



centre adscrit a:



UNIVERSITAT POLITÈCNICA  
DE CATALUNYA  
BARCELONATECH

# Informe de recerca

2020-2021

Magdalena Mantilla López

## INTRODUCCIÓ

En aquest informe, es recullen les activitats de recerca dutes a terme individualment pel personal acadèmic d'EUNCET i les activitats de recerca organitzades des de la institució durant el curs acadèmic 2020-2021.

### 1. ACTIVITATS D'INVESTIGACIÓ ACADÈMICA REALITZADES PEL PERSONAL DOCENT I INVESTIGADOR D'EUNCET

Al llarg dels anys 2020 i 2021, el personal docent i investigador d'EUNCET ha desenvolupat la tasca investigadora en diversos àmbits en funció dels camps d'especialització de cadascun. Tot seguit, s'exposen les activitats investigadores desenvolupades en aquest període per cadascun dels investigadors (en negreta, s'indiquen els professors d'EUNCET):

- **Cristina López-Mayan**
  - A. Publicacions/documents de treball:
    - Brandts, J., I. Busom, **C. López-Mayan** i J. Panadés (2021), Dispelling Misconceptions in Economics, Barcelona GSE Working Paper 1096.
  - B. Presentacions a congressos.
  - C. Participació en projectes de recerca.
  - D. Altres mèrits de recerca.
  
- **Cristina Cáliz**
  - A. Publicacions/documents de treball:
    - Marciniak, R., & **Cáliz Rivera, C.** (2021). A System of Indicators for Quality Assessment of Didactic Materials in Online Education. La International Review of Research in Open and Distributed Learning, 22(1), 180-198. <https://doi.org/10.19173/irrodl.v22i1.5069>.
  - B. Participació en projectes de recerca.
  - C. Presentacions a congressos.
  - D. Altres mèrits de recerca.
  
- **Alfons Freixes**
  - A. Publicacions/documents de treball:
    - **Panadero, J.**, Joan, A. \*, **Freixes, A.**, Grifoll, M., Serrat, C., & Dehghani, M. (2020). Aneu amb simheurístic per a l'estocista team task assignment and orienteering problem: applications to unmanned aerial vehicles. In Proceedings – Winter Simulation Conference, pàg. 1324-1335 (Indexed in ISI WOS and Scopus, 2019 SJR = 0.410). ISSN: 0891-7736. <https://informatics.org/wsc20papers/151.pdf>.

B. Participació en projectes de recerca.

- 2020-2021: "Sports and Health Analytics Research with Gender Perspective". Spanish Ministry of Culture and Sports (09/UPR/20). Lead researcher: **Angel A. Juan/ Alfons Freixes / Javier Panadero**.
- 2020-2023: "Efficient & Sustainable Transport Systems in Smart Cities: Internet de Things, Transport Analytics, i Agile Algorithms". Spanish Ministry of Science (PID2019-111100RB-C21/AEI/10.13039/501100011033). Lead researchers: **Angel A. Juan/ Fatos Xhafa/Alfons Freixes/Javier Panadero**.

C. Presentacions a congressos.

- **Joan, A.; Freixes, A.; Copat, P.; Panadero, J.; Serrat, C.** (2021): "A Genetic Algorithm Simheuristic per a Multi-Unmanned Aerial Vehicle Orienteering Problem". In Proceedings of the 2021 Winter Simulation Conference. Phoenix, AZ, USA. December 12-15.

