

# Laurent ALFANDARI

alfandari@essec.edu

Professor

Department: Information Systems, Data Analytics  
and Operations  
Campus de Cergy

## DIPLOMAS

---

### DIPLOMAS

- |      |   |
|------|---|
| 1999 | Doctorate in Operations Research<br>(Université Paris Dauphine-PSL France)          |
| 1995 | Master of Research in Management Science<br>(Université Paris Dauphine-PSL France)  |
| 1993 | M.Sc in Management (Grande Ecole program)<br>(ESSEC Business School France)         |
| 1990 | Bachelor in Mathematics & Social Sciences<br>(Université Paris Dauphine-PSL France) |

### CERTIFICATES

- |      |  |
|------|--|
| 2010 | International Teachers Program (ITP)<br>(Kellogg School of Management, Northwestern University United States of America) |
|------|--|

## CAREER

---

### FULL-TIME ACADEMIC APPOINTMENTS

- |                   |  |
|-------------------|--|
| 2000 - 2007-08-31 | Assistant Professor (ESSEC Business School France) |
| 2007 - 2010-08-31 | Associate Professor (ESSEC Business School France) |
| 2010 - Now        | Professor (ESSEC Business School France)           |

## **OTHER APPOINTMENTS**

- 2002 - 2020-09-01 Member of the LIPN Laboratory (Sorbonne Université France)
- 1995 - 2002-08-31 Member of the LAMSADE Laboratory (Université Paris Dauphine-PSL France)
- 2012 - 2014-12-31 Department head (IDS Department) (ESSEC Business School France)
- 2025 - 2028-08-31 Head of the IDO Department (ESSEC Business School France)

## **PROFESSIONAL APPOINTMENTS**

- 1993 - 1993-12-31 Consulting in Town Planning and Development of Specialized Retail (PROCOS France)
- 1992 - 1992-01-12 Audit reporter (TOTAL France)
- 1992 - 1992-12-31 Management controller (Hachette France)
- 1991 - 1991-12-31 Marketing (Hachette France)

## **OTHER ACADEMIC APPOINTMENTS**

- 2018 - 2021-08-31 Head of PhD concentration in Operations & Data Analytics (ESSEC Business School France)
- 2019 - 2023-08-31 Academic co-director of ESSEC-CentraleSupélec Master in Data Sciences & Business Analytics (ESSEC Business School France)
- 2013 - 2021-09-01 Coordinator of MiM Business Analytics Methods track (ESSEC Business School France)
- 2009 - 2011-08-30 Academic director of ESSEC Master in Logistics & SCM (ESSEC Business School France)

## **PUBLICATIONS**

---

### **JOURNAL ARTICLES**

[ALFANDARI, L., PLATEAU, A. et SCHEPLER, X. \(2015\). A Branch-and-Price-and-Cut Approach for](#)

[Sustainable Crop Rotation Planning. \*European Journal of Operational Research\*, 241\(3\), pp. 872-879.](#)

[GIANESSIA, P., ALFANDARI, L., LETOCART, L. et WOLFLER CALVOA, R. \(2016\). A Column Generation Based Heuristic for the Multicommodity-Ring Vehicle Routing Problem. \*Transportation Research Procedia\*, 12, pp. 227-238.](#)

[ALFANDARI, L., LEMALADE, J.L., NAGIH, A. et PLATEAU, G. \(2011\). A MIP Flow Model for Crop-Rotation Planning in a Context of Forest Sustainable Development. \*Annals of Operations Research\*, 190\(1\), pp. 149-164.](#)

[ALFANDARI, L. et MONNOT, J. \(2014\). A Note on the Clustered Set Covering Problem. \*Discrete Applied Mathematics\*, 1\(164\), pp. 13-19.](#)

[ALFANDARI, L. \(2001\). The Minimum Bounded-Diameter Spanning Forest Problem Is Log-Approximable. \*Foundations of Computing and Decision Sciences\*, pp. 123-132.](#)

[ALFANDARI, L. \(2007\). Improved Approximation of the General Soft-capacitated Facility Location Problem. \*RAIRO - Operations Research\*, pp. 83-93.](#)

