente Workshop 2018” (CTW2018), Conservatoire National des Arts & Métiers (CNAM), France

2015	“Operations Research 2015” conference, University of Vienna, Austria
2014	INFORMS Telecommunication Conference 2014, Portugal
2014	IFORS 2014, Spain
2014	Workshop “Routing and Networks”, University of Vienna, Austria
2014	Workshop “Recent Advances in Multi-Objective Optimization”, University of Vienna, Austria
2013	Workshop “Optimization Tools for Next Generation Telecommunication Networks”, Austrian Academy of Sciences, Austria

Affiliations

Since 2018	INFORMS Telecommunication & Network Analytics Section, Chair
2017 - 2018	Vice-president of the INFORMS Telecommunication Section
2010 - 2016	Member of council and secretary of the INFORMS Telecom Section
2006 - 2008	Member of the executive board of the Austrian Society of Operations Research OEGOR
2003	Member of the IEEE Computational Intelligence Society (CIS)

PhD Supervision

2019	M. DE MELO DA SILVA (ESSEC Business School), Thesis co-director
2017	M. LUIPERSBECK (University of Vienna), Thesis co-director
2015	M. SINNL (University of Vienna), Thesis co-director
2015	M. LEITNER (University of Vienna), Thesis director
2014	E. ALVAREZ-MIRANDA (University of Bologna), Thesis co-director
2013	S. GOLLOWITZER (University of Vienna), Thesis co-director
2013	P. PUTZ (University of Vienna), Thesis co-director
2013	B. WASSERMANN (University of Vienna), Thesis co-director
2013	C. BÜSING (University of Vienna), Thesis director
	A. HASSANZADEH (ESSEC Business School), Thesis co-director
	G. BRANDSTÄTTER (University of Vienna), Thesis co-director
	A. MOUACI (Paris-Dauphine, PSL University), Thesis co-director

Other research activities

2020	Program Committee member: INFORMS Telecommunication & Network Analytics Conference 2020
2020	Program Committee member: International Symposium on Combinatorial Optimisation 2020

2020 Program Committee member: International Symposium on Combinatorial Optimization, ISCO 2020

2019 Reviewer for DFG (Deutsche Forschungsgemeinschaft), Germany

2019 Program Committee member : International Network Optimization Conference, INOC 2019

2018 International Symposium on Combinatorial Optimization, ISCO 2018

2018 International Symposium on Mathematical Programming, ISMP 2018

2018 Reviewer for Integer Programming and Combinatorial Optimization (IPCO 2018)

2018 Program Committee Member : INFORMS Telecommunication Conference 2018

2017 Reviewer for FONDECYT (Fondo Nacional de Desarrollo Científico y Tecnológico), Chile

2017 International Network Optimization Conference, INOC 2017

2016 Program Committee member: INFORMS Telecommunication Conference 2016

2016 Program committee member : European Conference on Operational Research, EURO 2016, Poznan, Poland

2015 Program Committee member: International Network Optimization Conference, INOC 2015

2015 Program Committee member: 11th Metaheuristics International Conference, MIC 2015

2015 Reviewer for FONDECYT (Fondo Nacional de Desarrollo Científico y Tecnológico), Chile

2015 Program committee member : International Network Optimization Conference, INOC 2015, Warsaw, Poland

2014 Program committee member : International Symposium on Combinatorial Optimization, ISCO 2014, Lisbon, Portugal

2014 Program Committee : INFORMS Telecommunication Conference 2014, Lisbon, Portugal

2014 Reviewer for Integer Programming and Combinatorial Optimization (IPCO 2014)

2013 Program Committee Member: International Network Optimization Conference, INOC 2013

2013 Program Committee member : 10th Metaheuristics International Conference, MIC 2013

2013 Reviewer for International Symposium on Experimental Algorithms (SEA 2013)

2012 Reviewer for International Colloquium on Automata, Languages and Programming (ICALP 2011)

2012 Program Committee member : INFORMS Telecommunication Conference 2012

2012 Reviewer for FONDECYT (Fondo Nacional de Desarrollo Científico y Tecnológico), Chile

2011	Reviewer for European Symposia on Algorithms (ESA 2011)
2011	Program Committee member: International Network Optimization Conference, INOC 2011
2010	Program Committee member: Third international workshop on model-based metaheuristics, Matheuristics 2010
2009	Reviewer for International Network Optimization Conference (INOC 2009)
2008	Program Committee member: Workshop on Heuristic Methods for the Design, Deployment, and Reliability of Networks and Network Applications, HEUNET 2008
2005	Program Committee member: The Genetic and Evolutionary Computation Conference, GECCO 2005
2002	Reviewer for Graph Drawing (GD 2002)
2002	Reviewer for European Symposia on Algorithms (ESA 2002)
2001	Reviewer for European Symposia on Algorithms (ESA 2001)
2001 - 2005	Program Committee member: European Conferences on Evolutionary Computation in Combinatorial Optimisation EvoCOP

PROFESSIONAL ACTIVITIES

Consulting

2007 - 2010	OptTelNets, project with Telecom Austria A1

Other professional activities

2017 - Present	Orange Labs, France: Optimal Instantiation of Service Chains in Software Defined Networks. CIFRE contract (PhD supervision of Ahlam Mouaci)
2006 - 2010	Telekom Austria AG: Optimal Design of FTTx Telecommunication Networks: (supervision of 2 PhD students)