D. Altres mèrits de recerca.

- **Àngel A. Juan**

A. Publicacions/documents de treball:

- Laroque, C.; Liebau, M.; Copat, P.; Schumacher, C.; **Panadero, J.; Juan, AA**: "A Biased-Randomized Discrete-Event Algorithm per a Hybrid Flow Shop Problem with Time Dependencies and Priority Constraints". Algorithms. ISSN: 1999-4893.
- Seiringer, W.; Castaneda, J.; Altendorfer, K.; **Panadero, J.; Juan, AA** : "A simheuristic to optimize MRP planning parameters per stochastic production systems and customer demands". Algorithms. ISSN: 1999-4893.
- **Panadero, J., Joan, A.\* , Freixes, A.,** Grifoll, M., Serrat, C., & Dehghani, M. (2020). Aneu amb simheuristic per a l'estocista team task assignment and orienteering problem: applications to unmanned aerial vehicles. In Proceedings – Winter Simulation Conference, pàg. 1324-1335 (Indexed in ISI WOS and Scopus, 2019 SJR = 0.410). ISSN: 0891-7736.<https://informs-sim.org/wsc20papers/151.pdf>.
- Estrada, A.; Ferrer, A.; **Juan, A.; Panadero, J.**; Baghirov, A. (2020): "Solving the MultiCriteria Non-Smooth Team Orienteering Problem with Soft Constraints". Mathematics. ISSN: 2227-7390.
- Tordecilla, R.; Martins, L.; Saiz, M.; Copat, P.; **Panadero, J.; Juan, A.** (2020): "Agile Computational Intelligence per supporting Hospital Logistics durant el COVID-19 Crisi". Modeling and Optimization in Science and Technologies.
- **Panadero, J.;Ammouriova, M.; Juan, A.**; Agustin, A.; Noguera, M.; Serrat, C. (2021): "Combining Parallel Computing and Biased Randomització per Solving the Team 5 Orienteering Problem in Real Time". Applied Sciences (indexed in ISI SCI, 2020 IF = 2.679, Q2; 2020 SJR = 0.435, Q2). ISSN: 2076-3417.
- **Mármol, M.**; Goyal, A.; Copat, P.; **Panadero, J.; Juan, A.** (2021): "Maximizing Customers' Lifetime Value using Limited Marketing Resources". Màrqueting Intelligence and Planning. ISSN: 0263-4503.
- Tordecilla, R.; Copat, P.; **Panadero, J.**; Quintero, C.; Montoya, J.; **Juan, A.\*** (2021): "Combining heuristics per simulació i fuzzy lògic per solucionar flexible-size location