[ALFANDARI, L. et PASCHOS, V. \(1999\). Approximating Minimum Spanning Tree of Depth 2. \*International Transactions in Operational Research\*, pp. 607-622.](#)

[LIBERTI, L., ALFANDARI, L. et PLATEAU, M.C. \(2011\). Edge Cover by Connected Bipartite Subgraphs. \*Annals of Operations Research\*, 188\(1\), pp. 307-329.](#)

[ALFANDARI, L., SADKI, J., PLATEAU, A. et NAGIH, A. \(2013\). Hybrid Column Generation for Large-Size Covering Integer Programs: Application to Transportation Planning. \*Computers & Operations Research\*, 40\(8\), pp. 1938-1946.](#)

[ALFANDARI, L. et PASCHOS, V. \(2000\). Master-slave Strategy and Polynomial Approximation. \*Computational Optimization and Applications\*, pp. 231-245.](#)

[DENOYEL, V., ALFANDARI, L. et THIELE, A. \(2017\). Optimizing Healthcare Network Design Under Reference Pricing and Parameter Uncertainty. \*European Journal of Operational Research\*, 263\(3\), pp. 996-1006.](#)

[BUTELLE, F., ALFANDARI, L., COTI, C., FINTA, L., LÉTOCART, L. et PLATEAU, G. \(2016\). Fast Machine Reassignment. \*Annals of Operations Research\*, 242\(1\), pp. 130-160.](#)

[ESPINOZA GARCIA, J.C. et ALFANDARI, L. \(2018\). Robust Location of New Housing Developments Using a Choice Model. \*Annals of Operations Research\*, 271, pp. 527–550.](#)

[ALFANDARI, L. et ESPINOZA GARCIA, J.C. \(2018\). Robust Optimization for Non-Linear Impact of Data Variation. \*Computers & Operations Research\*, 99, pp. 38-47.](#)

[ROZENKNOP, A., WOFLE, C., ALFANDARI, L., CHEMLA, D. et LETOCART, L. \(2013\). Solving](#)

[Electricity Production Planning By Column Generation. \*Journal of Scheduling\*, 16\(6\), pp. 585-604.](#)

[ALFANDARI, L. \(1999\). The Greedy Approach for the Crew Pairing Problem: Some Cases of Polynomial Subproblems. \*Cahiers du Lamsade \(Laboratoire d'Analyse et de Modélisation de Systèmes d'Aide\)\*, pp. 1-10.](#)

[GIANESSI, P., ALFANDARI, L., LÉTOCART, L. et CALVO, R.F. \(2016\). The Multicommodity-Ring Location Routing Problem. \*Transportation Science\*, 50\(2\), pp. 541-558.](#)

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

[ALFANDARI, L., HASSANZADEH, A. et 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. et ZHAO, Y. \(2021\). A branch-and-cut algorithm for the Edge Interdiction Clique Problem. \*European Journal of Operational Research\*, 294\(1\), pp. 54-69.](#)

[ALFANDARI, L., LJUBIC, I. et 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.](#)

[ALFANDARI, L. et TOULOUSE, S. \(2021\). Approximation of the Double Traveling Salesman Problem with multiple stacks. \*Theoretical Computer Science\*, 877, pp. 74-89.](#)

[FARD, M.K. et ALFANDARI, L. \(2019\). Trade-Offs Between the Stepwise Cost Function and Its Linear Approximation for the Modular Hub Location Problem. \*Computers & Operations Research\*, 104, pp. 358-374.](#)

[ALFANDARI, L., DENOYEL, V. et THIELE, A. \(2020\). Solving Utility-Maximization Selection Problems with Multinomial Logit Demand: Is the First-Choice Model a Good Approximation? \*Annals of Operations Research\*, 292, pp. 553–573.](#)

[ZHAO, Y. et ALFANDARI, L. \(2020\). Design of diversified package tours for the Digital Travel industry: A branch-cut-and-price approach. \*European Journal of Operational Research\*, 285\(3\), pp. 825-843.](#)

