

**DOCTORADO EN CIENCIAS DE LA INGENIERÍA**  
**LGAC2**  
**RESUMEN PRODUCTOS**

TABLA RESUMEN PRODUCTOS LGAC2

No. Producto	ID Producto	Descripción
1	LGAC2--2021-JCR-1	E. Fernandez; N. Rangel-Valdez; L. Cruz-Reyes; C.G. Gomez-Santillan; (2021). A New Approach to Group Multi-Objective Optimization under Imperfect Information and Its Application to Project Portfolio Optimization. Applied Sciences. DOI: <a href="https://doi.org/10.3390/app11104575">https://doi.org/10.3390/app11104575</a>
2	LGAC2--2020-JCR-1	Mirna Patricia Ponce-Flores; Juan Frausto-Solis; Guillermo Santamaria-Bonfil; Joaquin Perez-Ortega; Juan Javier Gonzalez-Barbosa; Time Series Complexities and Their Relationship to Forecasting Performance; Entropy 22 (1), 89 <a href="https://doi.org/10.3390/e22010089">https://doi.org/10.3390/e22010089</a> ISSN 1099-4300
3	LGAC2--2020-JCR-2	Delgado-Hernandez, Xochitl Samantha; Morales-Rodriguez, Maria Lucila; Rangel-Valdez, Nelson; Cruz-Reyes, Laura; Castro-Rivera, Jorge Antonio; (2020). Development of Conversational Debilitative Agents Driven by Personality via Fuzzy Outranking Relations. International Journal of Fuzzy Systems.
4	LGAC2--2020-JCR-3	Rangel-Gonzalez, J.A.; Fraire, H.; Frausto Solis, Juan; Cruz-Reyes, L.; Gomez-Santillan, C.; Rangel-Valdez, Nelson; Carpio-Valadez, J.M.; (2020). Fuzzy Multi-objective Particle Swarm Optimization Solving the Three-Objective Portfolio Optimization Problem. International Journal of Fuzzy Systems.
5	LGAC2--2020-JCR-4	Rangel-Valdez, Nelson; Gomez-Santillan, C.; Hernandez-Marin, J.C.; Morales-Rodriguez, Maria Lucila; Cruz-Reyes, L.; Fraire-Huacuja, H.J.; (2020). Parallel Designs for Metaheuristics that Solve Portfolio Selection Problems Using Fuzzy Outranking Relations. International Journal of Fuzzy Systems
6	LGAC2--2020-JCR-5	Rivera G.; Cisneros, L.; Sanchez-Solis, P.; Rangel-Valdez, Nelson; Rodas-Osollo, J.; (2020) Genetic Algorithm for Scheduling Optimization Considering Heterogeneous Containers: A Real-World Case Study. Axioms, vol. 9(27):1 – 16. DOI: <a href="https://doi.org/10.3390/axioms9010027">doi:10.3390/axioms9010027</a>
7	LGAC2--2020-JCR-6	Soto, C.; Dorronsoro, B.; Fraire, H.; Cruz-Reyes, L.; Gomez-Santillan, C.; Rangel-Valdez, Nelson; (2019) Solving the multi-objective flexible job shop scheduling problem with a novel parallel branch and bound algorithm. Swarm and Evolutionary Computation, vol. 53(2020). DOI: <a href="https://doi.org/10.1016/j.swevo.2019.100632">https://doi.org/10.1016/j.swevo.2019.100632</a>
8	LGAC2--2019-JCR-1	Ponce-Flores, Mirna Patricia; Frausto-Solis, Juan; Castilla-Valdez, Guadalupe; Gonzalez-Barbosa, Juan Javier; Perez-Ortega, Joaquin; Teran, David; Hurst Exponent with ARIMA and Simple Exponential Smoothing for Measuring Persistency of M3-Competition Series, IEEE Latin America Transactions, Vol. 17 2019 ISSN
9	LGAC2--2019-JCR-2	Cerecedo-Cordoba, Jorge; Gonzalez-Barbosa, Juan Javier; Frausto-Solis, Juan; Gallardo Rivas, Nohra Violeta; Melting Temperature Estimation of Imidazole Ionic Liquids with Clustering Methods, Journal of chemical information and modeling, Vol. 59 No. 7 2019 ISSN 1549-9596 <a href="https://doi.org/10.1021/acs.jcim.9b00203">doi.org/10.1021/acs.jcim.9b00203</a>
10	LGAC2--2019-JCR-3	Frausto-Solis, Juan; Sanchez-Hernandez Juan Paulo; Maldonado-Nava, Fanny Gabriela; Gonzalez-Barbosa, Juan Javier; GRSA Enhanced for Protein Folding Problem in the Case of Peptides, Axioms, Vol. 8 2019 ISSN 2075-1680, <a href="https://doi.org/10.3390/axioms8040136">doi.org/10.3390/axioms8040136</a>
11	LGAC2--2019-JCR-4	Balderas, F.; Fernandez, E.; Gomez-Santillan, C.; Rangel-Valdez, Nelson; Cruz, L.; (2019). An Interval-Based Approach for Evolutionary Multi-Objective Optimization of Project Portfolios. International Journal of Information Technology & Decision Making. Vol. 18, No. 4 (2019) 1317–1358. DOI: <a href="https://doi.org/10.1142/S021962201950024X">https://doi.org/10.1142/S021962201950024X</a>
12	LGAC2--2019-JCR-5	Fernandez, E.; Gomez-Santillan, C.; Rangel-Valdez, Nelson; Cruz-Reyes, L.; Balderas, F.; (2019) An Interval-Based Evolutionary Approach to Portfolio Optimization of New Product Development Projects. Mathematical Problems in Engineering. 2019(1):1 – 18. DOI: <a href="https://doi.org/10.1155/2019/4065424">https://doi.org/10.1155/2019/4065424</a>
13	LGAC2--2019-JCR-6	Fernandez, E.; Rangel-Valdez, Nelson; Cruz-Reyes, L.; Gomez-Santillan, C.; Rivera-Zarate, G.; Sanchez-Solis, P.; (2019) Inferring Parameters of a Relational System of Preferences From Assignment Examples Using an Evolutionary Algorithm, Technological and Economic Development of Economy, vol. 25(4):693 – 715. DOI: <a href="https://doi.org/10.3846/tede.2019.9475">https://doi.org/10.3846/tede.2019.9475</a>