- routing problema under uncertainty”. *Algorithms*, 14(2), 45 (Indexed in ESCI; 2019 SJR = 0.358, Q3). ISSN: 1999-4893.
- Kizys, R.; Doering, J.; **Juan, A.\***; Polat, O.; Calvet, L.; **Panadero, J.** (2021): “A Simheuristic Algorithm per a Portfolio Optimisation Problem with Random Returns and Noisy Covariances”. *Computers & Operations Research* (indexat a ISI SCI, 2020 IF = 4.008, Q2; 2020 SJR = 1.506, Q1). ISSN: 0305-0548.
  - Tordecilla, R.; Martins, L.; **Panadero, J.**; Copat, P.; Pérez, I.; Juan, A.\* (2021): “Fuzzy Simheuristics for Optimization Problems in Transportation: dealing with stochastic and fuzzy uncertainty”. *Applied Sciences* (indexat in ISI SCI, 2020 IF = 2.679, Q2; 2020 SJR = 0.435, Q2). ISSN: 2076-3417.
  - **Marbre, M.**; Goyal, A.; Copat, P.; **Panadero, J.**; **Juan, A.\*** (2021): “A Biased-Randomized Algorithm for Maximizing Customers' Lifetime Value using Limited Marketing Resources”. *Marketing Intelligence and Planning* (indexat a ISI SCI, 2020 IF = 3.491, Q3; 2020 SJR = 0.745, Q2). ISSN: 0263-4503.
  - **Juan, A.\***; Marti, R.; Keenan, P.; **Panadero, J.**; McGarraghy, S.; Carroll, P.; Oliva, D. (2021): “A Review de Role of Heuristics in Stochastic Optimisation: from metaheuristics to learnheuristics”. *Annals of Operations Research* (indexat in ISI SCI, 2020 IF = 4.854, Q1; 2020 SJR = 1.068, Q1). ISSN: 0254-5330. <https://rdcu.be/cmb0f>
  - Keenan, P.; **Panadero, J.**; **Juan, A.\***; Marti, R.; McGarraghy, S. (2021): “A Strategic Oscillation Simheuristic for the Time Capacitat Arc Routing Problem with Stochastic Demands”. *Computers & Operations Research* (indexat a ISI SCI, 2020 IF = 4.008, Q2; 2020 SJR = 1.506, Q1). ISSN: 0305-0548.
  - Oliva, D.; Copat, P.; Hinojosa, S.; **Panadero, J.**; Riera, D.; **Juan, A** (2021): “Combinació simheuristics amb fuzzy lògic per solving optimització problemes amb un certainty”. *Mathematics*. ISSN: 2227-7390.
  - De la Torre, R.; Onggo, S.; Corlu, C.; Noguera, M.; **Juan, A.\*** (2021): “The Role of Simulation and Serious Games in Teaching Concepts on Circular Economy and Sustainable Energy”. *Energies* (indexed in ISI SCI, 2020 IF = 3.004, Q3; 2020 SJR = 0.598, Q2). ISSN: 1996-1073.
  - De la Torre, R.; Corlu, C.; Faulin, J.; Onggo, S.; **Juan, A.\*** (2021): “Simulation, Optimization, and Machine Learning in Sustainable Transportation Systems: Models and Applications”. *Sustainability*, 13(3), 1–21, 1551 (indexed in ISI SCI, 2020 IF = 3.251, Q2; 2020 SJR = 0.612, Q1). ISSN: 2071-1050.
  - Martins, L.; Hirsch, P.; **Juan, A.\*** (2021): “Agile Optimization of a Two-Echelon Vehicle Routing Problem with Pick-up and Delivery”. *Int. Transactions in Operational Research*, 28(1): 201-221 (indexed in ISI SCI, 2020 IF = 4.193, Q2; 2020 SJR = 1.032, Q1). ISSN: 0969-6016. <https://doi.org/10.1111/itor.12796>
  - Tordecilla, R.; **Juan, A.\***; Montoya, J.; Quintero, C.; **Panadero, J.** (2021). “Simulation-Optimization Methods for Designing Resilient Supply Chain Networks under Uncertainty Scenaris: A Review”. *Simulation Modelling Practice and Theory*, 106, 102166 (indexat in ISI SCI, 2020 IF = 3.272, Q1; 2020 SJR = 0.554, Q2). ISSN: 1569-190X. <https://doi.org/10.1016/j.simpat.2020.102166>.

#### B. Participació en projectes de recerca:

- 2020-2021 (8.000): “Sports and Health Analytics Research with Gender Perspective”. Spanish Ministry of Culture and Sports (09/UPR/20). Lead researcher: **Angel A.**