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

[BISWAS, D. et ALFANDARI, L. \(2022\). Designing an optimal sequence of non-pharmaceutical interventions for controlling COVID-19. \*European Journal of Operational Research\*, 303\(3\), pp. 1372-1391.](#)

[BISWAS, D., ALFANDARI, L. et ARCHETTI, C. \(2024\). A Triple Bottom Line optimization model for](#)

[assignment and routing of on-demand home services. \*Computers & Operations Research\*, 167, pp. 106644.](#)

[ZHAO, Y., ALFANDARI, L. et ARCHETTI, C. \(2025\). Stochastic scheduling and routing decisions in online meal delivery platforms with mixed force. \*European Journal of Operational Research\*, 323\(1\), pp. 139-152.](#)

## **WORKING PAPERS**

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

[ALFANDARI, L. et PLATEAU, A. \(2001\). \*A two-phase Path Relinking algorithm for the Generalized Assignment Problem\*.](#)

[ALFANDARI, L., PLATEAU, A. et SCHEPLER, X. \(2014\). \*A Branch-and-Price-and-Cut Approach for Sustainable Crop Rotation Planning\*. ESSEC Business School.](#)

[ALFANDARI, L., PLATEAU, A. et TOLLA, P. \(2002\). \*A Path-relinking Algorithm for the Generalized Assignment Problem\*. ESSEC Business School.](#)

[ALFANDARI, L. \(2004\). \*Choice Rules with Size Constraints for Multiple Criteria Decision Making\*. ESSEC Business School.](#)

[ALFANDARI, L. \(2005\). \*Improved Approximation of the General Soft-Capacitated Facility Location Problem\*. ESSEC Business School.](#)

[ESPINOZA GARCIA, J.C. et ALFANDARI, L. \(2015\). \*Robust Location of New Housing Developments Using a Choice Model\*. ESSEC Business School.](#)

[KESHVARI FARD, M. et ALFANDARI, L. \(2018\). \*Trade-offs between the Stepwise Cost Function and its Linear Approximation for the Modular Hub Location Problem\*. ESSEC Business School.](#)

## **BOOK CHAPTERS**

[ALFANDARI, L., PLATEAU, A. et TOLLA, P. \(2004\). A Path Relinking Algorithm for the Generalized Assignment Problem. Dans: \*Metaheuristics Computer Decision-making\*. 1st ed. Kluwer Academic Publishers, pp. 1-17.](#)

[ALFANDARI, L. \(2018\). Décision et complexité : le cas de la planification optimale de tout simplisme. Dans: \*Complexité et organisations : faire face aux défis de demain\*. 1st ed. Eyrolles, pp. 229-242.](#)

[ALFANDARI, L. et NAGIH, A. \(2006\). Optimisation de la construction de rotations d'équipages en](#)

[transport aérien. Dans: \*Optimisation combinatoire 3. Applications \(traité IC2\)\*. 1st ed. Hermès Sciences, Lavoisier, pp. 23-45.](#)

[ALFANDARI, L. et NAGIH, A. \(2010\). Applications of Combinatorial Optimization: Airline Crew Pairing Optimization. Dans: \*Applications of Combinatorial Optimization\*. 1st ed. Wiley, pp. 1-22.](#)

## **CONFERENCE PROCEEDINGS**

[ALFANDARI, L. et MONNOT, J. \(2010\). Approximation of the Clustered Set Covering Problem. Dans: \*Electronic Notes in Discrete Mathematics\*. ISCO.](#)

[ALFANDARI, L. et PASCHOS, V. \(1998\). On the Approximation of Some Spanning Arborescence Problems. Dans: \*Advances in Computer and Information Sciences '98. 13th International Symposium on Computer and Information Sciences \(ISCIS\)\*. IOS Press, pp. 574-581.](#)

[JUVIGNY, C., DELLE DONNE, D. et ALFANDARI, L. \(2025\). A Genetic Approach to the Operational Freight-on-Transit Problem. Dans: \*Evolutionary Computation in Combinatorial Optimization\*. Springer Cham, pp. 116-132.](#)

## **PRESENTATIONS AT AN ACADEMIC OR PROFESSIONAL CONFERENCE**

[ALFANDARI, L., HASSANZADEH, A. et LJUBIC, I. \(2020\). Une méthode exacte pour le problème d'assortiment optimal avec modèle de choix nested-logit. Dans: 21st ROADEF 2020.](#)

[ALFANDARI, L. \(2013\). Approximation du problème de Clustered Set Covering. Dans: 14ème Conférence ROADEF 2013.](#)

[ALFANDARI, L. et ALFANDARI, L. \(2019\). Le problème de Team Orienteering avec contraintes de diversité entre les tours : Une approche de Branch-and-Price-and-Cut. Dans: ROADEF 2019.](#)

[ALFANDARI, L. et KESHVARI-FARD, M. \(2015\). Localisation de hubs avec fonction de coût discrète. Dans: ROADEF February Conference.](#)

[ESPINOZA, I.C. et ALFANDARI, L. \(2014\). Robust Facility Location Optimization with Location-dependent Demands. Dans: 2014 INFORMS Annual Meeting.](#)

[ALFANDARI, L., DENOYEL, V. et THIELE, A. \(2015\). Robust in Network Selection of Hospitals by Healthcare Under Reference Pricing. Dans: EURO 2015 12 July 2015 Conference.](#)

[ALFANDARI, L. \(2018\). Robust Optimization for Non-Linear Impact of Data Variation. Dans: Workshop on Robust Optimization Avignon \(RO 2018\).](#)

[ALFANDARI, L. et ESPINOZA-GARCIA, J.C. \(2019\). Robust optimization for non-linear impact of data variation. Dans: 30th European Conference on Operational Research \(EURO 2019\). Dublin.](#)

[ALFANDARI, L., NAGIH, A., PLATEAU, A. et SADKI, J. \(2011\). Schéma hybride de génération de colonnes pour un problème de planification de production agricole. Dans: ROADEF 2011.](#)

[ALFANDARI, L. \(2013\). Un algorithme de Branch&Price pour le problème de planification durable de rotations culturales. Dans: 14ème Conférence ROADEF 2013.](#)

[ALFANDARI, L., NAGIH, A., PLATEAU, A. et SADKI, J. \(2013\). Hybrid Column Generation for Large-Size Integer Programs. Dans: 26th EURO – INFORMS Joint International Conference.](#)

[FURINI, F., LJUBIC, I., SAN SEGUNDO, P. et ZHAO, Y. \(2021\). The Edge Interdiction Clique Problem. Dans: 31st European Conference on Operational Research 2021. Athens \(virtual\).](#)

[ALFANDARI, L., NAGIH, A., PLATEAU, A. et SADKI, J. \(2012\). Generalizations of Dobson Approximation Algorithm and Cooperation with Column Generation for Large-Size Covering Integer Programs. Dans: 2nd International Symposium on Combinatorial Optimization \(ISCO 2012\).](#)

[ALFANDARI, L., NAGIH, A., PLATEAU, A. et SADKI, J. \(2013\). Hybrid Column Generation for Large-Size Covering Integer Programs. Dans: 26th Conference of European Chapter on Combinatorial Optimization.](#)

[ALFANDARI, L., NAGIH, A., PLATEAU, A. et SADKI, J. \(2011\). Hybridization of Column Generation and Approximation Heuristics for Large-size Covering Integer Programs. Dans: MIC 2011 - Metaheuristics International Conference.](#)

[ALFANDARI, L. \(2000\). Logical Definability of Covering and Partitioning Minimization Problems. Dans: CLAIO X \(Congresso Latino-Americano de Investigacion Operativa\)-Latin-American Congress of Operations Research, Mexico.](#)

[ALFANDARI, L., FURINI, F., LJUBIC, I. et MARTIN, S. \(2017\). New MIP models for Liner Shipping Route Design with Empty Container Repositioning. Dans: 18ème Conférence ROADEF de la Société Française de Recherche Opérationnelle et d'Aide à la Décision.](#)

