

- Autor(es):** Mexicano-Santoyo, Adriana; Perez-Ortega, Joaquín; Romero, David; Cruz-Reyes, Laura  
We address the multidimensional characterization of difficult instances of the Bin Packing Problem, well known in the combinatorial optimization realm. In search for efficient procedures to solve hard combinatorial optimization problems previous investigations have attempted to identify the instances' characteristics with the greatest impact in their difficulty.  
REVISTA: IEEE LATIN AMERICA TRANSACTIONS - IEEE Region 9 (pags. 2454-2462), MÉXICO; ISSN: 1548-0992; INDEXADO EN: JCR  
DIRECCION ELECTRÓNICA: [dx.doi.org/10.1109/TLA.2015.7273812](https://doi.org/10.1109/TLA.2015.7273812)  
PROPÓSITO: Generación de Conocimiento; SECTOR → DISCIPLINA: (Tecnologías de la Información y Comunicaciones → Computación)
- 2015-06-11  
Semantic representations for knowledge modeling of a Natural Language Interface to Databases using ontologies  
**Autor(es):** González, Juan; Florencia, Rogelio; Fraire, Héctor; Pazos, Rodolfo; Cruz-Reyes, Laura; Gómez, Claudia  
In this paper, we present a way of semantic modelling the elements that integrate the knowledge of a NLIDB with the aim of increasing the number of correctly-answered queries.  
REVISTA: International Journal of Combinatorial Optimization Problems and Informatics - Editorial Académica Dragón Azteca (pags. 28-42), MÉXICO; ISSN: 2007-1558; INDEXADO EN: CONACYT  
DIRECCION ELECTRÓNICA: <http://search.proquest.com/openview/a203518e98e71665edb33cb8781abb5a/1?pq-origsite=gscholar&cbl=696410>  
PROPÓSITO: Generación de Conocimiento; SECTOR → DISCIPLINA: (Tecnologías de la Información y Comunicaciones → Computación)
- 2015-06-11  
Lower and Upper Bounds for the Master Bay Planning Problem  
**Autor(es):** Cruz-Reyes, Laura; Hernández, Paula; Melin, Patricia; Mar-Ortiz, Julio; Fraire-Huacuja, Hector; Puga-Soberanes, Hector Jose; Gonzalez-Barbosa, Juan Jose  
In this work we tackle the problem of the stowage of containers on a ship, the so-called Master Bay Planning Problem (MBPP). This is an important hard combinatorial optimization problem in the context of maritime port logistics which has proven to be really difficult to solve.  
REVISTA: International Journal of Combinatorial Optimization Problems and Informatics - Editorial Académica Dragon Azteca (pags. 42-52), MÉXICO; ISSN: 2007-1558; INDEXADO EN: CONACYT  
DIRECCION ELECTRÓNICA: <http://search.proquest.com/openview/d8ec480da5b775bbe454d7e5c6fd6a/1?pq-origsite=gscholar>  
PROPÓSITO: Generación de Conocimiento; SECTOR → DISCIPLINA: (Tecnologías de la Información y Comunicaciones → Computación)
- 2015-04-11  
Hybrid metaheuristic approach for handling many objectives and decisions on partial support in project portfolio optimisation  
**Autor(es):** Fernandez, Eduardo; Gomez, Claudia; Rivera, Gilberto; Cruz-Reyes, Laura  
We propose the Non-Outranked Ant Colony Optimisation II method, which incorporates a fuzzy outranking preference model for optimising portfolio problems with partial-support features. The advantages offered by this novel approach are supported by a series of experiments that provide evidence of its capacity for solving those real-world problems in which the level of resources allocated to the selected proposals has a proportional impact on the projects' expected benefits.  
REVISTA: Information Science - Elsevier (pags. 102-122), MÉXICO; ISSN: 0020-0255; INDEXADO EN: JCR  
DIRECCION ELECTRÓNICA: [dx.doi.org/10.1016/j.ins.2015.03.064](https://doi.org/10.1016/j.ins.2015.03.064)  
PROPÓSITO: Generación de Conocimiento; SECTOR → DISCIPLINA: (Tecnologías de la Información y Comunicaciones → Computación)
- 2014-11-01  
An Ant Colony System Metaheuristic Algorithm for Solving a Bi-Objective Purchasing Scheduling Problem  
**Autor(es):** Delgado-Orta, José Francisco; Coronel-Hernández, José Antonio; Cruz-Reyes, Laura; Palacios-Espinosa, Alejandro; Ayala-Esquivel, Christian; Moctezuma-Cantorán, Isidro; Ochoa-Sommano, Jorge  
In this work the Purchasing Scheduling Problem (PSP) is presented, based in study cases of public and private sectors. PSP models the purchasing process in both scenarios through an optimization approach. It is based on the multi-objective formulation of the knapsack problem.  
REVISTA: Research in Computer Science - CIC-IPN Mexico (pags. 21-30), MÉXICO; ISSN: 1870-4069;  
DIRECCION ELECTRÓNICA: [http://rcs.cic.ipn.mx/2014\\_82/An%20Ant%20Colony%20System%20Metaheuristic%20Algorithm%20for%20Solving%20a%20Bi-Objective%20Purchasing.pdf](http://rcs.cic.ipn.mx/2014_82/An%20Ant%20Colony%20System%20Metaheuristic%20Algorithm%20for%20Solving%20a%20Bi-Objective%20Purchasing.pdf)  
PROPÓSITO: Generación de Conocimiento; SECTOR → DISCIPLINA: (Tecnologías de la Información y Comunicaciones → Computación)
- 2014-10-28  
A grouping genetic algorithm with controlled gene transmission for the bin packing problem  
**Autor(es):** Quiroz-Castellanos, Marcela; Cruz-Reyes, Laura; Torres-Jiménez, Jose; Gómez, Claudia; Fraire-Huacuja, Héctor; Alvim, Adriana  
In this study, the one-dimensional Bin Packing Problem (BPP) is approached. The BPP is a classical optimization problem that is known for its applicability and complexity. We propose a method that is referred to as the Grouping Genetic Algorithm with Controlled Gene Transmission (GGA-CGT) for Bin Packing. The proposed algorithm promotes the transmission of the best genes in the chromosomes without losing the balance between the selective pressure and population diversity.  
REVISTA: Computers & Operations Research - Elsevier (pags. 52-64), MÉXICO; ISSN: 0305-0548; INDEXADO EN: JCR  
DIRECCION ELECTRÓNICA: [dx.doi.org/10.1016/j.cor.2014.10.010](https://doi.org/10.1016/j.cor.2014.10.010)  
PROPÓSITO: Generación de Conocimiento; SECTOR → DISCIPLINA: (Tecnologías de la Información y Comunicaciones → Computación)
- 2014-07-24  
Improving the Bin Packing Heuristic through Grammatical Evolution Based on Swarm Intelligence.  
**Autor(es):** Sotelo-Figueroa, Marco Aurelio; Puga-Soberanes, Héctor José; Carpio, Juan Martín; Fraire-Huacuja, Héctor; Cruz-Reyes, Laura; Soria-Alcaraz, Jorge Alberto