**Juan\*/Javier Panadero/Alfons Freixes.**

C. Presentacions a congressos:

- Onggo, S.; Juan, A.; Panadero, J.; Corlu, C.; Agustin, A. (2019): "The Risks of Not Considering Input Uncertainty in Combined Inventory-Management and VehicleRouting Problems". 2019 Winter Simulation Conference. Maryland, USA. December 8- 11.
- **Juan, A.**; Reyes, L.; de la Torre, R.; **Panadero, J.**; Faulin, J.; Latorre, I. (2019): "Simulation-based Optimization in Transportation & Logistics: Comparing Sample Average Approximation with Simheuristics". 2019 Winter Simulation Conference. Maryland, USA. December 8-11.
- Raba, D.; **Juan, A.**; **Panadero, J.**; Bayliss, C.; Estrada, A. (2019): "Combining Internet de Things with Simulation-Optimization in Food Supply Chain". 2019 Winter Simulation Conference. Maryland, USA. December 8-11.
- Corlu, C.; **Panadero, J.**; Onggo, B.; **Juan, A.**: "Impact of Limited Input Data de Quality of Solutions to the Stochastic Optimization Problems". IISE Annual Conference & Expo. Maig 30 – June 2, 2020. New Orleans. USA.
- Bayliss, C.; Nieto, A.; **Juan, A.**; Serra, M.; Gandouz, M. (2020): "A Simheuristic Algorithm for Robust Asset and Liability Management". 2020 Winter Simulation Conference. Orlando, FL, USA. December 13-16.
- Rabe, M.; Chicaiza, J.; Tordecilla, R.; **Juan, A.** (2020): "Simheuristics for Multi-Period Facility Location Problems with Forecasted and Random Demands". 2020 Winter Simulation Conference. Orlando, FL, USA. December 13-16.
- Saiz, M.; Lostumbo, M.; **Juan, A.**; Lopez-Lopez, D. (2020): "Using Simulation-Optimization per Stochastic Project Portfolio Management with Sustainability Criteria". 2020 Winter Simulation Conference. Orlando, FL, USA. December 13-16.
- Wolfgang, S.; **Panadero, J.**; Altendorfer, K.; Castaneda, J.; **Juan, A.** (2021): "Applying Simheuristics per Safety Stock and Planned Lead Time Optimization in Rolling Horizon MRP System under Uncertainty". 2021 Winter Simulation Conference. Phoenix, AZ, USA. December 12-15.
- Xhafa, F.; Aly A.; **Juan, A.** (2021): "Optimització de Tax Allocations in Cloud to Fog Environment with Applications to Transportation Systems". In Proceedings of the 35th International Conference on Advanced Information Networking and Applications. Toronto, Canadà. Maig 12-14, 2021.
- Shaker, H.; Xhafa, F.; **Juan, A.** (2021): "Modelatge i avaluació de cloenda a foc (C2F) environment per Task Allocations with C-V2X Applications in Transportation Systems". In Proceedings of the 35th International Conference on Advanced Information Networking and Applications. Toronto, Canadà. Maig 12-14, 2021.
- Nieto, A.; **Juan, A.**; Kizys, R.; Bayliss, C. (2021): "Asset and liability management in insurance firms: a biased-randomised approach combining heuristics with Monte Carlo simulation". 10th Simulation Workshop, UK. March 22-26, 2021.
- Lostumbo, M.; Saiz, M.; Calvet, L.; **Juan, A.**; Lopez, D. (2021): "Combining Simulation with Reliability Analysis in Supply Chain Project Management under Uncertainty: A Case Study in Healthcare". 2021 Winter Simulation Conference. Phoenix, AZ, USA. December 12-15.
- Peyman, M.; Li, I.; Tordecilla, R.; Copat, P.; **Juan, A.**; Xhafa, F. (2021): "Waste Collection

- of Medical Items under Uncertainty using Internet de Things and City Open Data Repositories: A Simheuristic Approach”. 2021 Winter Simulation Conference. Phoenix, AZ, USA. December 12-15.
- Martins, L.; Castaneda, J.; **Juan, A.**; Barris, B.; Calvet, L.; Tondar, A.; Sanchez, J. (2021): “Supporting Efficient Assignment of Medical Resources in Cancer Treatments with Simulation-Optimization”. 2021 Winter Simulation Conference. Phoenix, AZ, USA. December 12-15.
  - Martins, L.; Torres, M.; Perez, I.; Corlu, C.; **Juan, A.**; Faulin, J. (2021): “Solving a Urban Ridesharing Problem with Stochastic Traveling Times: Simheuristic Approach”. 2021 Winter Simulation Conference. Phoenix, AZ, USA. December 12-15.
  - **Freixes, A.**; Copat, P.; **Panadero, J.**; Gomez, J.; Serrat, C.; **Juan, A.** (2021): “A Genetic Algorithm Simheuristic for the Multi-unmanned Aerial Vehicle Orienteering Problem”. 2021 Winter Simulation Conference. Phoenix, AZ, USA. December 12-15.
  - Rabe, M.; Tordecilla, R.; Chicaiza, J.; Martins, L.; **Juan, A.** (2021): “Supporting Hospital Logistics durant el First Months of COVID-19 Crisi: A Simheuristic for the Stochastic Team Orienteering Problem”. 2021 Winter Simulation Conference. Phoenix, AZ, USA. December 12-15.
  - Herrera, I.; Neroni, M.; **Panadero, J.**; Bartolini, M.; **Juan, A.** (2021): “Last-mile delivery of pharmaceutical items to heterogeneous healthcare centers with random travel times and unpunctuality fees”. 2021 Winter Simulation Conference. Phoenix, AZ, USA. December 12-15.
  - Peyman, M.; Copat, P.; **Panadero, J.**; **Juan, A.**; Dehghani, M. (2021): “A Tutorial on How to Connect Python with Different Simulation Software”. 2021 Winter Simulation Conference. Phoenix, AZ, USA. December 12-15.
  - Laroque, C.; Copat, P.; Leissau, M.; Schumacher, C.; **Panadero, J.**; **Juan, A.** (2021): “A Biased-Randomized Discrete-Event Heuristic for the Permutation Flow Shop Problem with Multiple Paths”. 2021 Winter Simulation Conference. Phoenix, AZ, USA. December 12-15.