[ALFANDARI, L., DAVIDOVIC, T., FURINI, F., LJUBIC, I., MARAS, V. et MARTIN, S. \(2018\). New MIP models for liner shipping route design with empty container repositioning. Dans: 4th International Conference on Logistics Operations Management \(GOL'2018\).](#)

[ALFANDARI, L., DENOYAL, V. et THIELE, A. \(2014\). Optimal Facility In-Network Selection for Healthcare Payers under Reference Pricing. Dans: 20th Conference of the International Federation of Operational Research Societies.](#)

[ALFANDARI, L., LJUBIC, I. et MELO, M. \(2019\). Optimal Vehicle Routing with Autonomous Devices for Last-Mile Delivery. Dans: 2019 Workshop of the EURO Working Group on Vehicle Routing and Logistics optimization \(VeRoLog 2019\).](#)

[ALFANDARI, L. et ESPINOZA-GARCIA, J.C. \(2018\). Optimisation robuste pour la localisation de nouveaux logements avec modèle de choix. Dans: 19ème Congrès de la société Française de Recherche Opérationnelle et d'Aide à la Décision \(ROADEF 2018\).](#)

[ALFANDARI, L., DENOYEL, V. et THIELE, A. \(2016\). Optimisation robuste pour la sélection d'un réseau d'hôpitaux dans un système de Prix de Référence. Dans: 17ème congrès de la société Française de Recherche Opérationnelle et d'Aide à la Décision \(ROADEF2016\).](#)

[ALFANDARI, L. \(2012\). Planification et routage pour l'optimisation de la distribution urbaine de marchandise. Dans: 13e congrès annuel de la Société Française de Recherche Opérationnelle et d'Aide à la Décision \(ROADEF 2012\).](#)

[ALFANDARI, L. et ESPINOZA-GARCIA, J.C. \(2018\). Robust Optimization for Non-Linear Impact of Data Variation. Dans: ISMP Bordeaux 2018 \(International Symposium of Mathematical Optimization\).](#)

[ALFANDARI, L., DAVIDOVIC, T., FURINI, F., LJUBIC, I., MARAS, V. et MARTIN, S. \(2017\). Tighter MIP Formulations for the Barge Container Ship Routing Problem. Dans: 21st Conference of the International Federation of Operational Research Societies \(IFORS\).](#)

[ALFANDARI, L., PLATEAU, A. et SCHEPLER, X. \(2014\). Un algorithme de branch-and-price-and-cut pour la planification durable des rotations agricoles. Dans: 15ème congrès annuel de la Société française de recherche opérationnelle et d'aide à la décision \(ROADEF\).](#)

[ALFANDARI, L. \(2022\). Optimizing Drone Use in Early Infant Diagnosis of HIV Supply Chain in Less Developed Countries. Dans: 2022 Euro. Espoo.](#)

[ALFANDARI, L., LJUBIC, I. et PUNAM-MANDAL, M. \(2025\). Robust optimization for disaster preparedness with aftershocks. Dans: 2025 ROADEF. Champs-sur-Marne.](#)

[ALFANDARI, L., LJUBIC, I. et DE MELO DA SILVA, M. \(2021\). A tailored Benders Decomposition Approach for Last-Mile Delivery With autonomous Robots. Dans: 31st European Conference on Operational Research 2021 \(EURO 2021\). Athens.](#)

[DELLE DONNE, D., ALFANDARI, L., ARCHETTI, C. et LJUBIC, I. \(2022\). Freight-on-Transit for urban last-mile deliveries: A Strategic Planning Approach. Dans: International Workshop on Freight Transportation and Logistics \(ODYSSEUS\). Tanger.](#)

[DELLE DONNE, D., ALFANDARI, L., ARCHETTI, C. et LJUBIC, I. \(2021\). Freight on Public Transport: Strategical decision making with mixed integer programming. Dans: European Conference on Operational Research \(EURO\). Athens.](#)