14	LGAC2--2019-JCR-7	Macias-Escobar, T.; Cruz-Reyes, L.; Dorronsoro, B.; Fraire-Huacuja, H.; Rangel-Valdez, Nelson; Gomez-Santillan, C.; (2019). Application of Population Evolvability in a Hyper-Heuristic for Dynamic Multi-objective Optimization. Technological and Economic Development of Economy, vol. 25(5):951 – 978. DOI: <a href="https://doi.org/10.3846/tede.2019.10291">https://doi.org/10.3846/tede.2019.10291</a>
15	LGAC2--2018-JCR-1	Rangel-Valdez, Nelson; Fernandez, E.; Cruz-Reyes, L.; Gomez-Santillan, C.G.; Rivera, G.; Florencia, R.; (2018) Robustness Analysis of an Outranking Model Parameters' Elicitation Method in the Presence of Noisy Examples. Mathematical Problems in Engineering. 2018(1):1 – 11. 2018. DOI: <a href="https://doi.org/10.1155/2018/2157937">https://doi.org/10.1155/2018/2157937</a>
16	LGAC2--2017-JCR-1	Cruz-Reyes, L.; Fernandez, E.; Rangel-Valdez, Nelson; (2017). A metaheuristic optimization-based indirect elicitation of preference parameters for solving many-objective problems. International Journal of Computational Intelligence Systems. 10(1):56 – 77. DOI: <a href="https://doi.org/10.2991/ijcis.2017.10.1.5">https://doi.org/10.2991/ijcis.2017.10.1.5</a>
17	LGAC2--2017-JCR-2	Torres-Jimenez, J.; Rangel-Valdez, Nelson; Avila-George, H.; Carrizalez-Turrubiates, O.; (2017) Optimal Shortening of Uniform Covering Arrays. PLOS ONE. 12(12):1 – 44.2017. DOI: <a href="https://doi.org/10.1371/journal.pone.0189283">https://doi.org/10.1371/journal.pone.0189283</a>

18	LGAC2--2017-JCR-3	Fernandez, E.; Gomez-Santillan, C.; Cruz-Reyes, L.; Rangel-Valdez, Nelson; Bastiani, S.; (2017). Design and Solution of a Surrogate Model for Portfolio Optimization Based on Project Ranking. Scientific Programming, vol. 2017:1 – 10. DOI: <a href="https://doi.org/10.1155/2017/1083062">https://doi.org/10.1155/2017/1083062</a>
19	LGAC2--2021-RA-1	A. Castellanos-Alvarez; L. Cruz-Reyes; E. Fernandez; N. Rangel-Valdez; C. Gomez-Santillan; H. Fraire; J.A. Brambila-Hernandez; (2021) A Method for integration of preferences to a Multi-Objective Evolutionary Algorithm Using Ordinal Multi-Criteria Classification. Mathematical and Computational Applications. DOI: <a href="https://doi.org/10.3390/mca26020027">https://doi.org/10.3390/mca26020027</a> .
20	LGAC2--2021-RA-2	A. Estrada-Padilla; D. Lopez-Garcia; C. Gomez-Santillan; H.J. Fraire-Huacuja; L. Cruz-Reyes; N. Rangel-Valdez; M.L. Morales-Rodriguez; (2021) Modeling and Optimizing the Multi-objective Portfolio Optimization Problem with Trapezoidal Fuzzy Parameters. Mathematical and Computational Applications. DOI: <a href="https://doi.org/10.3390/mca26020036">https://doi.org/10.3390/mca26020036</a> .
21	LGAC2--2021-RA-3	T. Macias-Escobar; L. Cruz-Reyes; C. Medina-Trejo; C. Gomez-Santillan; N. Rangel-Valdez; H. Fraire-Huacuja; (2021) An Interactive Recommendation System for Decision Making Based on the Characterization of Cognitive Tasks. Mathematical and Computational Applications. DOI: <a href="https://doi.org/10.3390/mca26020035">https://doi.org/10.3390/mca26020035</a>
22	LGAC2--2021-RA-4	M. Perez-Villafuerte; L. Cruz-Reyes; N. Rangel-Valdez; C. Gomez-Santillan; H. Fraire-Huacuja; (2021) Effect of the profile of the Decision Maker in the Search for Solutions in the Decision-Making Process. Mathematical and Computational Applications. DOI: <a href="https://doi.org/10.3390/mca26020028">https://doi.org/10.3390/mca26020028</a>
23	LGAC2--2021-RA-5	L.R. Rosas-Solorzano; C.G. Gomez-Santillan; N. Rangel-Valdez; L. Cruz-Reyes; F.A. Balderas-Jaramillo; J.A. Brambila-Hernandez; (2021) Optimization of Many Objectives with Intervals Applying the MOEA/D Algorithm. POLIBITS, 62(202): 77 – 84. DOI: <a href="https://doi.org/10.17562/PB-62-9">https://doi.org/10.17562/PB-62-9</a>
24	LGAC2--2020-RA-1	Juan Frausto Solis; Jose Enrique Olvera Vazquez; Juan Javier Gonzalez Barbosa; Guadalupe Castilla Valdez; Juan Paulo Sanchez Hernandez; Joaquin Perez-Ortega; The Hybrid Forecasting Method SVR-ESAR for Covid-19; medRxivpreprintdoi: <a href="https://doi.org/10.1101/2020.05.20.20103200">https://doi.org/10.1101/2020.05.20.20103200</a>
25	LGAC2--2019-RA-1	Martinez-Vega, D.A.; Cruz-Reyes, L.; Rangel Valdez, Nelson; Gomez S., C.G.; Sanchez S., P.; Perez V., M.; (2019). Project portfolio selection with scheduling: an evolutionary approach. International Journal of Combinatorial Optimization Problems and Informatics, vol. 10(1):25 – 31.
26	LGAC2--2019-RA-2	Del Angel-Martinez, E.; Fraire-Huacuja, H.J.; Soto, C.; Rangel-Valdez, Nelson; Cruz-Reyes, L.; Gomez-Santillan, C.; (2019). Un nuevo algoritmo de ramificacion y acotamiento para el problema de la biseccion de vertices. Research in Computing Science, vol. 148(8):331 – 343.
27	LGAC2--2019-RA-3	Rangel-Gonzalez J.A.; Frausto Solis, J.; Fraire-Huacuja, H.J.; J.J. Gonzalez-Barbosa; R.A. Pazos-Rangel; (2019). Fuzzy GA-SVR for Mexican Stock Exchange's Financial Time Series Forecast with Online Parameter Tuning. International Journal of Combinatorial Optimization Problems and Informatics, vol. 10(1):40 - 50.
28	LGAC2--2018-RA-1	Delgado-Hernandez, Xochitl Samantha; Morales-Rodriguez, Maria Lucila; Rangel-Valdez, Nelson; Cruz-Reyes, L.; Gomez-Santillan, C.; Gonzalez-Barbosa, Juan Javier; (2018). Analysis of Speech Acts for the Design of a Corpus of Phrases used in an Intelligent Learning Environment. Research in Computing Science, vol. 148(5):33 – 41.
29	LGAC2--2018-RA-2	Anlylu Melo Vega; Juan Frausto-Solis; Ernesto Liñan Garcia; Guadalupe Castilla Valdez; Juan Javier Gonzalez Barbosa; David Teran Villanueva; Juan Paulo Sanchez Hernandez; Parallel Evolutionary Multi-Quenching Annealing for Protein Folding Problem. IJCOPI Vol. 9, No. 3, 2018. ISSN 2007-1558
30	LGAC2--2017-RA-1	Ponce-Guzman, A.Y.; Morales-Rodriguez, Maria Lucila; Gomez, C.; Rangel-Valdez, Nelson; Cruz-Reyes, L.; (2017) GAMeNT: A Framework to Formalize the Serious Game Design and Development. Research in Computing Science, vol. 146(2017):53 – 60. DOI: 10.13053/rcs-146-1-6
31	LGAC2--2017-RA-2	Alejandro Santiago Pineda; Jose Carlos Soto Monterrubio; David Teran Villanueva; Hector Joaquin Fraire Huacuja; Juan Javier Gonzalez Barbosa; Claudia Gomez Santillan; A Neighborhood Operator for Continuous Multi-Objective Optimization Problems. IJCOPI 8(1) (2017), ISSN 2007-1558
32	LGAC2--2017-RA-3	Juan Javier Gonzalez-Mancha; Juan Frausto Solis; Guadalupe Castilla Valdez; Jesus David Teran Villanueva; Juan Javier Gonzalez Barbosa; Financial time series forecasting using Simulated Annealing and Support Vector Regression. IJCOPI 8(2) (2017), ISSN 2007-1558
33	LGAC2--2017-RA-4	Jorge A. Cerecedo-Cordoba.; Juan Javier Gonzalez Barbosa.; J. David Teran-Villanueva; Juan Frausto-Solis; Jose A. Martinez Flores; Use of Neuroevolution to Estimate the Melting Point of Ionic Liquids. Vol. 8, No. 2 ISSN: 2007-1558
34	LGAC2--2017-RA-5	Cruz-Reyes, L.; Perez-Villafuerte, M.; Rangel Valdez, Nelson; Gomez, C.G.; Sanchez-Solis, J.P.; Quiroz-Castellanos, M.; Martinez Vega, D.A.; (2017) Performance Analysis of Strategies that aid in the incorporation of Preferences in Public Portfolio Optimization Processes. International Journal of Combinatorial Optimization, vol. 8(2):25 – 31.
35	LGAC2--2017-RA-6	Hernandez G., M.S.; Gamboa R.F.; Rangel Valdez, Nelson; Cruz R., L.; Gomez S., C.G.; Martinez V., D.A.; (2017) Decomposition Based on Models that use Bandwidth Minimization Heuristics in Matrices for Scheduling Problems. International Journal of Combinatorial Optimization, vol. 8(3):59 – 63.
36	LGAC2--2021-CAPLIB-1	C.G. Gomez-Santillan; A. Estrada Padilla; H. Fraire Huacuja; L. Cruz-Reyes; N. Rangel-Valdez; M.L. Morales-Rodriguez; (2021) Fuzzy Logic Hybrid Extensions of Neural and Optimization Algorithms: Theory and Applications. Chap. Multi-objective Portfolio Optimization Problem with Trapezoidal Fuzzy Parameters. SPRINGER. DOI: <a href="https://doi.org/10.1007/978-3-030-68776-2_17">https://doi.org/10.1007/978-3-030-68776-2_17</a>

37	LGAC2--2021-CAPLIB-2	C. Castillo-Ramirez; N. Rangel-Valdez; C.G. Gomez-Santillan; M.L. Morales-Rodriguez; L. Cruz-Reyes; H.J. Fraire-Huacuja; (2021) New Perspectives on Enterprise Decision-Making Applying Artificial Intelligence Techniques, Chap. Performance Analysis of Decision Aid Mechanisms for Hardware Bots Based on ELECTRE III and Compensatory Fuzzy Logic. SPRINGER. ACCEPTED.
38	LGAC2--2020-CAPLIB-1	Macias-Escobar, T.; Dorronsoro, B.; Cruz-Reyes, L.; Rangel-Valdez, Nelson; Gomez-Santillan, C.; Intuitionistic and Type-2 Fuzzy Logic Enhancements in Neural and Optimization Algorithms: Theory and Applications. Chap. "A Survey of Hyper-heuristics for Dynamic Optimization Problems". SPRINGER (2020), pp. 463 – 477.
39	LGAC2--2020-CAPLIB-2	H.J. Fraire Huacuja; C. Soto; B. Dorronsoro; C.G. Gomez-Santillan; N. Rangel-Valdez; F. Balderas-Jaramillo; (2020) Intuitionistic and Type-2 Fuzzy Logic Enhancements in Neural and Optimization Algorithms: Theory and Applications. Chap. "AMOSA with Analytical Tuning Parameters and Fuzzy Logic Controller for Heterogeneous Computing Scheduling Problem", pp. 195 - 208.
40	LGAC2--2019-CAPLIB-1	Castro-Rivera, Jorge Antonio; Rangel-Valdez, Nelson; Morales-Rodriguez, Maria Lucila; Cruz-Reyes, L.; Pazos, R., R.A.; Handbook of Research on Metaheuristics for Order Picking Optimization in Warehouses to Smart Cities. Chap. "Prioritization of Elements Selection in Order-Picking Problems Through a Preference Model Influenced by Personality". IGI-GLOBAL (2019), pp. 117 – 142.
41	LGAC2--2019-CAPLIB-2	Garcia Nieto, L.R.; Cruz-Reyes, L.; Gomez-Santillan, C.; Rangel-Valdez, Nelson; Fraire-Huacuja, H.J.; Handbook of Research on Metaheuristics for Order Picking Optimization in Warehouses to Smart Cities. Chap. "Tuning Parameters Using VisTHAA Applied to a Metaheuristic Algorithm that solves the Order Picking Problem". IGI-GLOBAL (2019), pp. 89 – 116.
42	LGAC2--2019-CAPLIB-3	Meza-Barron, F.F.; Rangel-Valdez, Nelson; Hernandez-Marin, J.C.; Morales-Rodriguez, Maria Lucila; Cruz-Reyes, L.; Handbook of Research on Metaheuristics for Order Picking Optimization in Warehouses to Smart Cities. Chap. "Tri-Objective Optimization Model for Order Picking". IGI-GLOBAL (2019), pp. 28 – 49.
43	LGAC2--2019-CAPLIB-4	Fraire-Huacuja, H.J.; Gomez-Santillan, C.; Estrada Padilla, A.; Rangel-Valdez, Nelson; Cruz-Reyes, L.; Morales-Rodriguez, Maria Lucila; Frausto-Solis, Juan; Handbook of Research on Metaheuristics for Order Picking Optimization in Warehouses to Smart Cities. Chap. "Variable Neighborhood Search Algorithm for the Variable Cost and Size Bin Packing Problem". IGI-GLOBAL (2019), pp. 1 – 17.
44	LGAC2--2018-CAPLIB-1	Javier Alberto Rangel Gonzalez; Juan Frausto Solis; Juan Javier Gonzalez Barbosa; Rodolfo A. Pazos Rangel; Hector Joaquin FraireHuacuja; Comparative Study of ARIMA Methods for Forecasting Time Series of the Mexican Stock Exchange. Fuzzy Logic Augmentation of Neural and Optimization Algorithms 2018: 475-485, <a href="https://link.springer.com/chapter/10.1007/978-3-319-71008-2_34">https://link.springer.com/chapter/10.1007/978-3-319-71008-2_34</a>
45	LGAC2--2018-CAPLIB-2	Jorge A. Cerecedo-Cordoba; Juan Javier Gonzalez Barbosa; Jesus David Teran Villanueva; Juan Frausto Solis; Neuro-evolutionary Neural Network for the Estimation of Melting Point of Ionic Liquids. Fuzzy Logic Augmentation of Neural and Optimization Algorithms 2018: 81-88, <a href="https://link.springer.com/chapter/10.1007/978-3-319-71008-2_7">https://link.springer.com/chapter/10.1007/978-3-319-71008-2_7</a>
46	LGAC2--2018-CAPLIB-3	Anlyu Melo-Vega; Juan Frausto Solis; Guadalupe Castilla Valdez; Ernesto Liñan-Garcia; Juan Javier Gonzalez Barbosa; David Teran Villanueva; Protein Folding Problem in the Case of Peptides Solved by Hybrid Simulated Annealing Algorithms. Fuzzy Logic Augmentation of Neural and Optimization Algorithms 2018: 141-152, <a href="https://link.springer.com/chapter/10.1007/978-3-319-71008-2_12">https://link.springer.com/chapter/10.1007/978-3-319-71008-2_12</a>
47	LGAC2--2018-CAPLIB-4	Fanny G. Maldonado-Nava; Juan Frausto Solis; Juan Paulo Sanchez-Hernandez; Juan Javier Gonzalez Barbosa; Ernesto Liñan-Garcia; Comparative Study of Computational Strategies for Protein Structure Prediction. Fuzzy Logic Augmentation of Neural and Optimization Algorithms 2018: 449-459, <a href="https://link.springer.com/chapter/10.1007/978-3-319-71008-2_32">https://link.springer.com/chapter/10.1007/978-3-319-71008-2_32</a>
48	LGAC2--2018-CAPLIB-5	Cruz-Reyes, L.; Perez-Villafuerte, M.; Rangel Valdez, Nelson; Fernandez, E.; Gomez, C.; Sanchez-Solis, P.; Fuzzy Logic Augmentation of Neural and Optimization Algorithms; Theoretical Aspects and Real Applications. Chap. "Performance Analysis of an a Priori Strategy to Elicitate and Incorporate Preferences in Multi-objective Optimization Evolutionary Algorithms". SPRINGER (2018), pp. 401 – 414.
49	LGAC2--2018-CAPLIB-6	Balderas, F.; Fernandez, E.; Gomez-Santillan, C.; Cruz-Reyes, L.; Rangel-Valdez, Nelson; Morales-Rodriguez, Maria Lucila; Fuzzy Logic Augmentation of Neural and Optimization Algorithms: Theoretical Aspects and Real Applications. Chap. "A Grey Mathematics Approach for Evolutionary Multi-objective Metaheuristic of Project Portfolio Selection". SPRINGER (2018), pp. 378 – 388.
50	LGAC2--2018-CAPLIB-7	Martinez-Vega, D.A.; Cruz-Reyes, L.; Gomez-Santillan, C.; Rangel-Valdez, Nelson; Rivera, G.; Santiago, A.; Fuzzy Logic Augmentation of Neural and Optimization Algorithms: Theoretical Aspects and Real Applications. Chap. "Modeling and Project Portfolio Selection Problem Enriched with Dynamic Allocation of Resources". SPRINGER (2018), pp. 365 – 378.
51	LGAC2--2017-CAPLIB-1	Hector Joaquin Fraire Huacuja; Norberto Castillo-Garcia; Mario Cesar Lopez Loces; Jose Antonio Martinez Flores; Rodolfo A. Pazos Rangel; Juan Javier Gonzalez Barbosa; Juan Martin Carpio Valadez; Integer Linear Programming Formulation and Exact Algorithm for Computing Pathwidth. Nature-Inspired Design of Hybrid Intelligent Systems 2017: 673-686, <a href="https://link.springer.com/chapter/10.1007/978-3-319-47054-2_44">https://link.springer.com/chapter/10.1007/978-3-319-47054-2_44</a>
52	LGAC2--2017-CAPLIB-2	Hector Joaquin Fraire Huacuja; Juan Frausto Solis; Jesus David Teran Villanueva; Jose Carlos Soto Monterrubio; Juan Javier Gonzalez Barbosa; Guadalupe Castilla Valdez; AMOSA with Analytical Tuning Parameters for Heterogeneous Computing Scheduling Problem. Nature-Inspired Design of

		Hybrid Intelligent Systems 2017: 701-711, <a href="https://link.springer.com/chapter/10.1007/978-3-319-47054-2_46">https://link.springer.com/chapter/10.1007/978-3-319-47054-2_46</a>
53	LGAC2--2017-CAPLIB-3	Juan Javier Gonzalez Barbosa; Juan Frausto Solis; Jesus David Teran Villanueva; Guadalupe Castilla Valdez; Rogelio Florencia Juarez; Lucia Janeth Hernandez Gonzalez; Martha B. Mojica Mata; Implementation of an Information Retrieval System Using the Soft Cosine Measure. Nature-Inspired Design of Hybrid Intelligent Systems 2017: 757-766
54	LGAC2--2017-CAPLIB-4	Balderas, F.; Fernandez, E.; Gomez, C.; Cruz-Reyes, L.; Rangel-Valdez, Nelson; Nature-Inspired Design of Hybrid Intelligent Systems. Chap. "TOPSIS-Grey Method Applied to Project Portfolio Problem". SPRINGER-VERLAG (2017), pp. 767 – 774. ISBN: 9783319470535.
55	LGAC2--2017-CAPLIB-5	Gomez, C.G.; Cruz-Reyes, L.; Rivera, G.; Rangel-Valdez, Nelson; Morales-Rodriguez, Maria Lucila; Perez-Villafuerte, M.; New Perspectives on Applied Industrial Tools and Techniques. Chap. "Interdependent Projects Selection with Preference Incorporation". SPRINGER-VERLAG (2017), pp. 253 – 271. ISBN: 9783319568706
56	LGAC2--2017-CAPLIB-6	Martinez-Vega, D.; Sanchez-Solis, Patricia; Fernandez, E.; L. Cruz-Reyes; C.G. Gomez-Santillan; E. Martinez; (2017). Nature-Inspired Design of Hybrid Intelligent Systems 2017. Evaluation of the Evolutionary Algorithms Performance in Many-Objective Optimization Problems Using Quality Indicators: 641 - 653.
57	LGAC2--2017-CAPLIB-7	L. Cruz-Reyes; C. Medina-Trejo; M.L. Morales-Rodriguez; C.G. Gomez-Santillan; T.E. Macias-Escobar; C.A. Guerrero-Nava; M. Perez-Villafuerte; (2017). Nature-Inspired Design of Hybrid Intelligent Systems 2017. A Dialogue Interaction Module for a Decision Support System Based on Argumentation Schemes to Public Project Portfolio: 741 - 756.
58	LGAC2--2021-MC-1	Becerra Cruz, Andrea Mariel; Rangel-Valdez, Nelson; M.L. Morales-Rodriguez; (2021). Aplicacion de arreglos de cobertura en comparacion a un diseño experimental en la creacion de un modelo de caracterizacion en un proceso de fabricacion. En Memorias del Congreso Internacional de Investigacion Academia Journals Fresnillo 2021, vol. 13(1):113 – 118. URL: <a href="https://www.academiajournals.com/pubfresnillo2021">https://www.academiajournals.com/pubfresnillo2021</a>
59	LGAC2--2021-MC-2	Gonzalez Lopez, Ana Maria; Rangel Valdez, Nelson; Martinez Salazar, Ana Lidia; (2021). Diseño Experimental Aplicado a la reduccion de casos de prueba en procesos quimicos, a partir de covering arrays. En Memorias del Congreso Internacional de Investigacion Academia Journals Fresnillo 2021, vol. 13(1):328 – 333. URL: <a href="https://www.academiajournals.com/pubfresnillo2021">https://www.academiajournals.com/pubfresnillo2021</a>
60	LGAC2--2021-CON-1	Becerra Cruz, Andrea Mariel; Rangel-Valdez, Nelson; (2021). Aplicacion de arreglos de cobertura en comparacion a un diseño experimental en la creacion de un modelo de caracterizacion en un proceso de fabricacion. En Memorias del Congreso Internacional de Investigacion Academia Journals Fresnillo 2021, vol. 13(1):113 – 118. URL: <a href="https://www.academiajournals.com/pubfresnillo2021">https://www.academiajournals.com/pubfresnillo2021</a>
61	LGAC2--2021-CON-2	Gonzalez Lopez, Ana Maria; Rangel Valdez, Nelson; Martinez Salazar, Ana Lidia; (2021). Diseño Experimental Aplicado a la reduccion de casos de prueba en procesos quimicos, a partir de covering arrays. En Memorias del Congreso Internacional de Investigacion Academia Journals Fresnillo 2021, vol. 13(1):328 – 333. URL: <a href="https://www.academiajournals.com/pubfresnillo2021">https://www.academiajournals.com/pubfresnillo2021</a>
62	LGAC2--2021-CON-3	A.L. Martinez-Salazar; A.M. Gonzalez Lopez; A.M. Becerra Cruz; M.L. Morales-Rodriguez; N. Rangel-Valdez; (2021) How to use Covering Arrays in an Experimental Design For a Manufacturing Process. IN The International Virtual Workshop on Business Analytics EUREKA 2021, Cd. Juarez, Chihuahua.
63	LGAC2--2021-CON-4	X.S. Delgado-Hernandez; C.G. Gomez-Santillan; J.J. Gonzalez-Barbosa; M.L. Morales-Rodriguez; N. Rangel-Valdez; (2021) Implementation of the Phrases Selection Model to the Conversational Agent Architecture to Optimize the Response. IN The International Virtual Workshop on Business Analytics EUREKA 2021, Cd. Juarez, Chihuahua.
64	LGAC2--2021-CON-5	J.A. Casto-Rivera; M.L. Morales-Rodriguez; N. Rangel-Valdez; (2021) Design of a Multi-criteria Model of Personality Influence for the modeling of Satisfaction in Virtual Agents. IN The International Virtual Workshop on Business Analytics EUREKA 2021, Cd. Juarez, Chihuahua.
65	LGAC2--2021-CON-6	V. Loredó-Pong; M.L. Morales-Rodriguez; N.P. Diaz-Zavala; N. Rangel-Valdez (2021) Design and Analysis of Classification Models for the Gelification of Alkoxybenzoates Using the KNN Algorithm. IN The International Virtual Workshop on Business Analytics EUREKA 2021, Cd. Juarez, Chihuahua.
66	LGAC2--2020-CON-1	E. Sobrevilla-Resendiz; M.L. Morales-Rodriguez; N. Rangel-Valdez; (2020) Characterization of the student's personality to develop an agent that selects Intelligent Learning Environments study materials. In 13th Workshop on Intelligent Learning Environments (WILE2020). URL: <a href="http://wile.mozello.com/wile-program/">http://wile.mozello.com/wile-program/</a>
67	LGAC2--2020-CON-2	J.A. Villalobos-Neri; M.L. Morales-Rodriguez; N. Rangel-Valdez; (2020) Towards the Design of a Socio-Emotional Negotiator Agent as a Serious Games Character that Supports Learning Environments. In 13th Workshop on Intelligent Learning Environments (WILE2020). URL: <a href="http://wile.mozello.com/wile-program/">http://wile.mozello.com/wile-program/</a>
68	LGAC2--2021-RD-1	Garcia Morales, M.A.; Fraire Huacuja, H.J.; Cruz Reyes, L.; Gomez Santillan, C.; Rangel Valdez, Nelson; M.L. Morales Rodriguez; (2021). Algoritmo Memetico para el Problema de Ventas por Internet con Costos de Envio (MAIshOP). Komputer Sapiens, vol. 1(2021): 6 – 9. URL: <a href="http://smia.mx/komputersapiens/publicaciones.php">http://smia.mx/komputersapiens/publicaciones.php</a>

69	LGAC2--2019-DA-1	L. Cruz-Reyes; R.A. Espin-Andrade; C.G. Gomez-Santillan; C. Medina-Trejo; N. Rangel-Valdez; N.P. Rodriguez Candido; (2019) Analitica de Datos utilizando predicados de Logica Difusa Compensatoria y Arquimediano Compensatoria. Rama Literaria. Num. de Registro: 03-2019-090609561600-01
70	LGAC2--2019-DA-2	L. Cruz-Reyes; R.A. Espin-Andrade; C.G. Gomez-Santillan; C. Medina-Trejo; N. Rangel-Valdez; N.P. Rodriguez Candido; (2019) Eureka Universe. RAMA Programas de Computacion. Num. de Registro: 03-2019-090609503100-01
71	LGAC2--2018-DA-1	G. Castillo-Valdez; S. Gomez-Carpio; N. Rangel-Valdez; J.A. Sandoval-Sanchez; (2018). Algoritmo Genetico Paralelo como Herramienta de Apoyo para la Generacion de Horarios. Rama Literaria. Num. de Registro: 03-2018-061210542500-01

TABLA RESUMEN PRODUCTOS POR ESTUDIANTE EN LGAC2

No. Producto	Estudiante	ID Producto
1	Lucia Janeth Hernandez Gonzalez	LGAC2--2017-CAPLIB-3
2	Xochitl Samantha Delgado Hernandez	LGAC2--2018-RA-1
3	Jorge Antonio Castro Rivera	LGAC2--2019-CAPLIB-1
4	Mirna Patricia Ponce Flores	LGAC2--2019-JCR-1
5	Mirna Patricia Ponce Flores	LGAC2--2020-JCR-1
6	Jorge Antonio Castro Rivera	LGAC2--2020-JCR-2
7	Xochitl Samantha Delgado Hernandez	LGAC2--2020-JCR-2
8	Xochitl Samantha Delgado Hernandez	LGAC2--2021-CON-4
9	Virginia Loreda Pong	LGAC2--2021-CON-6

TABLA RESUMEN PRODUCTOS POR PROFESOR EN LGAC2

No. Producto	Profesor	ID Producto
1	Maria Lucila Morales Rodriguez	LGAC2--2021-RA-2
2	Maria Lucila Morales Rodriguez	LGAC2--2021-CAPLIB-1
3	Maria Lucila Morales Rodriguez	LGAC2--2021-CAPLIB-2
4	Maria Lucila Morales Rodriguez	LGAC2--2021-MC-1
5	Maria Lucila Morales Rodriguez	LGAC2--2021-CON-3
6	Maria Lucila Morales Rodriguez	LGAC2--2021-CON-4
7	Maria Lucila Morales Rodriguez	LGAC2--2021-CON-5
8	Maria Lucila Morales Rodriguez	LGAC2--2021-CON-6
9	Maria Lucila Morales Rodriguez	LGAC2--2021-RD-1
10	Maria Lucila Morales Rodriguez	LGAC2--2020-JCR-2
11	Maria Lucila Morales Rodriguez	LGAC2--2020-JCR-4
12	Maria Lucila Morales Rodriguez	LGAC2--2020-CON-1
13	Maria Lucila Morales Rodriguez	LGAC2--2020-CON-2
14	Maria Lucila Morales Rodriguez	LGAC2--2019-CAPLIB-1
15	Maria Lucila Morales Rodriguez	LGAC2--2019-CAPLIB-3
16	Maria Lucila Morales Rodriguez	LGAC2--2019-CAPLIB-4
17	Maria Lucila Morales Rodriguez	LGAC2--2018-RA-1
18	Maria Lucila Morales Rodriguez	LGAC2--2018-CAPLIB-6
19	Maria Lucila Morales Rodriguez	LGAC2--2017-RA-1
20	Maria Lucila Morales Rodriguez	LGAC2--2017-CAPLIB-5
21	Maria Lucila Morales Rodriguez	LGAC2--2017-CAPLIB-7
22	Guadalupe Castilla Valdez	LGAC2--2020-RA-1
23	Guadalupe Castilla Valdez	LGAC2--2019-JCR-1
24	Guadalupe Castilla Valdez	LGAC2--2018-RA-2
25	Guadalupe Castilla Valdez	LGAC2--2018-CAPLIB-3
26	Guadalupe Castilla Valdez	LGAC2--2017-RA-3
27	Guadalupe Castilla Valdez	LGAC2--2017-CAPLIB-2
28	Guadalupe Castilla Valdez	LGAC2--2017-CAPLIB-3
29	Guadalupe Castilla Valdez	LGAC2--2017-CAPLIB-6
30	Juan Frausto Solis	LGAC2--2020-JCR-1
31	Juan Frausto Solis	LGAC2--2020-JCR-3
32	Juan Frausto Solis	LGAC2--2020-RA-1
33	Juan Frausto Solis	LGAC2--2019-JCR-1
34	Juan Frausto Solis	LGAC2--2019-JCR-2
35	Juan Frausto Solis	LGAC2--2019-JCR-3
36	Juan Frausto Solis	LGAC3--2019-JCR-2
37	Juan Frausto Solis	LGAC2--2019-RA-3
38	Juan Frausto Solis	LGAC2--2019-CAPLIB-4
39	Juan Frausto Solis	LGAC2--2018-RA-2
40	Juan Frausto Solis	LGAC2--2018-CAPLIB-1
41	Juan Frausto Solis	LGAC2--2018-CAPLIB-2
42	Juan Frausto Solis	LGAC2--2018-CAPLIB-3
43	Juan Frausto Solis	LGAC2--2018-CAPLIB-4

44	Juan Frausto Solis	LGAC3--2018-MC-9
45	Juan Frausto Solis	LGAC2--2017-RA-3
46	Juan Frausto Solis	LGAC2--2017-RA-4
47	Juan Frausto Solis	LGAC2--2017-CAPLIB-2
48	Juan Frausto Solis	LGAC2--2017-CAPLIB-3
49	Juan Javier Gonzalez Barbosa	LGAC2--2021-CON-4
50	Juan Javier Gonzalez Barbosa	LGAC1--2020-JCR-4
51	Juan Javier Gonzalez Barbosa	LGAC2--2020-JCR-1
52	Juan Javier Gonzalez Barbosa	LGAC2--2020-RA-1
53	Juan Javier Gonzalez Barbosa	LGAC3--2020-CAPLIB-1
54	Juan Javier Gonzalez Barbosa	LGAC2--2019-JCR-1
55	Juan Javier Gonzalez Barbosa	LGAC2--2019-JCR-2
56	Juan Javier Gonzalez Barbosa	LGAC2--2019-JCR-3
57	Juan Javier Gonzalez Barbosa	LGAC3--2019-JCR-2
58	Juan Javier Gonzalez Barbosa	LGAC2--2019-RA-3
59	Juan Javier Gonzalez Barbosa	LGAC2--2018-RA-1
60	Juan Javier Gonzalez Barbosa	LGAC2--2018-RA-2
61	Juan Javier Gonzalez Barbosa	LGAC2--2018-CAPLIB-1
62	Juan Javier Gonzalez Barbosa	LGAC2--2018-CAPLIB-2
63	Juan Javier Gonzalez Barbosa	LGAC2--2018-CAPLIB-3
64	Juan Javier Gonzalez Barbosa	LGAC2--2018-CAPLIB-4
65	Juan Javier Gonzalez Barbosa	LGAC3--2018-MC-9
66	Juan Javier Gonzalez Barbosa	LGAC2--2017-RA-2
67	Juan Javier Gonzalez Barbosa	LGAC2--2017-RA-3
68	Juan Javier Gonzalez Barbosa	LGAC2--2017-RA-4
69	Juan Javier Gonzalez Barbosa	LGAC2--2017-CAPLIB-1
70	Juan Javier Gonzalez Barbosa	LGAC2--2017-CAPLIB-2
71	Juan Javier Gonzalez Barbosa	LGAC2--2017-CAPLIB-3
72	Nelson Rangel Valdez	LGAC2--2021-JCR-1
73	Nelson Rangel Valdez	LGAC2--2021-RA-1
74	Nelson Rangel Valdez	LGAC2--2021-RA-2
75	Nelson Rangel Valdez	LGAC2--2021-RA-3
76	Nelson Rangel Valdez	LGAC2--2021-RA-4
77	Nelson Rangel Valdez	LGAC2--2021-RA-5
78	Nelson Rangel Valdez	LGAC2--2021-CAPLIB-1
79	Nelson Rangel Valdez	LGAC2--2021-CAPLIB-2
80	Nelson Rangel Valdez	LGAC2--2021-MC-1
81	Nelson Rangel Valdez	LGAC2--2021-MC-2
82	Nelson Rangel Valdez	LGAC2--2021-CON-1
83	Nelson Rangel Valdez	LGAC2--2021-CON-2
84	Nelson Rangel Valdez	LGAC2--2021-CON-3
85	Nelson Rangel Valdez	LGAC2--2021-CON-4
86	Nelson Rangel Valdez	LGAC2--2021-CON-5
87	Nelson Rangel Valdez	LGAC2--2021-RD-1
88	Nelson Rangel Valdez	LGAC2--2020-JCR-2
89	Nelson Rangel Valdez	LGAC2--2020-JCR-3
90	Nelson Rangel Valdez	LGAC2--2020-JCR-4
91	Nelson Rangel Valdez	LGAC2--2020-JCR-5
92	Nelson Rangel Valdez	LGAC2--2020-JCR-6
93	Nelson Rangel Valdez	LGAC2--2020-CAPLIB-1
94	Nelson Rangel Valdez	LGAC2--2020-CAPLIB-2
95	Nelson Rangel Valdez	LGAC2--2020-CON-1
96	Nelson Rangel Valdez	LGAC2--2020-CON-2
97	Nelson Rangel Valdez	LGAC2--2019-JCR-4
98	Nelson Rangel Valdez	LGAC2--2019-JCR-5
99	Nelson Rangel Valdez	LGAC2--2019-JCR-6
100	Nelson Rangel Valdez	LGAC2--2019-JCR-7
101	Nelson Rangel Valdez	LGAC2--2019-RA-1
102	Nelson Rangel Valdez	LGAC2--2019-RA-2
103	Nelson Rangel Valdez	LGAC2--2019-CAPLIB-1
104	Nelson Rangel Valdez	LGAC2--2019-CAPLIB-2
105	Nelson Rangel Valdez	LGAC2--2019-CAPLIB-3
106	Nelson Rangel Valdez	LGAC2--2019-CAPLIB-4



107	Nelson Rangel Valdez	LGAC2--2019-DA-1
108	Nelson Rangel Valdez	LGAC2--2019-DA-2
109	Nelson Rangel Valdez	LGAC2--2018-JCR-1
110	Nelson Rangel Valdez	LGAC2--2018-RA-1
111	Nelson Rangel Valdez	LGAC2--2018-CAPLIB-5
112	Nelson Rangel Valdez	LGAC2--2018-CAPLIB-6
113	Nelson Rangel Valdez	LGAC2--2018-CAPLIB-7
114	Nelson Rangel Valdez	LGAC2--2018-DA-1
115	Nelson Rangel Valdez	LGAC2--2017-JCR-1
116	Nelson Rangel Valdez	LGAC2--2017-JCR-2
117	Nelson Rangel Valdez	LGAC2--2017-JCR-3
118	Nelson Rangel Valdez	LGAC2--2017-RA-1
119	Nelson Rangel Valdez	LGAC2--2017-RA-5
120	Nelson Rangel Valdez	LGAC2--2017-RA-6
121	Nelson Rangel Valdez	LGAC2--2017-CAPLIB-4
122	Nelson Rangel Valdez	LGAC2--2017-CAPLIB-5