D. Activitats de transferència:

E. Seminaris de recerca:

- **Juan, A.** “X-Heuristics & Agile Optimization”. Invited talk at Amazon Inc. Luxembourg. Maig 14, 2021.

▪ **Javier Panadero**

A. Publicacions/documents de treball:

- Laroque, C.; Liebau, M.; Copat, P.; Schumacher, C.; **Panadero, J.**; **Juan, AA**: “A Biased-Randomized Discrete-Event Algorithm per a Hybrid Flow Shop Problem with Time Dependencies and Priority Constraints”. Algorithms. ISSN: 1999-4893.
- Seiringer, W.; Castaneda, J.; Altendorfer, K.; **Panadero, J.**; **Juan, AA**: “A simheuristic to optimize MRP planning parameters per stochastic production systems and customer demands”. Algorithms. ISSN: 1999-4893.
- Tordecilla, R.; Martins, L.; Saiz, M.; Copat, P.; **Panadero, J.**; **Juan, A.** (2020): “Agile Computational Intelligence per supporting Hospital Logistics durant el COVID-19 Crisi”.

Modeling and Optimization in Science and Technologies.

- Estrada, A.; Ferrer, A.; **Juan, A.**; **Panadero, J.**; Baghirov, A. (2020): "Solving the MultiCriteria Non-Smooth Team Orienteering Problem with Soft Constraints". *Mathemàtics*. ISSN: 2227-7390.
- Marbre, M.; Goyal, A.; Copat, P.; **Panadero, J.**; **Juan, A.**\* (2021): "A Biased-Randomized Algorithm for Maximizing Customers' Lifetime Value using Limited Marketing Resources". *Màrqueting Intelligence and Planning* (indexat a ISI SCI, 2020 IF = 3.491, Q3; 2020 SJR = 0.745, Q2). ISSN: 0263-4503.
- Tordecilla, R.; Copat, P.; **Panadero, J.**; Quintero, C.; Montoya, J.; **Juan, A.** (2021): "Combining heuristics with simulation and fuzzy lògic per solucionar flexible-size location routing problema under uncertainty". *Algorithms*. ISSN: 1999-4893.
- Keenan, P.; **Panadero, J.**; **Juan, A.**; Marti, R.; McGarraghy, S. (2021): "A Strategic Oscillation Simheuristic for the Time Capacitat Arc Routing Problem with Stochastic Demands". *Computers & Operations Research*. ISSN: 0305-0548.
- **Juan, A.**; Marti, R.; Keenan, P.; **Panadero, J.**; McGarraghy, S.; Carroll, P.; Oliva, D. (2021): "A Review de rol d'Heuristics in Stochastic Optimisation: from metaheuristics to learnheuristics". *Annals of Operations Research*. ISSN: 0254-5330.
- Marbre, M.; Goyal, A.; Copat, P.; **Panadero, J.**; **Juan, A.** (2021): "Maximizing Customers' Lifetime Value using Limited Marketing Resources". *Màrqueting Intelligence and Planning*. ISSN: 0263-4503.
- Tordecilla, R.; Martins, L.; **Panadero, J.**; Copat, P.; Perez, I.; **Juan, A.** (2021): "Fuzzy Simheuristics for Optimization Problems in Transportation: dealing with stochastic and fuzzy uncertainty". *Applied Sciences*. ISSN: 2076-3417.
- Oliva, D.; Copat, P.; Hinojosa, S.; **Panadero, J.**; Riera, D.; **Juan, A.** (2021): "Combinació simheuristics amb fuzzy lògic per solving optimització problemes amb un certainty". *Mathemàtics*. ISSN: 2227-7390.
- **Panadero, J.**; Selimi, M.; Calvet, L.; Marquès, JM; Freitag, F. (2021): "A Two-stage Multi Criteria Optimization Method for Service Placement in Decentralized Edge Clouds". *Future Generation Computer Systems*. ISSN: 0167-739X.
- **Panadero, J.**; Ammouriova, M.; **Juan, A.**; Agustin, A.; Noguera, M.; Serrat, C. (2021): "Combining Parallel Computing and Biased Randomització per Solving the Team 5 Orienteering Problem in Real Time". *Applied Sciences* (indexat in ISI SCI, 2020 IF = 2.679, Q2; 2020 SJR = 0.435, Q2). ISSN: 2076-3417.