[DELLE DONNE, D., ALFANDARI, L., ARCHETTI, C. et LJUBIC, I. \(2022\). Freight-on-Transit for urban last-mile deliveries: A Strategic Planning Approach. Dans: Spanish Conference on Statistics and Operations Research \(SEIO\). Granada.](#)

[ARCHETTI, C., ALFANDARI, L. et ALFANDARI, L. \(2022\). Capacity Design and Resource Allocation in Online Food Delivery Platforms. Dans: International Workshop on Freight Transportation and Logistics \(Odysseus 2022\). Tanger.](#)

[ALFANDARI, L., LJUBIC, I. et PUNAM-MANDAL, M. \(2023\). Robust Facility Location in Disaster](#)

[Preparation for Earthquakes with Aftershocks. Dans: OR 2023: Decision Support & Choice-Based Analytics for a Disruptive World. Hamburg.](#)

[ALFANDARI, L. \(2023\). Approximation of the Double Traveling Salesman Problem with Multiple Stacks. Dans: 23rd Congress of International Federation of Operational Research Societies \(IFORS\) 2023. Santiago de Chile.](#)

[DELLE DONNE, D., KUZBAKOV, Y. et ALFANDARI, L. \(2023\). A Branch-and-price Approach for Last-mile Deliveries with Capacitated Robot Stations. Dans: 23rd Conference of the International Federation of Operational Research Societies 2023. Santiago.](#)

[ALFANDARI, L., LJUBIC, I. et PUNAM-MANDAL, M. \(2024\). Robust facility location for earthquake preparedness with aftershocks. Dans: 2024 Optimisation au deuxième niveau \(Centre International de Rencontres Mathématiques\). Marseille.](#)

[ALFANDARI, L., HASSANZADEH, A. et LJUBIC, I. \(2024\). Fractional programming for Assortment optimization. Dans: 2024 International Symposium on Combinatorial Optimization \(ISCO\). Tenerife.](#)

[DELLE DONNE, D., ALFANDARI, L. et KUZBAKOV, Y. \(2024\). A column generation approach for last-mile deliveries with capacitated robot stations. Dans: International Symposium on Combinatorial Optimization \(ISCO\). Tenerife, Spain.](#)

## **PRESS ARTICLE, VIDEO OR OTHER POPULAR MEDIA**

[ALFANDARI, L., ARCHETTI, C. et LJUBIC, I. \(2021\). Sustainable city logistics. \*ESSEC Knowledge\*.](#)

[DELLE DONNE, D., ARCHETTI, C., LJUBIC, I. et ALFANDARI, L. \(2023\). When public transport delivers. \*ESSEC Knowledge\*.](#)

## **INVITED SPEAKER AT AN ACADEMIC CONFERENCE**

[ALFANDARI, L., LJUBIC, I. et DE MELO DA SILVA, M. \(2022\). A Tailored Benders Decomposition Approach for Last-mile Delivery with Autonomous Robots. Dans: International Conference on Operations Research and Enterprise Systems \(ICORES\). Online.](#)

## **RESEARCH ACTIVITIES**

### **Organization of a conference or a seminar**

2013 - 2013: Organization of an event for practitioners and managers: “La Recherche Opérationnelle: clé de la performance des entreprises?”, 200 managers and practitioners attended, round-table with Air France, Amadeus, and Bouygues

2015 - 2015: Télécom (Université Paris Dauphine-PSL France)  
Organization of the French OR contest : "Les Pros de la RO", nov. 2015  
(finalists : Gefco-Eurodecision, Amadeus, Decision Brain, Orange) ( France)

#### **Member of an academic association**

2000 - Now: Member of the French OR Society (ROADEF)

#### **Function in an academic association**

2011 - 2015: Vice-President of the ROADEF

#### **Reviewer for a journal**

- Reviewer for Annals of Operations Research
- Computational Optimization and Applications
- Computers & Operations Research
- Discrete Applied Mathematics
- European Journal of Operational Research
- RAIRO - Operations Research

### **PROFESSIONAL ACTIVITIES**

#### **Consulting**

2002 - Now: Consulting activities & industrial contracts : SNCF, ESSEC BS, Babcock-Wanson, Aid-Impact...