#### B. Presentacions a congressos:

- Raba, D.; **Juan, A.**; **Panadero, J.**; Bayliss, C.; Estrada, A. (2019): "Combining Internet de Things with Simulation-Optimization in Food Supply Chain". 2019 Winter Simulation Conference. Maryland, USA. December 8-11.
- **Juan, A.**; Reyes, L.; de la Torre, R.; **Panadero, J.**; Faulin, J.; Latorre, I. (2019): "Simulation-based Optimization in Transportation & Logistics: Comparing Sample Average Approximation with Simheuristics". 2019 Winter Simulation Conference. Maryland, USA. December 8-11.
- Onggo, S.; **Juan, A.**; **Panadero, J.**; Corlu, C.; Agustin, A. (2019): "The Risks of Not Considering Input Uncertainty in Combined Inventory-Management and VehicleRouting Problems". 2019 Winter Simulation Conference. Maryland, USA. December 8- 11.

- Corlu, C.; **Panadero, J.**; Onggo, B.; **Juan, A.**: “Impact of Limited Input Data de Quality of Solutions to the Stochastic Optimization Problems”. IISE Annual Conference & Expo. Maig 30 – June 2, 2020. New Orleans. USA.
- **Freixes, A.**; Copat, P.; **Panadero, J.**; Gomez, J.; Serrat, C.; **Juan, A.** (2021): “A Genetic Algorithm Simheuristic for the Multi-unmanned Aerial Vehicle Orienteering Problem”. 2021 Winter Simulation Conference. Phoenix, AZ, USA. December 12-15.19
- Herrera, I.; Neroni, M.; **Panadero, J.**; Bartolini, M.; **Juan, A.** (2021): “Last-mile delivery of pharmaceutical items to heterogeneous healthcare centers with random travel times and unpunctuality fees”. 2021 Winter Simulation Conference. Phoenix, AZ, USA. December 12-15.
- Peyman, M.; Copat, P.; **Panadero, J.**; **Juan, A.**; Dehghani, M. (2021): “A Tutorial on How to Connect Python with Different Simulation Software”. 2021 Winter Simulation Conference. Phoenix, AZ, USA. December 12-15.
- Laroque, C.; Copat, P.; Leissau, M.; Schumacher, C.; **Panadero, J.**; **Juan, A.** (2021): “A Biased-Randomized Discrete-Event Heuristic for the Permutation Flow Shop Problem with Multiple Paths”. 2021 Winter Simulation Conference. Phoenix, AZ, USA. December 12-15.
- Wolfgang, S.; **Panadero, J.**; Altendorfer, K.; Castaneda, J.; **Juan, A.** (2021): “Applying Simheuristics per Safety Stock and Planned Lead Time Optimization in Rolling Horizon MRP System under Uncertainty”. 2021 Winter Simulation Conference. Phoenix, AZ, USA. December 12-15.

#### C. Participació en projectes de recerca:

- 2018-2021: “Industrial Doctorate: Applications of Analytics to Smart and Sustainable Cities”. AGAUR – Euncet (2017 VAIG DONAR 066). Lead researcher: Angel A. Juan.
- 2020-2021: “Sports and Health Analytics Research with Gender Perspective”. Spanish Ministry of Culture and Sports (09/UPR/20). Lead researcher: **Angel A. Juan**.
- 2020-2022: “Allocation Methods per mejorar la qualitat dels serveis en comunitats-owned systems.”. Spanish Ministry of Science (PGC2018-097599-B-100). Lead Researcher: Joan Manuel Marques/**Javier Panadero**.

#### D. Activitats de transferència:

- 2021-2021: “Scientific & Technical Development in Data Science and Artificial Intelligence”. Fhios Smart Knowledge. Lead researcher: **Angel A. Juan**.

### ▪ **Mage Mármol Pérez**

#### A. Publicacions/documentos de treball.

- **Mármol, M.**; Martins, L.; Hatami, S.; **Juan, A.\***; Fernandez, V. (2020): “Using Biased-Randomized Algorithms per a Multi-Period Product Display Problem with Dynamic Attractiveness”. Algorithms, 13(2), 34 (indexed in ESCI; 2019 SJR = 0.358, Q3). ISSN: 1999-4893. <https://doi.org/10.3390/a13020034>.
- **Mármol, M.**; Goyal, A.; Copat, P.; **Panadero, J.**; **Juan, A.\*** (2021): “A Biased-Randomized Algorithm for Maximizing Customers' Lifetime Value using Limited Marketing Resources”. Màrqueting Intelligence and Planning (indexat a ISI SCI, 2020



IF = 3.491, Q3; 2020 SJR = 0.745, Q2). ISSN: 0263-4503.

- **Mármol, M.**; Goyal, A.; Copat, P.; **Panadero, J.**; **Juan, A.** (2021): "Maximizing Customers' Lifetime Value using Limited Marketing Resources". *Màrqueting Intelligence and Planning*. ISSN: 0263-4503.

- B. Participació en projectes de recerca.
- C. Presentacions a congressos.
- D. Altres mèrits de recerca.

#### ▪ **Paola Mastrantonio**

A. Publicacions/documents de treball:

- **Mastrantonio, P.**, Coduras, O. (2020): *Activitat Física i Qualitat de Vida Percebuda en usuaris de Centres Esportius Públics de Terrassa*, Reptes, 37, 427-433. Federació Espanyola d'Associacions de Docents d'Educació Física (FEADEF) ISSN: Edició impresa : 1579-1726. Edició Web: 1988-2041 ([www.retos.org](http://www.retos.org)).

B. Participació en projectes de recerca:

- 2020-2021: "Gènere i Ciència de Dades en Esport i Salut", Xarxes de recerca en Ciències i Esport 2021, 18 des 2020, Milagros Sainz Ibáñez/**P.Mastrantonio**.

C. Presentacions a congressos:

D. Altres mèrits de recerca:

#### ▪ **Joaquim Valls**

A. Publicacions/documents de treball:

B. Participació en projectes de recerca.

C. Presentacions a congressos.

- Simposi sobre "memòria i matemàtiques" organitzat per la Càtedra "Intel·ligència executiva i Educació" dirigida pel Dr. José Antonio Marina/**Joaquim Valls** de la Universitat de Nebrija (Madrid). 8 i 9 de maig 2020
- VIII Jornada d'abordatge interdisciplinari de la gent gran: "Combatre l'aïllament i la solitud a la vellesa", organitzada per la Facultat d'Infermeria de la UIC (Universitat Internacional de Catalunya), amb la ponència "Cal·ligrafia i estat emocional". 3/11/2021 i ponent **Valls, Joaquim**.

D. Altres mèrits de recerca: