

5.2 Relación de productos de investigación de las LGAC de estudiantes y profesores/profesoras del núcleo académico Doctorado en Ciencias en Computación

Departamento de Computación – CINVESTAV-IPN

PNPC 2021

LGAC1: Inteligencia Artificial

En la Figura 1, se muestra la cantidad de diferentes tipos de productos, como tesis de doctorado, artículos de revista, libros, capítulos de libro, artículos de congreso y patentes, derivados de la LGAC de Inteligencia Artificial, que contribuyeron a la productividad total del Departamento de Computación entre 2016 y 2020.

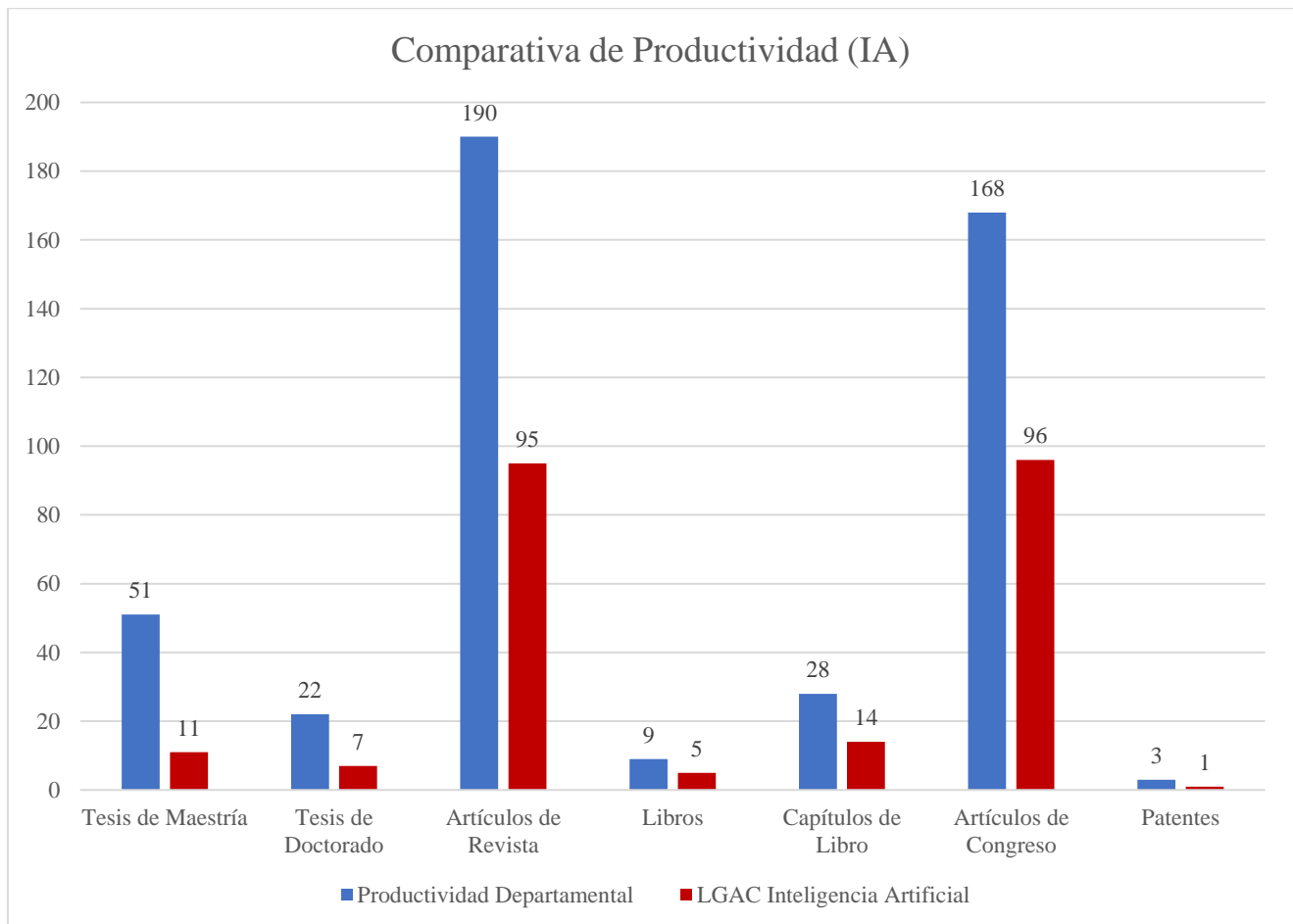


Figura 1. Contribución de la LGAC de Inteligencia Artificial a la productividad total del Departamento de Computación de 2016 a 2020

En la Tabla 1, se muestra el desglosado por año de los diferentes tipos de productos derivados de la LGAC de Inteligencia Artificial. Después, se enlistan los productos organizados por tipo de producto y ordenados de manera cronológica de aparición (del más antiguo al más reciente).

Año	2016	2017	2018	2019	2020	Total
Tesis de maestría	4	1	1	2	3	11
Tesis de doctorado	0	3	1	2	1	7
Artículos de revista	18	15	17	22	23	95
Libros	2	2	0	0	1	5
Capítulos de libro	6	1	3	2	2	14
Artículos en memorias de congresos	19	20	20	16	21	96
Patentes Nacionales	0	0	0	0	1	1

Tabla 1. Número total de productos por año generados por profesores y estudiantes de la LGAC de Inteligencia Artificial

Tesis de maestría

1. M. en C. Dulce Adriana Gómez Rosal, “**Diseño y Desarrollo de un Sistema de Reconocimiento de Gestos Manuales para el Control de un VANT**”. Fecha de Grado: 12/09/2016. Directores de Tesis: Dra. Xiaou Li y Dr. Jiacun Wang.
2. M. en C. Jesús Guillermo Falcón Cardona, “**iMOACOR: Un Nuevo Algoritmo de Optimización Multi-Objetivo basado en Colonias de Hormigas para Espacios de Búsqueda Continuos**”. Fecha de Grado: 29/09/2016. Director de Tesis: Dr. Carlos A. Coello Coello.
3. M. en C. Juan Luis Salazar Mendoza, “**Un nuevo optimizador multi-objetivo mediante cúmulos de partículas basado en SPSO2011**”. Fecha de Grado: 01/12/2016. Director de Tesis: Dr. Carlos A. Coello Coello.
4. M. en C. Jonathan Téllez Girón Muñoz, “**Modelo Formal y Simulación Computacional de Estrategias en el Fútbol**”. Fecha de Grado: 05/12/2016. Director de Tesis: Dr. José Matías Alvarado Mentado.

5. M. en C. Jorge Jiménez Montiel, "**Optimización Multi-Objetivo usando un Algoritmo Compacto de Cúmulos de Partículas**". Fecha de Grado: 30/10/2017. Director de Tesis: Dr. Carlos A. Coello Coello.
6. M. en C. Jorge Salinas Lara. "**Un algoritmo micro-poblacional basado en cúmulos de partículas para problemas de optimización de alta dimensionalidad**". Fecha de Grado: 16/11/2018. Director de Tesis: Dr. Carlos A. Coello Coello.
7. M. en C. Diana Valencia Rodríguez, "**Estudio de topologías cumulares y su impacto en el desempeño de un optimizador para problemas multiobjetivo**". Fecha de grado: 08/10/2019. Director de tesis: Dr. Carlos A. Coello Coello.
8. M. en C. Amín Vanya Bernabé Rodríguez, "**Diseño de una nueva función de escalarización usando programación genética**". Fecha de grado: 02/12/2019. Director de tesis: Dr. Carlos Artemio Coello Coello.
9. M. en C. Oscar Pacheco del Moral, "**Diseño de un nuevo algoritmo basado en evolución diferencial para optimización global a gran escala y su implementación eficiente en GPU**". Fecha de grado: 13/10/2020. Director de tesis: Dr. Carlos Artemio Coello Coello.
10. M. en C. Gonzalo Adán Chávez Fragoso, "**Reconocimiento de marcadores con redes profundas**". Fecha de Grado: 01/10/2020. Director de Tesis: Dr. Luis Gerardo de la Fraga.
11. M. en C. Juan Antonio Leyva García. "**Segmentación automática de tejido muscular en tomografía computarizada en L3 con aprendizaje profundo**". Fecha de Grado: 16/12/2020. Directores de Tesis: Dra. Sonia Guadalupe Mendoza Chapa y Dr. Hugo Jair Escalante Balderas.

Tesis de doctorado

1. Dr. Sergio Jesús Alvarado García, "**Estrategias Meméticas Basadas en Técnicas de Búsqueda Local sin Gradiente**". Fecha de Grado: 23/06/2017. Director de Tesis: Dr. Oliver Steffen Schütze.
2. Dr. Víctor Adrián Sosa Hernández, "**Estrategias Meméticas y Evolutivas para el Tratamiento de Problemas de Optimización Multi-Objetivo Dependientes de Parámetros**". Fecha de Grado: 05/12/2017. Director de Tesis: Dr. Oliver Steffen Schütze.
3. Dr. Luis Miguel Antonio, "**Esquemas para Resolver Problemas de Optimización Multi-Objetivo a Gran Escala Usando Algoritmos Evolutivos**". Fecha de Grado: 11/12/2017. Director de Tesis: Dr. Carlos A. Coello Coello.
4. Dra. Raquel Hernández Gómez, "**Híper-heurísticas Paralelas para Optimización Multiobjetivo**". Fecha de grado: 21/03/2018. Director de Tesis: Dr. Carlos A. Coello Coello.
5. Dr. Edgar Manoátl López, "**Diseño de Algoritmos Meméticos Multi-Objetivo Paralelos en GPUs**". Fecha de Grado: 26/02/2019. Director de Tesis: Dr. Carlos A. Coello Coello.

6. Dra. Miriam Pescador Rojas, “**Técnicas de Adaptación para Funciones de Escalarización usadas en Algoritmos Evolutivos Basados en Descomposición**”. Fecha de Grado: 28/03/2019. Director de Tesis: Dr. Carlos A. Coello Coello.

7. Dr. Jesús Guillermo Falcón Cardona. “**Nuevos descubrimientos en torno a algoritmos evolutivos multi-objetivo basados en indicadores**”. Fecha de Grado: 04/11/2020. Director de Tesis: Dr. Carlos Artemio Coello Coello.

Artículos de revista

1. Farid García^D, Jair Cervantes^D, Asdrubal López^D and Matias Alvarado, “**Fruit Classification by Extracting Color Chromaticity, Shape and Texture Features: Towards an Application for Supermarkets**”, *IEEE Latin America Transactions*, Vol. 14, No. 7, pp. 3434-3443, 10 October 2016.

2. Adriana Menchaca-Mendez^D and Carlos A. Coello Coello, “**Selection mechanisms based on the maximin fitness function to solve multi-objective optimization problems**”, *Information Sciences*, Vol. 332, pp. 131-152, March 1, 2016.

3. Qiuzhen Lin, Zhiwang Liu, Qiao Yan, Zhihua Du, Carlos A. Coello Coello, Zhengping Liang, Wenjun Wang and Jianyong Chen, “**Adaptive composite operator selection and parameter control for multiobjective evolutionary algorithm**”, *Information Sciences*, Vol. 339, pp. 332-352, April 20, 2016.

4. Gustavo R. Zavala, Antonio J. Nebro, Francisco Luna and Carlos A. Coello Coello, “**Structural Design using Multi-objective Metaheuristics. Comparative Study and Application to a Real-World Problem**”, *Structural and Multidisciplinary Optimization*, Vol. 53, No. 3, pp. 545-566, 2016.

5. Carlos Segura, Carlos A. Coello Coello, Gara Miranda and Coromoto León, “**Using multi-objective evolutionary algorithms for single-objective constrained and unconstrained optimization**”, *Annals of Operations Research*, Vol. 240, No. 1, pp. 217-250, May 2016.

6. Francisco Luna, Gustavo R. Zavala, Antonio J. Nebro, Juan J. Durillo and Carlos A. Coello Coello, “**Distributed multi-objective metaheuristics for real-world structural optimizations problems**”, *The Computer Journal*, Vol. 59, No. 6, pp. 777-792, June 2016.

7. Alejandro Rosales-Pérez, Jesus A. Gonzalez, Carlos A. Coello Coello, Carlos a. Reyes-Garcia, Hugo Jair Escalante, “**EMOPG+FS: Evolutionary Multi-Objective Prototype Generation and Feature Selection**”, *Intelligent Data Analysis*, Vol. 20, No. s1, pp. s37-s51, 2016.

8. Qiuzhen Lin, Jianyong Chen, Zhi-Jui Zhan, Wei-neng Chen, Carlos A. Coello Coello, Yilong Yin, Chih-Min Lin and Jun Zhang, “**A Hybrid Evolutionary Immune Algorithm for Multiobjective Optimization Problems**”, *IEEE Transactions on Evolutionary Computation*, Vol. 20, No. 5, pp. 711-728, October 2016.

9. Oliver Schütze, Adanay Martín^M, Adriana Lara^D, Sergio Alvarado^D, Eduardo Salinas^M, Carlos A. Coello Coello, “**The Directed Search Method for Multi-Objective Memetic Algorithms**”, *Computational Optimization and Applications*, Vol. 63, No. 2, pp. 305-332, March 2016.

10. Wen Yu, Javier Garrido and Xiaoou Li, “**Robot Trajectory Generation Using Modified Hidden Markov Model and Lloyd’s Algorithm in Joint Space**”, *Engineering Applications of Artificial Intelligence*, Vol. 53, No. 2, pp. 32-40, August 2016.
11. Javier Garrido, Wen Yu and Xiaoou Li, “**Modular Design and Control of an Upper Limb Exoskeleton**”, *Journal of Mechanical Science and Technology*, Vol. 30, No. 5, pp. 2265-2271, May 2016.
12. Carlos Segura, Carlos A. Coello Coello, Eduardo Segredo, and Arturo Hernández Aguirre, “**A Novel Diversity-Based Replacement Strategy for Evolutionary Algorithms**”, *IEEE Transactions on Cybernetics*, Vol. 46, No. 12, pp. 3233-3246, December 2016.
13. Oliver Schütze, Víctor Adrián Sosa Hernández^D, Heike Trautmann and Günter Rudolph, “**The hypervolume based directed search method for multi-objective optimization problems**”, *Journal of Heuristics*, Vol. 22, No. 3, pp. 273-300, 2016.
14. Julio Barrera, O. Álvarez-Bajo, Juan J. Flores and Carlos A. Coello Coello, “**Limiting the velocity in the Particle Swarm Optimization algorithm**”, *Computación y Sistemas*, Vol. 40, No. 4, pp. 635-645, 2016.
15. Arturo Yee^D, Eunice Campirán and Matías Alvarado, “**Gaming and strategic choices to American Football**”, *International Journal of Mathematical and Computational Methods*, Vol. 1, pp. 355-371, 2016. ISSN: 2367-895X.
16. Arturo Yee^D, Matías Alvarado and Germinal Cocho, “**Team Formation and Selection of Strategies for Computer Simulations of Baseball Gaming**”, *International Journal of Mathematical and Computational Methods*, Vol. 1, pp. 330-344, 2016. ISSN: 2367-895X.
17. Jonathan Tellez^M and Matías Alvarado, “**Modelado y análisis formal de jugadas de fútbol**”, *Research in Computing Science*, Vol. 113, pp. 147-156, 2016.
18. Nancy Pérez, Oliver Cuate González^D, Oliver Schütze and Alejandro Alvarado, “**Including Users Preferences in the Decision Making for Discrete Many Objective Optimization Problems**”, *Computación y Sistemas*, Vol. 20, No. 4, pp. 589-607, December 2016.
19. Laura Cruz-Reyes, Eduardo Fernández, Patricia Sánchez, Carlos A. Coello Coello and Claudia Gomez, “**Incorporation of implicit decision-maker preferences in Multi-Objective Evolutionary Optimization using a multi-criteria classification method**”, *Applied Soft Computing*, Vol. 50, pp. 48-57, 2017.
20. Alan Diaz-Manríquez, Gregorio Toscano and Carlos A. Coello Coello, “**Comparison of Metamodeling Techniques in Evolutionary Algorithms**”, *Soft Computing*, Vol. 21, No. 19, pp. 5647-5663, 2017.
21. Juan Carlos Dibene, Yazmin Maldonado, Carlos Vera, Mauricio de Oliveira, Leonardo Trujillo and Oliver Schütze, “**Optimizing the Location of Ambulances in Tijuana, Mexico**”, *Computers in Biology and Medicine*, Vol. 80, No. 1, pp. 107-115, January 2017.

22. Saber Elsayed, Ruhul Saker and Carlos A. Coello Coello, “**Sequence-based Deterministic Initialization for Evolutionary Algorithms**”, *IEEE Transactions on Cybernetics*, Vol. 47, No. 9, pp. 2911-2923, September 2017.
23. Saber Elsayed, Ruhul Saker, Tapabrata Ray and Carlos A. Coello Coello, “**Consolidated Optimization Algorithm for Resource-constrained Project Scheduling Problems**”, *Information Sciences*, Vol. 418, pp. 346-362, December 2017.
24. Jesús Guillermo Falcón-Cardona^M and Carlos A. Coello Coello, “**A New Indicator-Based Many-Objective Ant Colony Optimizer for Continuous Search Spaces**”, *Swarm Intelligence*, Vol. 11, No. 1, pp. 71-100, 2017.
25. Raheleh Jafari, Wen Yu and Xiaoou Li, “**Fuzzy Differential Equations for Nonlinear System Modeling with Bernstein Neural Networks**”, *IEEE Access*, Vol 4, pp. 9428-9436, 2017.
26. Jesús Alejandro Hernández Mejía^M, Oliver Schütze, Oliver Cuate^D, Adriana Lara and Kalyanmoy Deb, “**RDS-NSGA-II: A Memetic Algorithm for Reference Point Based Multi-objective Optimization**”, *Engineering Optimization*, Vol. 49, No. 5, pp. 828-845, 2017.
27. Adriana Menchaca-Mendez^D and Carlos A. Coello Coello, “**An alternative hypervolume-based selection mechanism for multi-objective evolutionary algorithms**”, *Soft Computing*, Vol. 21, No. 4, pp. 861-884, 2017.
28. Raheleh Jafari, Wen Yu, Xiaoou Li and Sina Razvarz, “**Numerical Solution of Fuzzy Differential Equations with Z-numbers Using Bernstein Neural Networks**”, *International Journal of Computational Intelligence Systems*, Vol. 10, pp. 1226-1237, 2017.
29. Alejandro Rosales-Perez, Salvador Garcia, Jesus A. Gonzalez, Carlos A. Coello Coello and Francisco Herrera, “**An Evolutionary Multi-Objective Model and Instance Selection for Support Vector Machines with Pareto-based Ensembles**”, *IEEE Transactions on Evolutionary Computation*, Vol. 21, No. 6, pp. 863-877, 2017.
30. Oliver Schütze, Sergio Alvarado^D, Carlos Segura and Ricardo Landa^D, “**Gradient Subspace Approximation: A Direct Search Method for Memetic Computing**”, *Soft Computing*, Vol. 21, pp. 6331-6350, 2017.
31. Qingling Zhu, Qiuzhen Lin, Weineng Chen, Ka-Chun Wong, Carlos A. Coello Coello, Jianqiang Li, Jianyong Chen and Jun Zhang, “**An External Archive-Guided Multi-objective Particle Swarm Optimization Algorithm**”, *IEEE Transactions on Cybernetics*, Vol. 47, No. 9, pp. 2794-2808, 2017.
32. Yousef Naranjani, Carlos Hernández^D, Fu Rui Xiong, Oliver Schütze and Jian-Qiao Sun, “**A hybrid method of evolutionary algorithm and simple cell mapping for multi-objective optimization problems**”, *International Journal of Dynamics and Control*, Vol. 5, No. 2, pp. 570-582, 2017.

33. Francisco D. Meneses-Bautista, Matías Alvarado, “**Pronóstico del tipo de cambio USD/MXN con redes neuronales de retropropagación**”, *Research in Computing Science*, Vol. 139, pp. 97-110, 2017, ISSN: 1870-4069.
34. Qiuzhen Lin, Songbai Liu, Qinling Zhu, Chaoyu Tang, Ruizhen Song, Jianyong Chen, Carlos A. Coello Coello, Ka-Chun Wong and Jun Zhang, “**Particle Swarm Optimization with a Balanceable Fitness Estimation for Many-objective Optimization Problems**”, *IEEE Transactions on Evolutionary Computation*, Vol. 22, No. 1, pp. 32-46, February 2018.
35. Qiuzhen Lin, Yueping Ma, Jianyong Chen, Qingling Zhu, Carlos A. Coello Coello, Ka-Chun Wong and Fei Chen, “**An Adaptive Immune-inspired Multi-objective Algorithm with Multiple Differential Evolution Strategies**”, *Information Sciences*, pp. 46-64, Vols. 430-431, March 2018.
36. Alejandro Rosales-Pérez, Salvador García, Hugo Terashima-Marín, Carlos A. Coello Coello and Francisco Herrera, “**MC²ESVM: Multiclass Classification based on Cooperative Evolution of Support Vector Machines**”, *IEEE Computational Intelligence Magazine*, Vol. 13, No. 2, pp. 18-29, May 2018.
37. Ivan Amaya, José C. Ortiz-Bayliss, Alejandro Rosales-Pérez, Andrés E. Gutiérrez-Rodríguez, Santiago E. Conant-Pablos, Hugo Terashima-Marín and Carlos A. Coello Coello, “**Enhancing Selection Hyper-heuristics via Feature Transformations**”, *IEEE Computational Intelligence Magazine*, Vol. 13, No. 2, pp. 30-41, May 2018.
38. Stjepan Picek, Carlos A. Coello Coello, Domagoj Jakobovic and Nele Mentens, “**Finding Short and Implementation-friendly Addition Chains with Evolutionary Algorithms**”, *Journal of Heuristics*, Vol. 24, No. 3, pp. 457-481, June 2018.
39. Qiuzhen Lin, Genmiao Jin, Yueping Ma, Ka-Chun Wong, Carlos A. Coello Coello, Jianqiang Li, Jianyong Chen and Jun Zhang, “**A Diversity-Enhanced Resource Allocation Strategy for Decomposition-based Multiobjective Evolutionary Algorithm**”, *IEEE Transactions on Cybernetics*, Vol. 48, No. 8, pp. 2388-2401, August 2018.
40. Luis Miguel Antonio^D, José A. Molinet Berenguer^M and Carlos A. Coello Coello, “**Evolutionary Many-objective Optimization based on Linear Assignment Problem Transformations**”, *Soft Computing*, Vol. 22, No. 6, pp. 5491-5512, August 2018.
41. Saber Elsayed, Ruhul Sarker, Carlos Coello Coello, Tapabrata Ray, “**Adaptation of Operators and Continuous Control Parameters in Differential Evolution for Constrained Optimization**”, *Soft Computing*, Vol. 22, No. 19, pp. 6595-6616, October 2018.
42. Sumit Mishra, Samrat Mondal, Sriparna Saha and Carlos A. Coello Coello, “**GBOS: Generalized Best Order Sort Algorithm for Non-dominated Sorting**”, *Swarm and Evolutionary Computation*, Vol. 43, pp. 244-264, December 2018.
43. Qiuzhen Lin, Xiaozhou Wang, Bishan Hu, Lijia Ma, Fei Chen, Li Jianqiang and Carlos A. Coello Coello, “**Multi-objective Personalized Recommendation Algorithm using Extreme Point Guided Evolutionary Computation**”, *Complexity*, Volume 2018, Article ID 1716352, 2018.

44. Luis Miguel Antonio^D and Carlos A. Coello Coello, “**Coevolutionary Multi-objective Evolutionary Algorithms: Survey of the State-of-the-Art**”, *IEEE Transactions on Evolutionary Computation*, Vol. 22, No. 6, pp. 851-865, December 2018.
45. Matías Alvarado, Jonathan Téllez-Giron^M, “**Computer football: plays, players and strategies choices**”, *IEEE Latin America Transactions*, Vol. 16, No. 5, pp. 1485-1492, May 2018.
46. Didier Barradas-Bautista, Matías Alvarado-Mentado, Mark Agostino, Germinal Cocho, “**Cancer growth and metastasis as a metaphor of Go gaming: An Ising model approach**”, *PLoS One*, Vol. 13, No. 5, Article ID: e0195654, May 2018.
47. Lourdes Uribe, Benjamin Perea^M, Gerardo Hernandez-del-Valle, Oliver Schütze, “**A Hybrid Metaheuristic for the Efficient Solution of GARCH with Trend Models**”, *Computational Economics*, Vol. 52, No. 1, pp. 145-166, June 2018.
48. Satyam Paul, Wen Yu and Xiaoou Li, “**Bidirectional Active Control of Structures with Type-2 Fuzzy PD and PID**”, *International Journal of Systems Science*, Vol. 49, No. 4, pp. 766-782, 2018.
49. Raheleh Jafari, Wen Yu and Xiaoou Li, “**Numerical Solution of Fuzzy Equations with Z-numbers using Neural Networks**”, *Intelligent Automation and Soft Computing*, Vol. 24, No. 1, pp. 151-157, January 2018.
50. Sergio Alvarado^D, Carlos Segura, Oliver Schütze, Saúl Zapotecas^D, “**The Gradient Subspace Approximation as Local Search Engine within Evolutionary Multi-objective Optimization Algorithms**”, *Computación y Sistemas*, Vol. 22, No. 2, pp. 363-385, 2018, ISSN 2007-9737.
51. Saber Elsayed, Ruhul Sarker and Carlos Coello Coello, “**Fuzzy Rule-based Design of Evolutionary Algorithm for Optimization**”, *IEEE Transactions on Cybernetics*, Vol. 49, No. 1, pp. 301-314, January 2019.
52. Efrain Solares, Carlos A. Coello Coello, Eduardo Fernandez and Jorge Navarro, “**Handling uncertainty through confidence intervals in portfolio optimization**”, *Swarm and Evolutionary Computation*, Vol. 44, pp. 774-787, February 2019.
53. Saúl Zapotecas-Martínez^D, Carlos A. Coello Coello, Hernán E. Aguirre and Kiyoshi Tanaka, “**A Review of Features and Limitations of Existing Scalable Multi-Objective Test Suites**”, *IEEE Transactions on Evolutionary Computation*, Vol. 23, No. 1, pp. 130-142, February 2019.
54. Yuchao Su, Jia Wang, Lijia Ma, Xiaozhou Wang, Qiuzhen Lin, Carlos A. Coello Coello, Jianyong Chen, “**A hybridized angle-encouragement-based decomposition approach for many-objective optimization problems**”, *Applied Soft Computing*, Vol. 78, pp. 355-372, May 2019.
55. Adriana Menchaca-Méndez^D, Elizabeth Montero, Luis Miguel Antonio^D, Saúl Zapotecas-Martínez^D, Carlos A. Coello Coello and María-Cristina Riff, “**A Co-Evolutionary Scheme for Multi-Objective Evolutionary Algorithms based on ϵ -Dominance**”, *IEEE Access*, Vol. 7, No. 1, pp. 18267-18283, December 2019.

56. Eduardo Fernandez, Jorge Navarro, Efrain Solares and Carlos A. Coello Coello, “**A Novel Approach to Select the Best Portfolio Considering the Preferences of the Decision Maker**”, *Swarm and Evolutionary Computation*, Vol. 46, pp. 140-153, May 2019.
57. Forhad Zaman, Saber M. Elsayed, Ruhul Sarker, Daryl Essam and Carlos A. Coello Coello, “**Multi-method based algorithm for multi-objective problems under uncertainty**”, *Information Sciences*, Vol. 481, pp. 81-109, May 2019.
58. Qiuzhen Lin, Songbai Liu, Ka-Chun Wong, Maoguo Gong, Carlos A. Coello Coello, Jianyong Chen and Jun Zhang, “**A Clustering-based Evolutionary Algorithm for Many-objective Optimization Problems**”, *IEEE Transactions on Evolutionary Computation*, Vol. 23, No. 3, pp. 391-405, June 2019.
59. Javier Del Ser, Eneko Osaba, Daniel Molina, Xin-She Yang, Sancho Salcedo-Sanz, David Camacho, Swagatam Das, Ponnuthurai N. Suganthan, Carlos A. Coello Coello and Francisco Herrera, “**Bio-Inspired Computation: Where We Stand and What’s Next**”, *Swarm and Evolutionary Computation*, Vol. 48, pp. 220-250, August 2019.
60. Lijia Ma, Jianqiang Li, Qiuzhen Lin, Maoguo Gong, Carlos A. Coello Coello and Zhong Ming, “**Reliable Link Inference for Network Data with Community Structures**”, *IEEE Transactions on Cybernetics*, Vol. 49, No. 9, pp. 3347-3361, September 2019.
61. Wenjun Wang, Shaoqiang Yang, Qiuzhen Lin, Qingfu Zhang, Ka-Chun Wong, Carlos A. Coello Coello and Jianyong Chen, “**An Effective Ensemble Framework for Multi-Objective Optimization**”, *IEEE Transactions on Evolutionary Computation*, Vol. 23, No. 4, pp. 645-659, August 2019.
62. Lingjie Li, Qiuzhen Lin, Songbai Liu, Dunwei Gong, Carlos A. Coello Coello and Zhong Ming, “**A novel multi-objective immune algorithm with a decomposition-based clonal selection**”, *Applied Soft Computing*, Vol. 81, UNSP 105490, August 2019.
63. Songbai Liu, Qiuzhen Lin, Ka-Chun Wong, Lijia Ma, Carlos A. Coello Coello and Dunwei Gong, “**A novel multi-objective evolutionary algorithm with dynamic decomposition strategy**”, *Swarm and Evolutionary Computation*, Vol. 48, pp. 182-200, August 2019.
64. Luis Fernando Plata-González, Ivan Amaya, José Carlos Ortiz-Bayliss, Santiago Enrique Conant-Pablos, Hugo Terashima-Marín and Carlos A. Coello Coello, “**Evolutionary-Based Tailoring of Synthetic Instances for the Knapsack Problem**”, *Soft Computing*, Vol. 23, No. 23, pp. 12711-12728, December 2019.
65. Ansel Y. Rodríguez-González, José F. Martínez-Trinidad, Jesús A. Carrasco-Ochoa, José Ruíz Shulcloper, Matías Alvarado-Mentado, “**Frequent Similar Pattern Mining using Non Boolean Similarity Functions**”, *Journal of Intelligent and Fuzzy Systems*, Vol. 36, Número: 5, pp. 4931-4944, 2019.
66. Alfonso Rojas Domínguez, Didier Barradas Bautista, Matías Alvarado, “**Modeling the Game of Go by Ising Hamiltonian, Deep Belief Networks and Common Fate Graphs**”, *IEEE Access*, Vol. 7, pp. 120117-120127, 17 May 2019.

67. David Laredo^M, Zhaoyin Chen, Oliver Schütze, Jian-Qiao Sun, “**A Neural Network-Evolutionary Computational Framework for Remaining Useful Life Estimation of Mechanical Systems**”, *Neural Networks*, Vol. 116, No. 1, pp. 178-187, August 2019.
68. Adriana Lara, Lourdes Uribe, Sergio Alvarado^D, Víctor Adrián Sosa^D, Honggang Wang, Oliver Schütze, “**On the Choice of Neighborhood Sampling to Build Effective Search Operators for Constrained MOPs**”, *Memetic Computing*, Vol. 11, No. 2, pp. 155-173, June 2019.
69. O. Schütze, C. Hernandez^D, E-G. Talbi, J. Q. Sun, Y. Naranjani, F.-R. Xiong, “**Archivers for the Representation of the Set of Approximate Solutions for MOPs**”, *Journal of Heuristics*, Vol. 25, No. 1, pp. 71-105, February 2019.
70. José Alejandro Galaviz-Aguilar, Patrick Roblin, José Ricardo Cárdenas-Valdez, Emigdio Z-Flores, Leonardo Trujillo, José Cruz Núñez-Pérez, Oliver Schütze, “**Comparison of a Genetic Programming Approach with ANFIS for Power Amplifier Behavioral Modeling and FPGA Implementation**”, *Soft Computing*, Vol. 23, No. 7, pp. 2463-2481, 2019.
71. Oliver Cuate^D, Oliver Schütze, “**Variation Rate to Maintain Diversity in Decision Space with Multi-Objective Evolutionary Algorithms**”, *Mathematical and Computational Applications*, Vol. 24, No. 3, Article no. 82, 2019.
72. Ahad Hanif, Aslam Muhammad, Martinez-Enriquez A. M., Adrees Muhammad, “**Intelligent Agent based System for Crop Monitoring**”, *Research in Computing Science*, Vol. 148, No. 11, pp. 165-173, 2019.
73. J. Wang, C. Xu, Z. Yang, J. Zhang and X. Li, “**Deformable Convolutional Networks for Efficient Mixed-Type Wafer Defect Pattern Recognition**,” *IEEE Transactions on Semiconductor Manufacturing*, Vol. 33, No. 4, pp. 587-596, November 2020.
74. Abigail M. E. Ramírez-Mendoza, Wen Yu and Xiaoou Li, “**A Novel Fuzzy System with Adaptive Neurons for Earthquake Modeling**,” *IEEE Access*, Vol. 8, pp. 101369-101376, 2020.
75. Víctor Adrián Sosa-Hernández^D, Oliver Schütze, Hao Wang, André Deutz, Michael Emmerich, “**The Set-Based Hypervolume Newton Method for Bi-Objective Optimization**”, *IEEE Transactions on Cybernetics*, Vol. 50, No. 5, pp. 2186-2196, May 2020.
76. Oliver Cuate^D, Lourdes Uribe, Adriana Lara^D, Oliver Schütze, “**A Benchmark for Equality Constrained Multi-objective Optimization**”, *Swarm and Evolutionary Computation*, Vol. 52, Article No. 100619, February 2020.
77. Octavio Ramos-Figueroa, Marcela Quiroz-Castellanos, Efrén Mezura-Montes^D, Oliver Schütze, “**Metaheuristics to solve grouping problems: A review and a case study**”, *Swarm and Evolutionary Computation*, Vol. 53, Article No. 100643, March 2020.
78. Lourdes Uribe, Adriana Lara^D, Oliver Schütze, “**On the Efficient Computation and Use of Multi-objective Descent Directions within Constrained MOEAs**”, *Swarm and Evolutionary Computation*, Vol. 52, Article No. 100617, February 2020.

79. Oliver Cuate^D, Antonin Ponsich, Lourdes Uribe, Saúl Zapotecas-Martínez^D, Adriana Lara^D, Oliver Schütze, “**A New Hybrid Evolutionary Algorithm for the Treatment of Equality Constrained MOPs**”, *Mathematics*, Vol. 8, No. 1, Article No. 7, December 2019
80. Zohreh Masoumi, Carlos A. Coello Coello and Ali Mansourian, “**Dynamic Urban Land-Use Change Management Using Multi-Objective Evolutionary Algorithms**”, *Soft Computing*, Vol. 24, No. 6, pp. 4165-4190, March 2020.
81. Laura Cruz-Reyes, Eduardo Fernandez, J. Patricia Sanchez-Solis, Carlos A. Coello Coello and Claudia Gomez, “**Hybrid Evolutionary Multi-Objective Optimisation using Outranking-Based Ordinal Classification Methods**”, *Swarm and Evolutionary Computation*, Vol. 54, Article 100652, May 2020.
82. Eduardo Fernandez, Jorge Navarro, Efrain Solares and Carlos Coello Coello, “**Using evolutionary computation to infer the decision maker's preference model in presence of imperfect knowledge: a case study in portfolio optimization**”, *Swarm and Evolutionary Computation*, Vol. 54, Article 100648, May 2020.
83. Jesús Guillermo Falcón-Cardona^D and Carlos A. Coello Coello, “**Indicator-based Multi-Objective Evolutionary Algorithms: A Comprehensive Survey**”, *ACM Computing Surveys*, Vol. 53, No. 2, Article No. 29, April 2020.
84. Saber Elsayed, Ruhul Sarker, Daryl Essam and Carlos A. Coello Coello, “**Evolutionary Approach for Large-Scale Mine Scheduling**”, *Information Sciences*, Vol. 523, pp. 77-90, June 2020.
85. Carlos A. Coello Coello, Silvia González Brambila, Josué Figueroa Gamboa, Ma Guadalupe Castillo Tapia and Raquel Hernández Gómez^D, “**Evolutionary multiobjective optimization: open research areas and some challenges lying ahead**”, *Complex & Intelligent Systems*, Vol. 6, No. 2, pp. 221-236, July 2020.
86. David Guirguis, Nikola Aulig, Renato Picelli, Bo Zhu, Yuqing Zhou, William Vicente, Francesco Iorio, Markus Olhofer, Wojciech Matusik, Carlos Artemio Coello Coello and Kazuhiro Saitou, “**Evolutionary Black-Box Topology Optimization: Challenges and Promises**”, *IEEE Transactions on Evolutionary Computation*, Vol. 24, No. 4, pp. 613-633, August 2020.
87. Lijia Ma, Jianqiang Li, Qiuzhen Lin, Maoguo Gong, Carlos A. Coello Coello and Zhong Ming, “**Cost-aware Robust Control of Signed Networks by using a Memetic Algorithm**”, *IEEE Transactions on Cybernetics*, Vol. 50, No. 10, pp. 4430-4443, October 2020.
88. Maha Elarbi, Slim Bechikh, Carlos A. Coello Coello, Mohamed Makhoulouf and Lamjed Ben Said, “**Approximating Complex Pareto Fronts with Predefined Normal-Boundary Intersection Directions**”, *IEEE Transactions on Evolutionary Computation*, Vol. 24, No. 5, pp. 809-823, October 2020.
89. Zohreh Masoumi, Jamshid Maleki, Farshad Hakimpour and Carlos Coello Coello, “**A spatial land use planning support system based on game theory**”, *Land Use Policy*, Vol. 99, Paper number 105013, December 2020.

90. Man-Fai Leung, Carlos A. Coello Coello, Chi-Chung Cheung, Sin-Chun Ng and Andrew Kwow-Fai Lui, “**A Hybrid Leader Selection Strategy for Many-Objective Particle Swarm Optimization**”, *IEEE Access*, Vol. 8, pp. 189527-189545, 14 October 2020.
91. Victoria S. Aragón, Carlos A. Coello Coello and Mario G. Leguizamón, “**A T-cell algorithm for solving dynamic economic power dispatch problems**”, *Journal of Computer Science & Technology*, Vol. 20, No. 1, pp. 1-14, May 2020.
92. Renato Arroyo Duarte, Daniela Flores Silva, Matías Alvarado, “**Cancer metastasis and the immune system response: modeling the Micro-environment by Ising Hamiltonian**”, *Suplemento de la Revista Mexicana de Física*, Vol. 1, No. 4, pp. 25-31, September-October 2020.
93. Renato Arroyo Duarte, Matías Alvarado, “**Cancer metastasis and the immune system response: CM-IS modeling by Ising Model**”, *Research in Computing Science*, Vol. 149, No. 5, pp. 151-159, 2020.
94. David Laredo^M, Shangjie Frank Ma, Ghazaale Leylaz, Oliver Schütze, and Jian-Qiao Sun, “**Automatic Model Selection for Fully Connected Neural Networks**”, *International Journal of Dynamics and Control*, Vol. 8, No. 4, pp. 1063-1079, 2020.
95. Carlos Ignacio Hernández Castellanos^D, Oliver Schütze, Jian-Qiao Sun, and Sina Ober-Blöbaum, “**Non-Epsilon Dominated Evolutionary Algorithm for the Set of Approximate Solutions**”, *Mathematical and Computational Applications*, Vol. 25, No. 1, Article No. 3, 2020.

Libros

1. Heike Trautmann, Günter Rudolph, Kathrin Klamroth, Oliver Schütze, Margaret Wiecek, Yaochu Jin and Christian Grimme (Editors), **Evolutionary Multi-Criterion Optimization, 9th International Conference, EMO 2017**, Springer, Lecture Notes in Computer Science Vol. 10173, Münster, Germany, March 19-22, 2017, ISBN 978-3-319-54156-3.
2. Michael Emmerich, André Deutz, Oliver Schütze, Pierrick Legrand, Emilia Tantar and Alexandru-Adrian Tantar (Editors), **EVOLVE – A Bridge between Probability, Set Oriented Numerics and Evolutionary Computation VII**, Springer, Studies in Computational Intelligence Vol. 662, Cham, Switzerland, 2017, ISBN 978-3-319-49324-4.
3. Oliver Schütze, Leonardo Trujillo, Pierrick Legrand and Yazmin Maldonado (Editors), **Results of the Numerical and Evolutionary Optimization Workshop NEO 2015 held at September 23-25 in Tijuana, México**, Springer. Studies in Computational Intelligence Book Series Vol. 663, Cham, Switzerland, 2016, ISBN 978-3-319-44002-6.
4. Yazmín Maldonado, Leonardo Trujillo, Oliver Schütze, Annalisa Riccardi and Massimiliano Vasile (Editors), **NEO 2016. Results of the Numerical and Evolutionary Optimization Workshop NEO 2016 and the NEO Cities 2016 Workshop** held on September 20-24, 2016 in Tlalnepantla, Mexico, Springer, Studies in Computational Intelligence Series Vol. 731, 2018, ISBN 978-3-319-64062-4.

5. Oliver Junge, Oliver Schütze, Gary Froyland, Sina Ober-Blöbaum and Kathrin Padberg-Gehle (Editors), **Advances in Dynamics, Optimization and Computation**, Springer, Studies in Systems, Decision and Control Vol. 304, Cham, Switzerland, 2020, ISBN 978-3-030-51263-7.

Capítulos de libro

1. Carlos A. Coello Coello, Carlos Segura and Gara Miranda, “**History and Philosophy of Evolutionary Computation**”, in Plamen Parvanov Angelov (Editor), *Handbook on Computational Intelligence*, Volume 2: Evolutionary Computation, Hybrid Systems, and Applications, Chapter 14, pp: 509-545, World Scientific, Singapore, 2016, ISBN 978-981-4675-04-8.

2. Carlos A. Coello Coello, “**Una Breve Historia de la Computación en el Mundo**”, en Eusebio Juaristi y Luis Felipe Rodríguez Jorge (Compiladores), *Importancia de la Computación en la Ciencia y en nuestra Vida Diaria*, pp. 13-49, El Colegio Nacional, México, 2016, ISBN 978-607-724-163-8.

3. Juan Carlos Dibene, Yazmin Maldonado, Carlos Vera, Leonardo Trujillo, Mauricio de Oliveira and Oliver Schütze, “**The Ambulance Location Problem in Tijuana, Mexico**”, in Oliver Schütze, Leonardo Trujillo, Pierrick Legrand and Yazmin Maldonado (Editors), *Results of the Numerical and Evolutionary Optimization Workshop NEO 2015 held at September 23-25 in Tijuana, México*, pp. 409-441, Springer. Studies in Computational Intelligence Book Series Vol. 663, Cham, Switzerland, 2016, ISBN 978-3-319-44002-6.

4. Luis Gerardo de la Fraga, Ivick Guerra-Gomez and Esteban Tlelo-Cuautle, “**On the Selection of Solutions in Multiobjective Analog Circuit Design**”, in Oliver Schütze, Leonardo Trujillo, Pierrick Legrand and Yazmin Maldonado (Editors), *Results of the Numerical and Evolutionary Optimization Workshop NEO 2015 held at September 23-25 in Tijuana, México*, pp. 377-389, Springer. Studies in Computational Intelligence Book Series Vol. 663, Cham, Switzerland, 2016, ISBN 978-3-319-44002-6.

5. Saku Kukkonen and Carlos A. Coello Coello, “**Generalized Differential Evolution for Numerical and Evolutionary Optimization**”, in Oliver Schütze, Leonardo Trujillo, Pierrick Legrand and Yazmin Maldonado (Editors), *Results of the Numerical and Evolutionary Optimization Workshop NEO 2015 held at September 23-25 in Tijuana, México*, pp. 253-279, Springer. Studies in Computational Intelligence Book Series Vol. 663, Cham, Switzerland, 2016, ISBN 978-3-319-44002-6.

6. Víctor Adrián Sosa Hernández^D, Adriana Lara, Heike Trautmann, Günter Rudolph and Oliver Schütze, “**The Directed Search Method for Unconstrained Parameter Dependent Multi-objective Optimization Problems**”, in Oliver Schütze, Leonardo Trujillo, Pierrick Legrand and Yazmin Maldonado (Editors), *Results of the Numerical and Evolutionary Optimization Workshop NEO 2015 held at September 23-25 in Tijuana, México*, pp. 253-279, Springer. Studies in Computational Intelligence Book Series Vol. 663, Cham, Switzerland, 2016, ISBN 978-3-319-44002-6.

7. Saúl Zapotecas-Martínez^D, Adriana Lara and Carlos A. Coello Coello, “**Hybridizing MOEAs with Mathematical Programming Techniques**”, in Raghu Nandan Sengupta, Aparna Gupta and Joydeep Dutta (Editors), *Decision Sciences. Theory and Practice*, pp. 185--231, Chapter 4, CRC Press, Boca Raton, Florida, USA, 2017, ISBN 978-1-4665-6430-5.

8. Carlos A. Coello Coello, Raquel Hernández Gómez^D and Luis Miguel Antonio^D, “**Fundamentals of Evolutionary Optimization: Single- and Multiobjective Problems**”, in John G. Webster (Editor), *Wiley Encyclopedia of Electrical and Electronics Engineering*, John Wiley & Sons, Inc., New York, USA, May 2018, ISBN 978-0-471-134608-1.
9. Juan M. Ramirez, Miguel A. Medina and Carlos A. Coello Coello, “**A multi-objective teaching-learning algorithm for power losses reduction in power systems**”, in Ahmed F. Zobaa, Shady H.E. Abdel Aleem and Almoataz Youssef Abdalaziz (editors), *Classical and Recent Aspects of Power System Optimization*, Chapter 18, pp. 505-542, Academic Press, London, UK, 2018, ISBN 978-0-12-812441-3.
10. Leonardo Trujillo, Emigdio Z-Flores, Perla S. Juárez- Smith, Pierrick Legrand, Sara Silva, Mauro Castelli, Leonardo Vanneschi, Oliver Schütze and Luis Muñoz, “**Local Search is Underused in Genetic Programming**”, in Rick Riolo, Bill Worzel, Brian Goldman and Bill Tozier (Editors), *Genetic Programming Theory and Practice XIV*, Chapter 8, pp. 119-137, Springer, Cham, Switzerland, 2018, ISBN 978-3-319-97087-5.
11. Heriberto Cruz Hernández^D and Luis Gerardo de la Fraga, “**Fitting Multiple Ellipses with PEARL and a Multi-objective Genetic Algorithm**”, in Leonardo Trujillo, Oliver Schütze, Yazmin Maldonado and Paul Valle (Editors), *Numerical and Evolutionary Optimization – NEO 2017*, pp. 89-107, Springer, Studies in Computational Intelligence Vol. 785, Cham, Switzerland, 2019, ISBN 978-3-319-96103-3.
12. Jesus Lopez-Arredondo, Esteban Tlelo-Cuautle, Luis Gerardo de la Fraga, Víctor Hugo Carbajal-Gomez and Miguel Aurelio Duarte-Villaseñor, “**Optimal Sizing of Low-DropOut Voltage Regulators by NSGA-II and PVT Analysis**”, in Leonardo Trujillo, Oliver Schütze, Yazmin Maldonado and Paul Valle (Editors), *Numerical and Evolutionary Optimization – NEO 2017*, pp. 225-247, Springer, Studies in Computational Intelligence Vol. 785, Cham, Switzerland, 2019, ISBN 978-3-319-96103-3.
13. Oliver Schütze, Lourdes Uribe and Adriana Lara, “**The Gradient Subspace Approximation and its Application to Bi-objective Optimization Problems**”, in Oliver Junge, Oliver Schütze, Gary Froyland, Sina Ober-Blöbaum and Kathrin Padberg-Gehle (Editors), *Advances in Dynamics, Optimization and Computation*, pp. 355-390, Springer, Studies in Systems, Decision and Control Vol. 304, Cham, Switzerland, 2020, ISBN 978-3-030-51263-7.
14. Raquel Hernández Gómez^D, Carlos A. Coello Coello and Enrique Alba, “**A Parallel Island Model for Hypervolume-Based Many-Objective Optimization**”, in Thomas Bartz-Beielstein, Bogdan Filipic, Peter Korosec and El-Ghazali Talbi (Editors), *High-Performance Simulation-Based Optimization*, pp. 247--273, Springer, Studies in Computational Intelligence Vol. 833, Switzerland, 2020, ISBN 978-3-030-18763-7.

Artículos en memorias de congresos

1. Stjepan Picek, Carlos A. Coello Coello, Domagoj Jakobovic and Nele Mentens, “**Evolutionary Algorithms for Finding Short Addition Chains: Going the Distance**”, In Francisco Chicano, Bin Hu and Pablo García-Sánchez (Editors). *Evolutionary Computation in Combinatorial Optimization, 16th*

European Conference, EvoCOP 2016, pp 121-137, Springer, Lecture Notes in Computer Science Vol. 9595, Porto, Portugal, Marzo 30- Abril 1, 2016.

2. Raquel Hernández Gómez^D, Carlos A. Coello Coello and Enrique Alba Torres, “**A Multi-objective Evolutionary Algorithm based on Parallel Coordinates**”. in *2016 Genetic and Evolutionary Computation Conference (GECCO'2016)*. pp 565-572, ACM Press, Denver Colorado, USA. Julio 20-24, 2016, ISBN 978-1-4503-4206-3.

3. Adriana Menchaca-Mendez^D, Carlos Hernández^D and Carlos A. Coello Coello, “ **Δ_p -MOEA: A New Multi-Objective Evolutionary Algorithm Based on the Δ_p Indicator**”, pp: 3753-3760, In *2016 IEEE Congress on Evolutionary Computation (CEC'2016)*. IEEE Press Vancouver, Canada, Julio 24-29, 2016, ISBN 978-1-5090-0623-9.

4. Luis Miguel Antonio^D and Carlos Coello Coello, “**Indicator-Based Cooperative Coevolution for Multi-objective Optimization**”, in *2016 IEEE Congress on Evolutionary Computation (CEC'2016)*, pp. 991-998, IEEE Press, Vancouver, Canada, 24-29 July, 2016, ISBN 978-1-5090-0623-9.

5. Edgar Manóatl López^D, Carlos Coello Coello, “**IGD+-EMOA: A Multi-Objective Evolutionary Algorithm based on IGD+**”, in *2016 IEEE Congress on Evolutionary Computation (CEC'2016)*, pp. 999-1006, IEEE Press, Vancouver, Canada, 24-29 July, 2016, ISBN 978-1-5090-0623-9.

6. Saku Kukkonen and Carlos Coello Coello, “**Applying Exponential Weighting Moving Average Control Parameter Adaptation Technique with Generalized Differential Evolution**”, in *2016 IEEE Congress on Evolutionary Computation (CEC'2016)*, pp. 4755-4762, IEEE Press, Vancouver, Canada, 24-29 July, 2016, ISBN 978-1-5090-0623-9.

7. Saber Elsayed, Ruhul Sarker and Carlos Coello Coello, “**Enhanced Multi-operator Differential Evolution for Constrained Optimization**”, in *2016 IEEE Congress on Evolutionary Computation (CEC'2016)*, pp. 4191-4198, IEEE Press, Vancouver, Canada, 24-29 July, 2016, ISBN 978-1-5090-0623-9.

8. Jesús Guillermo Falcón-Cardona^M and Carlos A. Coello Coello, “**iMOACOR: A New Indicator-Based Multi-Objective Ant Colony Optimization Algorithm for Continuous Search Spaces**”, in Julia Handl, Emma Hart, Peter R. Lewis, Manuel López-Ibáñez, Gabriela Ochoa and Ben Paechter (Editors), *Parallel Problem Solving from Nature -- PPSN XIV, 14th International Conference*, pp. 389-398, Springer. Lecture Notes in Computer Science Vol. 9921, Edinburgh, UK, September 17-21, 2016, ISBN 978-3-319-45822-9.

9. Edgar Manóatl López^D, Carlos A. Coello Coello, “**A Parallel Multi-objective Memetic Algorithm Based on the IGD+ Indicator**”, in Julia Handl, Emma Hart, Peter R. Lewis, Manuel López-Ibáñez, Gabriela Ochoa and Ben Paechter (Editors), *Parallel Problem Solving from Nature -- PPSN XIV, 14th International Conference*, pp. 473-482, Springer. Lecture Notes in Computer Science Vol. 9921, Edinburgh, UK, September 17-21, 2016, ISBN 978-3-319-45822-9.

10. Raquel Hernández Gómez^D, Carlos A. Coello Coello and Enrique Alba, “**A Parallel Version of SMS-EMOA for Many-Objective Optimization Problems**”, in Julia Handl, Emma Hart, Peter R. Lewis, Manuel López-Ibáñez, Gabriela Ochoa and Ben Paechter (Editors), *Parallel Problem Solving from Nature -- PPSN XIV, 14th International Conference*, pp. 568-577, Springer. Lecture Notes in Computer Science Vol. 9921, Edinburgh, UK, September 17-21, 2016, ISBN 978-3-319-45822-9.

11. Luis Miguel Antonio^D and Carlos A. Coello Coello, “**Decomposition-Based Approach for Solving Large Scale Multi-objective Problems**”, in Julia Handl, Emma Hart, Peter R. Lewis, Manuel López-Ibáñez, Gabriela Ochoa and Ben Paechter (Editors), *Parallel Problem Solving from Nature -- PPSN XIV, 14th International Conference*, pp. 525-534, Springer. Lecture Notes in Computer Science Vol. 9921, Edinburgh, UK, September 17-21, 2016, ISBN 978-3-319-45822-9.
12. Miriam Pescador Rojas^D and Carlos A. Coello Coello, “**A Novel Local Search Mechanism Based on the Reflected Ray Tracing Method Coupled to MOEA/D**”, 2016 *IEEE Symposium Series on Computational Intelligence*, IEEE Press, Athens, Greece, December 6-9, 2016.
13. Jonathan Tellez^M and Matías Alvarado, “**Concurrency Simulation in Soccer**”, In A. Agah, J.-J. Cabibihan, A. Howard, M.A. Salichs and H. He, (Editors), *Social Robotics, 8th International Conference, ICSR 2016*, pp. 961-970, Springer-Verlag, Lecture Notes in Artificial Intelligence Vol. 9979, Kansas City, Missouri, USA. November 1-3, 2016, ISBN 978-3-319-47436-6.
14. Wen Yu and Xiaoou Li, “**Fuzzy Output Feedback Control via Sliding Mode Observer**”, in *Proceedings of the 2016 IEEE 13th International Conference on Networking, Sensing, and Control (ICNSC'2016)*, IEEE Press, Mexico City, Mexico, 28-30 April, 2016.
15. Wen Yu, Xiaoou Li and Daniel Muñoz Carrillo, “**Hierarchical Dynamic Neural Networks for Cascade System Modeling with Application to Wastewater Treatment**”, in *International Joint Conference on Neural Networks (IJCNN16)*, pp. 483-488, IEEE Press, Vancouver, Canada, 2016.
16. Günter Rudolph, Oliver Schütze and Heike Trautmann, “**On the Closest Averaged Hausdorff Archive for a Circularly Convex Pareto Front**”, in *Applications of Evolutionary Computation, 19th European Conference, EvoApplications 2016, Proceedings, Part II*, pp. 43-55, Springer-Verlag, Lecture Notes in Computer Science Vol. 9598, Porto, Portugal, March 30 -- April 1, 2016.
17. Raheleh Jafari and Wen Yu and Xiaoou Li, “**Solving Fuzzy Differential Equation With Bernstein Neural Networks**”, in *2016 IEEE International Conference on Systems, Man and Cybernetics (SMC'16)*, pp. 1245-1250, IEEE Press, Budapest, Hungary, 2016.
18. Erick De la Rosa, Wen Yu and Xiaoou Li, “**Nonlinear system modeling with deep neural networks and autoencoders algorithm**”, in *2016 IEEE International Conference on Systems, Man and Cybernetics (SMC'16)*, pp. 2157-2162, IEEE Press, Budapest, Hungary, 2016.
19. Nisar Ahmad, Saqib Maqbool, Muhammad Aslam and A.M. Martinez-Enriquez, “**Simultaneous encryption and compression of digital images based on secure-JPEG encoding**”, in J.F. Martinez-Trinidad et al. (Editors), *The 8th Mexican Conference Pattern Recognition MCPR 2016*, pp. 145-154. Springer-Verlag, Lecture Notes in Computer Science Vol. 9703, Guanajuato, México, June 2016, ISBN: 978-3-319-39393-3-2.
20. Alejandro Rosales-Pérez, Andrés E. Gutiérrez-Rodríguez, José C. Ortiz-Bayliss, Hugo Terashima-Marín and Carlos A. Coello Coello, “**Evolutionary Multilabel Hyper-Heuristic Design**”, in *2017 IEEE*

Congress on Evolutionary Computation (CEC'2017), pp. 2622-2629, IEEE Press, San Sebastián, Spain, June 5-8, 2017, ISBN 978-1-5090-4601-0.

21. Andres Eduardo Gutiérrez Rodríguez, José Carlos Ortiz Bayliss, Alejandro Rosales Pérez, Ivan Mauricio Amaya Contreras, Santiago Enrique Conant Pablos, Hugo Terashima Marín and Carlos Artemio Coello Coello, “**Applying Automatic Heuristic-Filtering to Improve Hyper-heuristic Performance**”, in *2017 IEEE Congress on Evolutionary Computation (CEC'2017)*, pp. 2638-2644, IEEE Press, San Sebastián, Spain, June 5-8, 2017, ISBN 978-1-5090-4601-0.

22. Edgar Manóatl López^D and Carlos A. Coello Coello, “**Improving the Integration of the IGD+ Indicator into the Selection Mechanism of a Multi-Objective Evolutionary Algorithm**”, in *2017 IEEE Congress on Evolutionary Computation (CEC'2017)*, pp. 2683-2690, IEEE Press, San Sebastián, Spain, June 5-8, 2017, ISBN 978-1-5090-4601-0.

23. Iván Amaya, José Carlos Ortiz-Bayliss, Andrés Eduardo Gutiérrez-Rodríguez, Hugo Terashima-Marín and Carlos A. Coello Coello, “**Improving Hyper-heuristic Performance Through Feature Transformation**”, in *2017 IEEE Congress on Evolutionary Computation (CEC'2017)*, pp. 2614-2621, IEEE Press, San Sebastián, Spain, June 5-8, 2017, ISBN 978-1-5090-4601-0.

24. Miriam Pescador-Rojas^D, Raquel Hernández Gómez^D, Elizabeth Montero, Nicolás Rojas-Morales, María-Cristina Riff and Carlos A. Coello Coello, “**An Overview of Weighted and Unconstrained Scalarizing Functions**”, in Heike Trautmann, Günter Rudolph, Kathrin Klamroth, Oliver Schütze, Margaret Wiecek, Yaochu Jin and Christian Grimme (Editors), *Evolutionary Multi-Criterion Optimization, 9th International Conference, EMO 2017*, pp. 499-513, Springer, Lecture Notes in Computer Science Vol. 10173, Münster, Germany, March 19-22, 2017, ISBN 978-3-319-54156-3.

25. Oliver Cuate^D, Bilel Derbel, Arnaud Liefvooghe, El-Ghazali Talbi and Oliver Schütze, “**An Approach for the Local Exploration of Discrete Many Objective Optimization Problems**”, in Heike Trautmann, Günter Rudolph, Kathrin Klamroth, Oliver Schütze, Margaret Wiecek, Yaochu Jin and Christian Grimme (Editors), *Evolutionary Multi-Criterion Optimization, 9th International Conference, EMO 2017*, pp. 135-150, Springer, Lecture Notes in Computer Science Vol. 10173, Münster, Germany, March 19-22, 2017, ISBN 978-3-319-54156-3.

26. Juan Martínez-Miranda and Matías Alvarado, “**Modelling Personality-Based Individual Differences in the Use of Emotion Regulation Strategies**”, in Malek Mouhoub and Philippe Langlais (Editors), *Advances in Artificial Intelligence, 30th Canadian Conference on Artificial Intelligence, Canadian AI 2017*, pp. 361-372, Springer, Lecture Notes in Artificial Intelligence Vol. 10233, Edmonton, Alberta, Canada, May 16-19, 2017. ISBN 978-3-319-57350-2.

27. Carlos A. Coello Coello, “**Recent Results and Open Problems in Evolutionary Multiobjective Optimization**”, in Carlos Martín-Vide, Roman Neruda and Miguel A. Vega-Rodríguez (Editors), *Theory and Practice of Natural Computing, 6th International Conference, TPNC 2017*, pp. 3-21, Springer, Lecture Notes in Computer Science Vol. 10687, Prague, Czech Republic, December 18-20, 2017, ISBN 978-3-319-71068-6.

28. Madeeha Batool, Mirza Muhammad Waqar, Ana María Martínez Enríquez and Aslam Muhammad, “**A Speech-Based Web Co-authoring Platform for the Blind**”, in Grigori Sidorov and Oscar Herrera-Alcántara (Editors), *Advances in Computational Intelligence, 15th Mexican International Conference on Artificial Intelligence, MICAI 2016*, pp. 141-152, Springer. Lecture Notes in Computer Science Vol. 10061, Cancún, Mexico, 2017, ISBN 978-319-62433-4.
29. Luis Gerardo de la Fraga, Esteban Tlelo-Cuautle and Ana Dalia Pano Azucena, “**On the Execution Time of a Computational Intensive Application in Scripting Languages**”, in *2017 5th International Conference in Software Engineering Research and Innovation (CONISOFT'2017)*, pp. 149-152, IEEE Press, Mérida, Mexico, 25-27 October 2017, ISBN 978-1-5386-3957-3.
30. Farooq Ahmad, Ayesha Sadiq, Ana María Martínez-Enríquez, Aslam Muhammad, Muhammad Wagas Anwar, Usama Ujaz Bajwa, Mudasser Naseer and Sher Afzal Khan, “**Component Based Architecture for the Control of Crossing Regions in Railway Networks**”, in *2017 16th IEEE International Conference on Machine Learning and Applications (ICMLA'2017)*, pp. 540-545, IEEE Press, Cancún, Mexico, 18-21 December 2017, ISBN 978-1-5386-1419-8.
31. Raquel Hernández Gómez^D and Carlos A. Coello Coello, “**A Hyper-Heuristic of Scalarizing Functions**”, in *2017 Genetic and Evolutionary Computation Conference (GECCO'2017)*, pp. 577-584, ACM Press, Berlin, Germany, 15-19 July 2017, ISBN 978-1-4503-4920-8.
32. A.D. Pano-Azucena, E. Tlelo-Cuautle, L.G. de la Fraga, C. Sanchez-Lopez, J.J. Rangel-Magdaleno and Shendon X.-D. Tan, “**Prediction of chaotic time-series with different MLE values using FPGA-based ANNs**”, in *2017 14th International Conference on Synthesis, Modeling, Analysis and Simulation Methods and Applications to Circuit Design (SMACD'2017)*, IEEE Press, Giardini Naxos, Italy, 12-15 June 2017, ISBN 978-1-5090-5053-6.
33. Afraz S. Syed, A.M. Martínez-Enríquez, Akhzar Nazir, Muhammad Aslam and Rida Hijab Basit, “**Mining the Urdu Language-Based Web Content for Opinion Extraction**”, in Jesús Ariel Carrasco-Ochoa, José Francisco Martínez-Trinidad and José Arturo Olvera-López (Editors), *Pattern Recognition, 9th Mexican Conference, MCPR 2017*, pp. 244-253, Springer. Lecture Notes in Computer Science Vol. 10267, Huatulco, Mexico, June 21-24, 2017, ISBN 978-3-319-59225-1.
34. Rida Hijab Basit, Muhammad Aslam, A.M. Martínez-Enríquez and Afraz Z. Syed, “**Semantic Similarity Analysis of Urdu Documents**”, in Jesús Ariel Carrasco-Ochoa, José Francisco Martínez-Trinidad and José Arturo Olvera-López (Editors), *Pattern Recognition, 9th Mexican Conference, MCPR 2017*, pp. 234-243, Springer. Lecture Notes in Computer Science Vol. 10267, Huatulco, Mexico, June 21-24, 2017, ISBN 978-3-319-59225-1.
35. Saima Munawar, Muhammad Hamid, Saba Khalil Toor, Muhammad Aslam, A.M. Martínez Enríquez, “**Pedagogical Agent-based Cognitive Architecture for an Intelligent Virtual Laboratory Cloud-based HCI E-learning Environment**”, in *International Conference on Open and Innovative Education (ICOIE'2017)*, pp. 303-318, Hong Kong, 12-14 July, 2017.

36. Erick de la Rosa, Wen Yu and Xiaoou Li, “**Probability based fuzzy modeling**”, in *2017 IEEE International Conference on Systems, Man and Cybernetics (SMC'2017)*, pp. 1633-1638, IEEE Press, Banff, Alberta, Canada, 5-8 October 2017, ISBN 978-1-5386-1646-8.
37. Carlos Segura, Gara Miranda and Carlos A. Coello Coello, “**Historia y Filosofía del Cómputo Evolutivo**”, en *Memorias de la Escuela de Cómputo Evolutivo*, pp. 1:1-1:21, CIMAT, Guanajuato, Guanajuato, México, Octubre de 2017, ISBN 978-84-947311-9-8.
38. Carlos A. Coello Coello, “**Resultados Recientes y Problemas Abiertos en Optimización Evolutiva Multi-Objetivo**”, en *Memorias de la Escuela de Cómputo Evolutivo*, pp. 2:1-2:16, CIMAT, Guanajuato, Guanajuato, México, Octubre de 2017, ISBN 978-84-947311-9-8.
39. Miriam Pescador-Rojas^D and Carlos A. Coello Coello, “**Collaborative and Adaptive Strategies of Different Scalarizing Functions in MOEA/D**”, in *2018 IEEE Congress on Evolutionary Computation (CEC'2018)*, pp. 709-716, IEEE Press, Rio de Janeiro, Brazil, 8-13 July, 2018, ISBN 978-1-5090-6017-7.
40. Alejandro Rosales-Pérez, Andres E. Gutierrez-Rodríguez, Salvador García, Hugo Terashima-Marín, Carlos A. Coello Coello and Francisco Herrera, “**Cooperative Multi-Objective Evolutionary Support Vector Machines for Multiclass Problems**”, in *2018 Genetic and Evolutionary Computation Conference (GECCO'2018)*, pp. 513-520, ACM Press, Kyoto, Japan, July 15-19, 2018, ISBN 978-1-4503-5618-3.
41. Jesús Guillermo Falcón-Cardona^D and Carlos A. Coello Coello, “**A Multi-Objective Evolutionary Hyper-heuristic based on Multiple Indicator-based Density Estimators**”, in *2018 Genetic and Evolutionary Computation Conference (GECCO'2018)*, pp. 633-640, ACM Press, Kyoto, Japan, 15-19 July, 2018, ISBN 978-1-4503-5618-3.
42. Edgar Manoatl Lopez^D and Carlos A. Coello Coello, “**An Improved Version of a Reference-Based Multi-Objective Evolutionary Algorithm based on IGD+**”, in *2018 Genetic and Evolutionary Computation Conference (GECCO'2018)*, pp. 713-720, ACM Press, Kyoto, Japan, 15-19 July, 2018, ISBN 978-1-4503-5618-3.
43. Miriam Pescador-Rojas^D and Carlos A. Coello Coello, “**Studying the Effect of Techniques to Generate Reference Vectors in Many-objective Optimization**”, in *GECCO'18: Proceedings of the Genetic and Evolutionary Computation Conference Companion*, pp. 193-194, ACM Press, Kyoto, Japan, July 15-19, 2018, ISBN 978-1-4503-5764-7.
44. Edgar Manoatl Lopez^D and Carlos A. Coello Coello, “**Use of Reference Point Sets in a Decomposition-based Multi-Objective Evolutionary Algorithm**”, in Ann Auger, Carlos M. Fonseca, Nuno Lourenço, Penousal Machado, Luís Paquete and Darrell Whitley (Editors), *Parallel Problem Solving from Nature -- PPSN XV, 15th International Conference, Proceedings, Part I*, pp. 372-383, Springer. Lecture Notes in Computer Science Vol. 11101, Coimbra, Portugal, September 8-12, 2018, ISBN 978-3-319-99258-7.
45. Jesús Guillermo Falcón-Cardona^D and Carlos A. Coello Coello, “**Towards a More General Many-Objective Evolutionary Optimizer**”, in Ann Auger, Carlos M. Fonseca, Nuno Lourenço, Penousal Machado, Luís Paquete and Darrell Whitley (Editors), *Parallel Problem Solving from Nature -- PPSN*

XV, *15th International Conference, Proceedings, Part I*, pp. 335--346, Springer. Lecture Notes in Computer Science Vol. 11101, Coimbra, Portugal, September 8-12, 2018, ISBN 978-3-319-99258-7.

46. Ivan Amaya, José Carlos Ortiz-Bayliss, Santiago Enrique Conant-Pablos, Hugo Terashima-Marín and Carlos A. Coello Coello, “**Tailoring Instances of the 1D Bin Packing Problem for Assessing Strengths and Weaknesses of its Solvers**”, in Ann Auger, Carlos M. Fonseca, Nuno Lourenço, Penousal Machado, Luís Paquete and Darrell Whitley (Editors), *Parallel Problem Solving from Nature -- PPSN XV, 15th International Conference, Proceedings, Part II*, pp. 373--384, Springer. Lecture Notes in Computer Science Vol. 11102, Coimbra, Portugal, September 8-12, 2018, ISBN 978-3-319-99258-7.

47. Antonio J. Nebro, Juan J. Durillo, José García-Nieto, Cristóbal Barba-González, Javier Del Ser, Carlos A. Coello Coello, Antonio Benítez-Hidalgo and José F. Aldana-Montes, “**Extending the Speed-constrained Multi-Objective PSO (SMPSO) With Reference Point Based Preference Articulation**”, in Ann Auger, Carlos M. Fonseca, Nuno Lourenço, Penousal Machado, Luís Paquete and Darrell Whitley (Editors), *Parallel Problem Solving from Nature -- PPSN XV, 15th International Conference, Proceedings, Part I*, pp. 298--310, Springer. Lecture Notes in Computer Science Vol. 11101, Coimbra, Portugal, September 8-12, 2018, ISBN 978-3-319-99258-7.

48. Nicolás Rojas-Morales, María-Cristina Riff, Carlos A. Coello Coello and Elizabeth Montero, “**A Cooperative Opposite-Inspired Learning Strategy for Ant-based Algorithms**”, in Marco Dorigo, Mauro Birattari, Christian Blum, Ander K. Christensen, Andreagiovanni Reina and Vito Trianni (Editors), *Swarm Intelligence, 11th International Conference, ANTS 2018*, pp. 317--324, Springer, Lecture Notes in Computer Science Vol. 11172, Rome, Italy, October 29-31, 2018, ISBN 978-3-030-00532-0.

49. Ashraf M. Abdelbar, Khalid M. Salama, Jesús Guillermo Falcón-Cardona^D and Carlos A. Coello Coello, “**An Adaptive Recombination-Based Extension of the iMOACOR Algorithm**”, in *2018 Symposium Series on Computational Intelligence (SSCI'2018)*, pp. 735--742, IEEE Press, Bengaluru, India, 18-21 November, 2018, ISBN 978-1-5386-9276-9.

50. Miriam Pescador-Rojas^D, Denis Pallez, Carlos Hernández Castellanos^D and Carlos A. Coello Coello, “**Studying the effect of robust measures in offline parameter tuning for estimating the performance of MOEA/D**”, in *2018 Symposium Series on Computational Intelligence (SSCI'2018)*, pp. 204--211, IEEE Press, Bengaluru, India, 18-21 November, 2018, ISBN 978-1-5386-9276-9.

51. Arturo Yee^D, Matías Alvarado, “**Patterns of Go Gaming by Ising Model**”, in José Francisco Martínez-Trinidad, Jesús Ariel Carrasco-Ochoa, José Arturo Olvera-López and Sudeep Sarkar (Editors), *Pattern Recognition, 10th Mexican Conference, MCPR 2018*, pp. 3-11, Springer-Verlag, Lecture Notes in Computer Science Vol. 10880, Puebla, México, June 27-30, 2018, ISBN 978-3-319-91197-6.

52. Xiaoou Li, Wen Yu, “**A Hybrid Fuzzy Petri Nets and Neural Networks Framework for Modeling Critical Infrastructure Systems**”, *2018 IEEE International Conference on Fuzzy Systems (FUZZ-IEEE)*, IEEE Press, Rio de Janeiro, Brasil, July 8-13, 2018, ISBN 978-1-5090-6020-7.

53. Humaira Nadeem, Imran Mujaddid Rabbani, Muhammad Aslam and A.M. Martínez-Enríquez, “**KNN-Fuzzy Classification for Cloud Service Selection**”, in *Proceedings of the 2nd International Conference on Future Networks and Distributed Systems (ICFNDS'18)*, Article No. 66, ACM Press, Amman, Jordan, June 26-27, 2018, ISBN 978-1-4503-6428-7.

54. Attifa Bilal, Aslam Muhammad and Ana María Martínez-Enríquez, “**Fully Automated Segmentation of Abnormal Heart in New Born Babies**”, in Félix Castro, Sabino Miranda-Jiménez and Miguel González-Mendoza (Editors), *Advances in Computational Intelligence, 16th Mexican International Conference on Artificial Intelligence, MICA I 2017, Proceedings, Part II*, pp. 305-314, Springer, Lecture Notes in Artificial Intelligence Vol. 10633, Ensenada, México, 2018, ISBN 978-3-030-02839-8.
55. Muhammad Rizwan Ullah, Muhammad Aslam, Muhammad Imran Ullah and Ana María Martínez-Enríquez, “**Driver’s Drowsiness Detection Through Computer Vision: A Review**”, in Félix Castro, Sabino Miranda-Jiménez and Miguel González-Mendoza (Editors), *Advances in Computational Intelligence, 16th Mexican International Conference on Artificial Intelligence, MICA I 2017, Proceedings, Part II*, pp. 272-281, Springer, Lecture Notes in Artificial Intelligence Vol. 10633, Ensenada, México, October 23-28, 2017, ISBN 978-3-030-02839-8.
56. Muhammad Ajmal, Farooq Ahmad, A.M. Martínez-Enríquez, Mudasser Naseer, Muhammad Aslam and Mohsin Ashraf, “**Image to multilingual Text Conversion for Literacy Education**”, in *Proceedings of the 2018 17th IEEE International Conference on Machine Learning and Applications (ICMLA 2018)*, pp. 1328-1332, IEEE Press, Florida, USA, 17-20 December 2018, ISBN 978-1-5386-6805-4.
57. A. Sikandar, Muhammad Aslam, Noman Jazeb, Ana Maria Martinez-Enriquez and Farooq Ahmad, “**Multiagent Based System for Secondary Education using Machine Learning**”, in *Proceedings of the 2018 17th IEEE International Conference on Machine Learning and Applications (ICMLA 2018)*, pp. 1310-1315, IEEE Press, Florida, USA, 17-20 December 2018, ISBN 978-1-5386-6805-4.
58. Jesús Guillermo Falcón-Cardona^D, Carlos A. Coello Coello and Michael T.M. Emmerich, “**CRI-EMOA: A Pareto-Front Shape Invariant Evolutionary Multi-Objective Algorithm**”, in Kalyanmoy Deb, Erik Goodman, Carlos A. Coello Coello, Kathrin Klamroth, Kaisa Miettinen, Sanaz Mostaghim and Patrick Reed (Editors), *Evolutionary Multi-Criterion Optimization, 10th International Conference, EMO 2019*, pp. 307-318, Springer. Lecture Notes in Computer Science Vol. 11411, East Lansing, Michigan, USA, March 10-13, 2019, ISBN 978-3-030-12597-4.
59. Oliver Cuate^D and Oliver Schütze, “**Variation Rate: an Alternative to Maintain Diversity in Decision Space for Multi-objective Evolutionary Algorithms**”, in Kalyanmoy Deb, Erik Goodman, Carlos A. Coello Coello, Kathrin Klamroth, Kaisa Miettinen, Sanaz Mostaghim and Patrick Reed (Editors), *Evolutionary Multi-Criterion Optimization, 10th International Conference, EMO 2019*, pp. 203-215, Springer. Lecture Notes in Computer Science Vol. 11411, East Lansing, Michigan, USA, March 10-13, 2019, ISBN 978-3-030-12597-4.
60. Lourdes Uribe, Oliver Schütze and Adriana Lara, “**Toward a New Family of Hybrid Evolutionary Algorithms**”, in Kalyanmoy Deb, Erik Goodman, Carlos A. Coello Coello, Kathrin Klamroth, Kaisa Miettinen, Sanaz Mostaghim and Patrick Reed (Editors), *Evolutionary Multi-Criterion Optimization, 10th International Conference, EMO 2019*, pp. 78-90, Springer. Lecture Notes in Computer Science Vol. 11411, East Lansing, Michigan, USA, March 10-13, 2019, ISBN 978-3-030-12597-4.
61. Oliver Cuate^D, Lourdes Uribe, Antonin Ponsich, Adriana Lara, Fernanda Beltrán^M, Alberto Rodríguez Sánchez and Oliver Schütze, “**A New Hybrid Metaheuristic for Equality Constrained Bi-Objective Optimization Problems**”, in Kalyanmoy Deb, Erik Goodman, Carlos A. Coello Coello,

Kathrin Klamroth, Kaisa Miettinen, Sanaz Mostaghim and Patrick Reed (Editors), *Evolutionary Multi-Criterion Optimization, 10th International Conference, EMO 2019*, pp. 53-65, Springer. Lecture Notes in Computer Science Vol. 11411, East Lansing, Michigan, USA, March 10-13, 2019, ISBN 978-3-030-12597-4.

62. Forhad Zaman, Saber Elsayed, Ruhul Sarker, Daryl Essam and Carlos A. Coello Coello, “**Evolutionary Algorithm for Project Scheduling under Irregular Resource Changes**”, in *2019 IEEE Congress on Evolutionary Computation (CEC'2019)*, pp. 403-410, IEEE Press, Wellington, New Zealand, 10-13 June 2019, ISBN 978-1-7281-2153-6.

63. Wenjian Luo, Luming Shi, Xin Lin and Carlos A. Coello Coello, “**The \hat{g} -dominance Relation for Preference-Based Evolutionary Multi-Objective Optimization**”, in *2019 IEEE Congress on Evolutionary Computation (CEC'2019)*, pp. 2418-2425, IEEE Press, Wellington, New Zealand, 10-13 June 2019, ISBN 978-1-7281-2153-6.

64. Jesús Guillermo Falcón-Cardona^D, Michael T.M. Emmerich and Carlos A. Coello Coello, “**On the Cooperation of Multiple Indicator-based Multi-Objective Evolutionary Algorithms**”, in *2019 IEEE Congress on Evolutionary Computation (CEC'2019)*, pp. 2050-2057, IEEE Press, Wellington, New Zealand, 10-13 June 2019, ISBN 978-1-7281-2153-6.

65. Saku Kukkonen and Carlos Coello Coello, “**A Simple and Effective Termination Condition for Both Single- and Multi-Objective Evolutionary Algorithms**”, in *2019 IEEE Congress on Evolutionary Computation (CEC'2019)*, pp. 3053-3059, IEEE Press, Wellington, New Zealand, 10-13 June 2019, ISBN 978-1-7281-2153-6.

66. Jesús Guillermo Falcón-Cardona^D and Carlos A. Coello Coello, “**Convergence and Diversity Analysis of Indicator-based Multi-Objective Evolutionary Algorithms**”, in *2019 Genetic and Evolutionary Computation Conference (GECCO'2019)*, pp. 524-531, ACM Press, Prague, Czech Republic, July 13-17, 2019, ISBN 978-1-4503-6111-8.

67. Luis Miguel Antonio^D, Carlos A. Coello Coello, Silvia González Brambila, Josué Figueroa González ad Guadalupe Castillo Tapia, “**Operational Decomposition for Large Scale Multi-objective Optimization Problems**”, in *2019 Genetic and Evolutionary Computation Conference (GECCO'2019) Companion*, pp. 225-226, ACM Press, Prague, Czech Republic, July 13-17, 2019, ISBN 978-1-4503-6748-6.

68. Sana Shams, Muhammad Aslam and Ana María Martínez-Enríquez, “**Lexical Intent Recognition in Urdu Queries using Deep Neural Networks**”, in Lourdes Martínez-Villaseñor, Ildar Batyrshin and Antonio Marín-Hernández (Editors), *Advances in Soft Computing, 18th Mexican International Conference on Artificial Intelligence, MICAI 2019*, pp. 39-50, Springer. Lecture Notes in Computer Science Vol. 11835, Xalapa, Mexico, October 27-November 2, 2019, ISBN 978-3-030-33748-3.

69. Wen Yu, Xiaoou Li and Jesus Gonzalez, “**Fast Training of Deep LSTM Networks**”, in Huchuan Lu, Huajin Tang and Zhanshan Wang (Editors), *16th International Symposium on Neural Networks, ISSN 2019*, pp. 3-10, Springer. Lecture Notes in Computer Science Vol. 11554, Moscow, Russia, July 10-12, 2019, ISBN 978-3-030-22795-1.

70. Jorge Jiménez Montiel^M, Carlos A. Coello Coello and Ma. Guadalupe Castillo Tapia, “**A Proposal of a Multi-Objective Compact Particle Swarm Optimizer**”, in *2019 IEEE Symposium Series on*

Computational Intelligence (SSCI'2019), pp. 2279-2288, IEEE Press, Xiamen, China, December 4-9, 2019, ISBN 978-1-7281-2484-1.

71. Adolfo Perrusquía, Wen Yu and Xiaoou Li, “**Impedance Control without Environment Model by Reinforcement Learning**”, in *10th International Conference on Intelligent Control and Information Processing*, pp. 59-63, IEEE Press, Marrakesh, Morocco, December 14-19, 2019, ISBN 978-1-7281-0015-9.

72. Erick García López, Wen Yu and Xiaoou Li, “**Optimal Design of a Parallel Robot Using Neural Network and Genetic Algorithm**”, in *10th International Conference on Intelligent Control and Information Processing*, pp. 64-69, IEEE Press, Marrakesh, Morocco, December 14-19, 2019, ISBN 978-1-7281-0015-9.

73. Ata-Ur-Rehman, Nazir M. Danish, Sarfraz M. Tanzeel, Nasir Usama, Aslam Muhammad A.M. Martínez-Enríquez and Adrees Muhammad, “**Intelligent Interface for Fake Product Review Monitoring and Removal**”, in *2019 16th International Conference on Electrical Engineering, Computing Science and Automatic Control (CCE'2019)*, IEEE Press, Mexico City, Mexico, September 11-13, 2019, ISBN 978-1-7281-4840-3.

74. Ali Usman, Aslam Muhammad, A.M. Martínez-Enríquez and Andrees Muhammad, “**Classification of Diabetic Retinopathy and Retinal Vein Occlusion in Human Eye Fundus Images by Transfer Learning**”, in Kohei Arai, Supriya Kapoor and Rahul Bhatia (Editors), *Advances in Information and Communication, Proceedings of the 2020 Future of Information and Communication Conference (FICC 2020)*, Vol. 2, pp. 642-653, Springer, Advances in Intelligent Systems and Computing Vol. 1130, Cham, Switzerland, 2020, ISBN 978-3-030-39441-7.

75. Ahad Hanif, Aslam Muhammad, A.M. Martínez-Enríquez and Andrees Muhammad, “**Crop Monitoring Agent System Based on Pattern Recognition Techniques**”, in Kohei Arai, Supriya Kapoor and Rahul Bhatia (Editors), *Advances in Information and Communication, Proceedings of the 2020 Future of Information and Communication Conference (FICC 2020)*, Vol. 2, pp. 654-663, Springer, Advances in Intelligent Systems and Computing Vol. 1130, Cham, Switzerland, 2020, ISBN 978-3-030-39441-7.

76. Fatima Khalil, Farva Sardar, Mehreen Gull, Muhammad Aslam, Nafees Ahmad and A.M. Martínez-Enríquez, “**Machine Learning Based Urdu Language Tutor for Primary School Students**”, in Lourdes Martínez-Villaseñor, Oscar Herrera-Alcántara, Hiram Ponce and Félix A. Castro-Espinoza, *Advances in Soft Computing, 19th Mexican International Conference on Artificial Intelligence, MICAI 2020, Mexico, October 12-17, 2020, Proceedings, Part I*, pp. 197-207, Springer. Lecture Notes in Computer Science Vol. 12468, Cham, Switzerland, 2020, ISBN 978-3-030-60883-5.

77. M.M. Waqar, Nafees Ahmad, Muhammad Aslam and Martinez-Enriquez A.M., “**Cloud based Co-authoring platform for visually impaired people**”, in *2020 17th International Conference on Electrical Engineering, Computing Science and Automatic Control (CCE'2020)*, IEEE Press, Mexico City, Mexico, 11-13 November 2020, ISBN 978-1-7281-8988-8.

78. Maryam Tooba, Aslam Muhammad, Ana Maria Martínez-Enríquez, “**Smart Solution for Heterogeneous Device Interoperability in IoT**”, in *2018 Seventeenth Mexican International Conference on Artificial Intelligence (MICAI'2018)*, pp. 70-75, IEEE Press, Guadalajara, Mexico, 27 October – 2 November, 2018, ISBN 978-1-5386-9575-3.

79. Aslam Muhammad, Noman Jazeb, Ana Maria Martinez-Enriquez, Ali Sikander, “**EUTS: Extractive Urdu Text Summarizer**”, in *2018 Seventeenth Mexican International Conference on Artificial Intelligence (MICAI'2018)*, pp. 39-44, IEEE Press, Guadalajara, Mexico, 27 October – 2 November, 2018, ISBN 978-1-5386-9575-3.
80. Lourdes Uribe, Adriana Lara, Kalyanmoy Deb, Oliver Schütze, “**Using gradient-free local search within MOEAs for the treatment of constrained MOPs**”, in *Proceedings of the 2020 Genetic and Evolutionary Computation Conference Companion*, pp. 177-178, ACM Press, Cancún, México, July 8-12, 2020, ISBN 978-1-4503-7127-8.
81. Adolfo Perrusquia, Wen Yu, Xiaoou Li, “**Redundant Robot Control Using Multi Agent Reinforcement Learning**”, in *2020 IEEE 16th International Conference on Automation Science and Engineering (CASE 2020)*, IEEE Press, Hong Kong, August 20-21, 2020, ISBN 978-1-7281-6905-7.
82. Yao Li, Huiyuan Cui, Huilin Liu, and Xiaoou Li, “**Display Name-Based Anchor User Identification across Chinese Social Networks**”, in *2020 IEEE International Conference on Systems, Man, and Cybernetics (SMC'2020)*, IEEE Press, Toronto, Canada, October 11-14, 2020, ISBN 978-1-7281-8527-9.
83. Adolfo Perrusquia, Wen Yu, and Xiaoou Li, “**Robust Control in the Worst Case Using Continuous Time Reinforcement Learning**”, in *2020 IEEE International Conference on Systems, Man, and Cybernetics (SMC'2020)*, IEEE Press, Toronto, Canada, October 11-14, 2020, ISBN 978-1-7281-8527-9.
84. Erick García López, Wen Yu, and Xiaoou Li, “**Multi-robot manipulation using formation control and human-in-the-loop scheme**”, in *17th International Conference on Electrical Engineering, Computing Science and Automatic Control (CCE2020)*, IEEE Press, Mexico City, Mexico, November 11-13, 2020, ISBN 978-1-7281-8988-8.
85. Sofien Boutaib, Slim Bechikh, Carlos A. Coello Coello, Chih-Cheng Hung and Lamjed Ben Said, “**Handling Uncertainty in Code Smells Detection using a Possibilistic SBSE Approach**”, in *Proceedings of the 2020 Genetic and Evolutionary Computation Conference Companion*, pp. 303-304, ACM Press, Cancún, México, July 8-12, 2020, ISBN 978-1-4503-7127-8.
86. Marco Bairoletti, Carlos Artemio Coello Coello, Gabriele Di Bari and Valentina Poggioni, “**Multi-Objective Evolutionary GAN**”, in *Proceedings of the 2020 Genetic and Evolutionary Computation Conference Companion*, pp. 1824-1831, ACM Press, Cancún, México, July 8-12, 2020, ISBN 978-1-4503-7127-8.
87. Luis Miguel Antonio^D, Carlos A. Coello Coello, Mario A. Ramírez Morales, Silvia Gonzalez Brambila, Josué Figueroa Gonzalez and Guadalupe Castillo Tapia, “**Coevolutionary Operations for Large Scale Multi-objective Optimization**”, in *2020 IEEE Congress on Evolutionary Computation (CEC'2020)*, Glasgow, Scotland, 19-24 July, 2020, ISBN 978-1-7281--3.
88. Jesús Guillermo Falcón-Cardona^D, Hisao Ishibuchi and Carlos A. Coello Coello, “**Riesz s-energy-based Reference Sets for Multi-Objective Optimization**”, in *2020 IEEE Congress on Evolutionary Computation (CEC'2020)*, Glasgow, Scotland, 19-24 July, 2020, ISBN 978-1-7281-6929-3.

89. Saber Elsayed, Ruhul Sarker, Noha Hamza, Carlos Coello Coello and Efrén Mezura-Montes, “**Enhancing Evolutionary Algorithms by Efficient Population Initialization for Constrained Problems**”, in *2020 IEEE Congress on Evolutionary Computation (CEC'2020)*, Glasgow, Scotland, 19-24 July, 2020, ISBN 978-1-7281-6929-3.
90. Jesús Guillermo Falcón-Cardona^D, Arnaud Liefooghe and Carlos A. Coello Coello, “**An Ensemble Indicator-based Density Estimator for Evolutionary Multi-objective Optimization**”, in Thomas Bäck, Mike Preuss, André Deutz, Hao Wang, Carola Doerr, Michael Emmerich and Heike Trautmann (Editors), *Parallel Problem Solving from Nature -- PPSN XVI, 16th International Conference, PPSN 2020. Proceedings, Part II*, pp. 201--214, Springer. Lecture Notes in Computer Science Vol. 12270, Leiden, The Netherlands, September 5-9, 2020, ISBN 978-3-030-58115-2.
91. Amín V. Bernabé Rodríguez^M and Carlos A. Coello Coello, “**Generation of New Scalarizing Functions Using Genetic Programming**”, in Thomas Bäck, Mike Preuss, André Deutz, Hao Wang, Carola Doerr, Michael Emmerich and Heike Trautmann (Editors), *Parallel Problem Solving from Nature -- PPSN XVI, 16th International Conference, PPSN 2020. Proceedings, Part II*, pp. 3--17, Springer. Lecture Notes in Computer Science Vol. 12270, Leiden, The Netherlands, September 5-9, 2020, ISBN 978-3-030-58115-2.
92. Diana Cristina Valencia-Rodríguez^M and Carlos A. Coello Coello, “**A Study of Swarm Topologies and Their Influence on the Performance of Multi-Objective Particle Swarm Optimizers**”, in Thomas Bäck, Mike Preuss, André Deutz, Hao Wang, Carola Doerr, Michael Emmerich and Heike Trautmann (Editors), *Parallel Problem Solving from Nature -- PPSN XVI, 16th International Conference, PPSN 2020. Proceedings, Part II*, pp. 285--298, Springer. Lecture Notes in Computer Science Vol. 12270, Leiden, The Netherlands, September 5-9, 2020, ISBN 978-3-030-58115-2.
93. Lino Rodriguez-Coayahuitl, Alicia Morales-Reyes, Hugo Jair Escalante and Carlos A. Coello Coello, “**Cooperative Co-Evolutionary Genetic Programming for High Dimensional Problems**”, in Thomas Bäck, Mike Preuss, André Deutz, Hao Wang, Carola Doerr, Michael Emmerich and Heike Trautmann (Editors), *Parallel Problem Solving from Nature -- PPSN XVI, 16th International Conference, PPSN 2020. Proceedings, Part II*, pp. 48--62, Springer. Lecture Notes in Computer Science Vol. 12270, Leiden, The Netherlands, September 5-9, 2020, ISBN 978-3-030-58115-2.
94. Oscar Pacheco-Del-Moral^M and Carlos A. Coello Coello, “**A SHADE-Based Algorithm for Large Scale Global Optimization**”, in Thomas Bäck, Mike Preuss, André Deutz, Hao Wang, Carola Doerr, Michael Emmerich and Heike Trautmann (Editors), *Parallel Problem Solving from Nature -- PPSN XVI, 16th International Conference, PPSN 2020. Proceedings, Part I*, pp. 650--663, Springer. Lecture Notes in Computer Science Vol. 12270, Leiden, The Netherlands, September 5-9, 2020, ISBN 978-3-030-58111-2.
95. Jesús Guillermo Falcón-Cardona^D, Hisao Ishibuchi and Carlos Artemio Coello Coello, “**Exploiting the Trade-off between Convergence and Diversity Indicators**”, in *2020 IEEE Symposium Series on Computational Intelligence (SSCI'2020)*, pp. 141-148, IEEE Press, Canberra, Australia, December 1-4, 2020, ISBN 978-1-7281-2548-0.
96. Ali Ahrari, Saber Elsayed, Ruhul Sarker, Daryl Essam and Carlos A. Coello Coello, “**Towards a More Practically Sound Formulation of Dynamic Problems and Performance Evaluation of Dynamic Search Methods**”, in *2020 IEEE Symposium Series on Computational Intelligence*

(SSCI2020), pp. 1387-1394, IEEE Press, Canberra, Australia, December 1-4, 2020, ISBN 978-1-7281-2548-0.

Patentes Nacionales

1. Farid García Lamont^D, José Matías Alvarado Mentado, “**Método y Sistema Clasificador de Frutas**”. Patente número: MX/a/2016/014877. Título de Patente No. 377756. Fecha de expedición: 23 de noviembre de 2020. Fecha de vencimiento: 11 de noviembre de 2036.

5.2 Relación de productos de investigación de las LGAC de estudiantes y profesores/profesoras del núcleo académico Doctorado en Ciencias en Computación

Departamento de Computación – CINVESTAV-IPN

PNPC 2021

LGAC2: Sistemas de Cómputo

En la Figura 1, se muestra la cantidad de diferentes tipos de productos, como tesis de doctorado, artículos de revista, libros, capítulos de libro, artículos de congreso y patentes, derivados de la LGAC de Sistemas de Cómputo, que contribuyeron a la productividad total del Departamento de Computación entre 2016 y 2020.

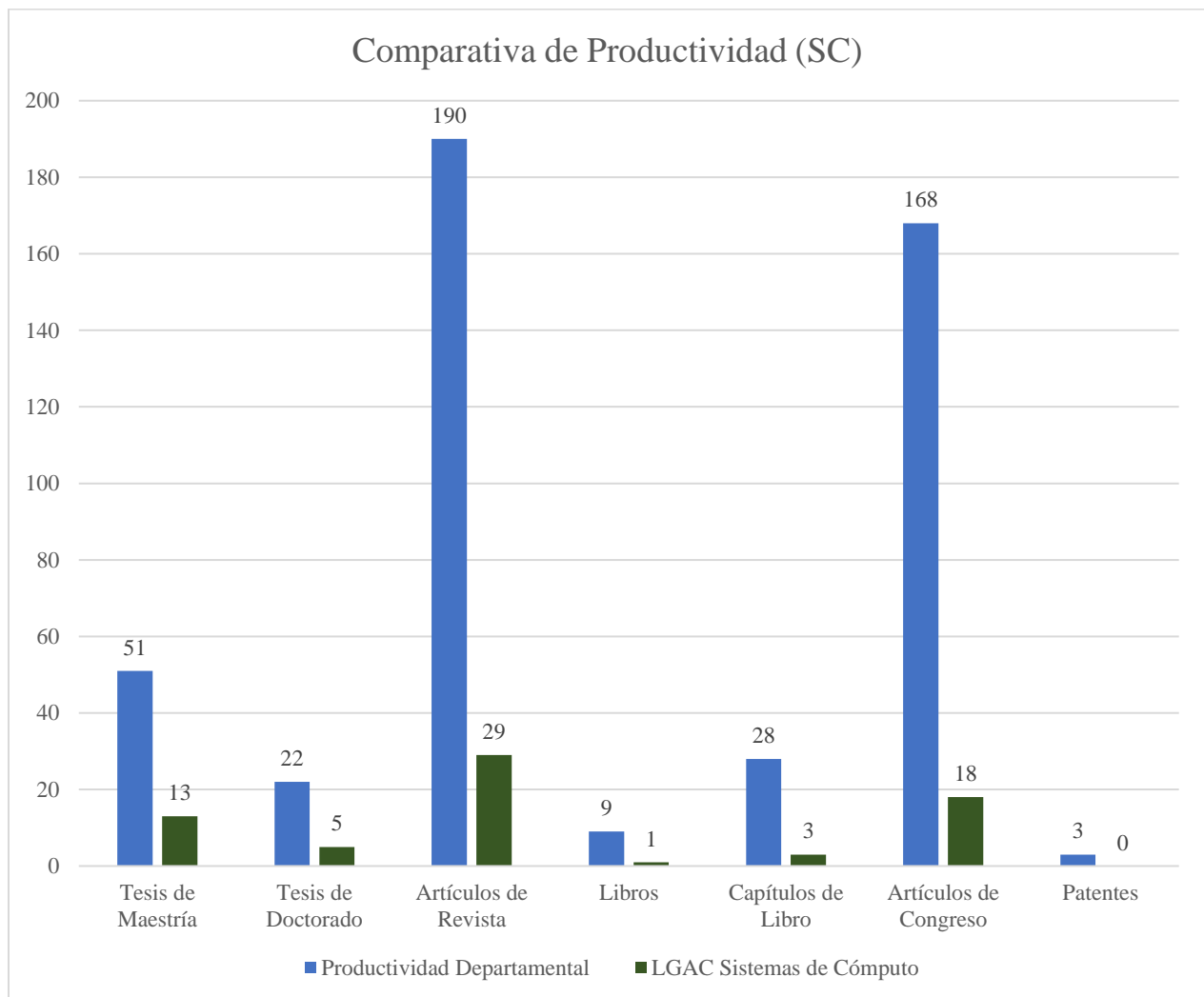


Figura 1. Contribución de la LGAC de Sistemas de Cómputo a la productividad del Departamento de Computación de 2016 a 2020

En la Tabla 1, se muestra el desglosado por año de los diferentes tipos de productos derivados de la LGAC de Sistemas de Cómputo. Después, se enlistan los productos organizados por tipo de producto y ordenados de manera cronológica de aparición (del más antiguo al más reciente).

Año	2016	2017	2018	2019	2020	Total
Tesis de maestría	3	3	3	2	2	13
Tesis de doctorado	1	1	1	2	0	5
Artículos de revista	1	2	5	12	9	29
Libros	1	0	0	0	0	1
Capítulos de libro	0	0	1	1	1	3
Artículos en memorias de congresos	5	2	6	5	0	18

Tabla 1. Número total de productos por año generados por profesores y estudiantes de la LGAC de Sistemas de Cómputo

Tesis de maestría

1. M. en C. Daniel Alberto Torres, “**Paralelización de los algoritmos de cifrado simétricos AES-CTR y AES-OTR sobre un kit de desarrollo NVIDIA Jetson TK1**”. Fecha de Grado: 01/12/2016. Directores de Tesis: Dr. Amílcar Meneses Viveros y Dr. Cuauhtémoc Mancillas López.
2. M. en C. José Abraham Bernal Gutiérrez, “**Red de sensores para control de contextos usando servicios web**”. Fecha de Grado: 09/12/2016. Directores de Tesis: Dr. José Guadalupe Rodríguez García y Dra. Maricela Claudia Bravo Contreras.
3. M. en C. Guillermo Monroy Rodríguez, “**Uso del efecto Doppler para detección de obstáculos en desplazamiento peatonal**”. Fecha de Grado: 13/12/2016. Director de Tesis: Dr. José Guadalupe Rodríguez García.
4. M. en C. Manuel Portillo Cedillo, “**Sistema de votación por internet FIDELIS**”. Fecha de Grado: 21/04/2017. Directores de Tesis: Dr. Amílcar Meneses Viveros y Dra. Lil María Xibai Rodríguez Henríquez.
5. M. en C. Laiphel Marco Gómez Trujillo, “**Análisis de la seguridad y privacidad ofrecida por dispositivos Android**”. Fecha de Grado 11/10/2017. Director de Tesis: Dr. Francisco José Rambó Rodríguez Henríquez.

6. M. en C. Juan Cipriano Hernández Cortés, “**Implementación Paralela y Heterogénea de la Transformación de Householder y sus Aplicaciones**”. Fecha de Grado: 11/12/2017. Director de Tesis: Dr. Amilcar Meneses Viveros.
7. M. en C. Daybelis Jaramillo Olivares, “**Prototipo de un sistema de Ojo de Halcón**”. Fecha de Grado: 28/08/2018. Director de Tesis: Dr. Luis Gerardo de la Fraga.
8. M. en C. Adrián Josué Ramírez Díaz. “**Diseño e implementación de robots de servicio de bajo costo para adultos mayores**”. Fecha de Grado: 30/11/2018. Directores de Tesis: Dr. José G. Rodríguez García y Dra. Sonia G. Mendoza Chapa.
9. M. en C. Manuel Rodríguez Camacho, “**Implementación ligera con VHDL del esquema COFB**”. Fecha de Grado: 07/12/2018. Directores de Tesis: Dr. Francisco Rodríguez Henríquez y Dr. Cuauhtemoc Mancillas López.
10. M. en C. Michel Torres Alonso, “**Interacción aumentada con un objeto deformable**”. Fecha de grado: 25/09/2019. Director de tesis: Dr. Luis Gerardo de la Fraga.
11. M. en C. Sergio Alberto Herrera Castro, “**Sistema de odometría visual e inercial con un marcador**”. Fecha de grado: 30/10/2019. Director de tesis: Dr. Luis Gerardo de la Fraga.
12. M. en C. Ángel Isaac Rodríguez Cosme. “**Arquitectura para un sistema de denuncias basado en Blockchain y tecnologías en la nube**”. Fecha de Grado: 24/11/2020. Directores de Tesis: Dra. Sonia Guadalupe Mendoza Chapa y Dr. Cuauhtemoc Mancillas López.
13. M. en C. Lisa Pal. “**Un algoritmo paralelo de análisis de textura basado en auto-información mutua para análisis de imágenes médicas**”. Fecha de Grado: 27/11/2020. Directores de Tesis: Dr. Amilcar Meneses Viveros y Dr. Wilfrido Gómez Flores.

Tesis de doctorado

1. Dr. Daniel López Escogido, “**Escaner 3D de alta precisión**”. Fecha de Grado: 24/06/2016. Director de Tesis: Dr. Luis Gerardo de la Fraga.
2. Dr. José Uriel Cabello Sánchez, “**XSCALA: Un marco de desarrollo para soportar programación paralela por tareas en sistemas de cómputo híbridos heterogéneos**”. Fecha de Grado: 27/02/2017. Directores de Tesis: Dr. Amílcar Meneses Viveros y Dr. José Guadalupe Rodríguez García.
3. Dr. Carlos Alberto Martínez Ángeles, “**Procesamiento Paralelo de Redes Lógicas de Markov en Unidades de Procesamiento Gráfico (GPUs)**”. Fecha de Grado: 22/03/2018. Directora de Tesis: Dra. Ana María Martínez Enríquez.
4. Dr. Heriberto Cruz Fernández, “**Solución Simultánea de varios subproblemas de Visión por Computadora**”. Fecha de Grado: 29/01/2019. Director de Tesis: Dr. Luis Gerardo de la Fraga.

5. Dr. José Eduardo Ochoa Jiménez, “**Análisis e implementación eficiente de protocolos criptográficos de llave pública**”. Fecha de Grado: 28/02/2019. Director de Tesis: Dr. Francisco Rodríguez Henríquez.

Artículos de revista

1. Leticia Dávila-Nicanor^D, Aldo Benhumea-Peña, Carlos Omar González-Morán and Pedro Mejía-Alvarez, “**Functional Tester Runner Tool**”, *Research in Computing Science*. Vol. 109, pp. 69-79, 2016.

2. Luis Gerardo de la Fraga, Esteban Torres-Perez, Esteban Tlelo-Cuautle and Cuauhtemoc Mancillas-López, “**Hardware implementation of pseudo-random number generators based on chaotic maps**”, *Nonlinear Dynamics*, Vol. 90, No. 3, pp. 1661-1670, 2017.

3. Esteban Tlelo-Cuautle, Luis Gerardo de la Fraga, Viet-Thanh Pham, Christos Volos, Sajad Jafari and Antonio de Jesus Quintas-Valles, “**Dynamics, FPGA realization and application of a chaotic system with an infinite number of equilibrium points**”, *Nonlinear Dynamics*, Vol. 89, No. 2, pp. 1129-1139, 2017.

4. Amilcar Meneses-Viveros, Erika Hernández-Rubio, Sonia Mendoza, José Rodríguez, Ana Belem Márquez Quintos^M, “**Energy saving strategies in the design of mobile device applications**”, *Sustainable Computing: Informatics and Systems*, Vol. 19, pp 86-95, September 2018.

5. Heriberto Cruz-Hernández^D, Luis Gerardo de la Fraga, “**A fiducial tag invariant to rotation, translation, and perspective transformations**”, *Pattern Recognition*, Vol. 81, pp. 213-223, September 2018.

6. Atil U. Ay, Cuauhtemoc Mancillas-López, Erdinç Öztürk, Francisco Rodriguez-Henriquez and Erkey Savaş, “**Constant-time hardware computation of elliptic curve scalar multiplication around the 128 bit security level**”, *Microprocessors and Microsystems*, Vol. 62, pp. 79-90, October 2018.

7. A.D. Pano-Azucena, E. Tlelo-Cuautle, G Rodriguez-Gomez, and L.G. de la Fraga, “**FPGA-based implementation of chaotic oscillators by applying the numerical method based on trigonometric polynomials**”, *AIP Advances*, Vol. 8, No. 7, Número de artículo: 075217, July 2018.

8. Ana Dalio Pano-Azucena, Esteban Tlelo-Cuautle, Sheldon X.-D. Tan, Brisbane Ovilla-Martínez and Luis Gerardo de la Fraga, “**FPGA-Based Implementation of a Multilayer Perceptron Suitable for Chaotic Time Series Prediction**”, *Technologies*, Vol. 6, No. 4, pp. 1-12, 2018.

9. Ana Dalia Pano-Azucena and Brisbane Ovilla-Martinez and Esteban Tlelo-Cuautle and Jesus Manuel Muñoz-Pacheco and Luis Gerardo de la Fraga, “**FPGA-based implementation of different families of fractional-order chaotic oscillators applying Grünwald-Letnikov method**”, *Communications in Nonlinear Science and Numerical Simulation*, Vol. 72, pp. 516-527, June 30, 2019.

10. Ashwin Jha, Cuauhtemoc Mancillas-Lopez, Mridul Nandi and Sourav Sen Gupta, “**On Random Read Access in OCB**”, *IEEE Transactions on Information Theory*, Vol. 65, No. 12, pp. 8325-8344, December 2019.
11. Hugo Carbajal-Gomez, Esteban Tlelo-Cuautle, Jesús Manuel Muñoz-Pacheco, Luis Gerardo de la Fraga, Carlos Sánchez-López, Francisco Vidal Fernández-Fernández, “**Optimization and CMOS design of chaotic oscillators robust to PVT variations: INVITED**”, *Integration-The VLSI Journal*, Vol. 65, pp. 32-42, March 2019.
12. Jesús López-Arredondo, Esteban Tlelo-Cuautle, Luis Gerardo de la Fraga, “**High-Q and Wide-Bandwidth Capacitor Multiplier Optimized by NSGA-II**”, *IETE Journal of Research*, Vol. 65, No. 5, pp. 661-666, 2019.
13. Satyam Paul, Wen Yu, Xiaoou Li, “**Discrete-time sliding mode for building structure bidirectional active vibration control**”, *Transactions of the Institute of Measurement and Control*, Vol.41, No.2, 433-446, January 2019.
14. Edgar Estrada, Wen Yu and Xiaoou Li, “**Stability and transparency of delayed bilateral teleoperation with haptic feedback**”, *International Journal of Applied Mathematics and Computer Science*, Vol. 29, No. 4, pp. 681-692, December 2019.
15. Alejandro Silva-Juarez, Gustavo Rodriguez-Gomez, Luis Gerardo de la Fraga, Omar Guillen-Fernandez and Esteban Tlelo-Cuautle, “**Optimizing the Kaplan–Yorke Dimension of Chaotic Oscillators Applying DE and PSO**”, *Technologies*, Vol. 7, No. 2, Article no. 38, 2019.
16. Alejandro Silva-Juárez, Carlos Javier Morales-Pérez, Luis Gerardo de la Fraga, Esteban Tlelo-Cuautle, and José de Jesús Rangel-Magdaleno, “**On maximizing the positive Lyapunov exponent of chaotic oscillators applying DE and PSO**”, *International Journal of Dynamics and Control*, Vol. 7, pp. 1157-1172, 2019.
17. Luis Rivera-Zamarripa, Lil M. Rodriguez^D, Miguel Angel León Chávez, Nareli Cruz Cortés, Francisco Rodríguez-Henríquez, “**Security Analysis of the Mexican Fiscal Digital Certificate System**”, *Computación y Sistemas*, Vol. 23, No. 2, pp. 477-490, 2019.
18. Luis J. Domínguez Perez, Laiphel M. Gómez Trujillo^M, Nareli Cruz Cortés and Francisco Rodríguez Henríquez, “**Sobre el impacto del colisionador SHA-1 en las firmas digitales mexicanas con valor legal**”, *Computación y Sistemas*, Vol. 23, No. 4, pp. 1181-1190, 2019.
19. Rafael Espinosa García, Guillermo Morales Luna, “**Seguridad de la información en instituciones de educación superior en México**”, *RAP. Revista de Administración Pública*, No. 148, Vol. LIV, No. 1, pp. 149-187, enero-abril 2019, ISSN 0482-5209.
20. Alejandro Silva-Juárez, Esteban Tlelo-Cuautle, Luis Gerardo de la Fraga, Rui Li, “**FPAAs-based implementation of fractional-order chaotic oscillators using first-order active filter blocks**”, *Journal of Advanced Research*, Vol 25, pp. 77-85, September 2020.

21. Esteban Tlelo-Cuautle, Martín Alejandro Valencia-Ponce, Luis Gerardo de la Fraga, “**Sizing CMOS Amplifiers by PSO and MOL to Improve DC Operating Point Conditions**”, *Electronics*, Vol. 9, No. 6, Article No. 1027, June 2020.
22. Lilian Bossuet, Cuauhtemoc Mancillas-López and Brisbane Ovilla-Martínez, “**Pipelined Hardware Implementation of COPA, ELmD, and COLM**”, *IEEE Transactions on Computers*, Vol. 69, No. 10, pp. 1533-1543, October 1, 2020.
23. Brisbane Ovilla-Martínez, Cuauhtemoc Mancillas-López, Alberto F. Martínez-Herrera and José A. Bernal-Gutiérrez^M, “**FPGA Implementation of Some Second Round NIST Lightweight Cryptography Candidates**”, *Electronics*, Vol. 9, No. 11, Article No. 1940, November 2020.
24. Eduardo Ochoa-Jiménez^D, Luis Rivera-Zamarripa, Nareli Cruz Cortés, Francisco Rodríguez-Henríquez, “**Implementation of RSA Signatures on GPU and CPU Architectures**”, *IEEE Access*, Vol. 8, pp. 9928-9941, 3 January 2020.
25. Angélica A. Serrano Rubio^M, Amílcar Meneses Viveros, Guillermo B. Morales Luna, Mireya Paredes López^M, “**Towards BIMAX: Binary Inclusion-MAXimal parallel implementation for gene expression analysis**”, *Computación y Sistemas*, Vol. 24, No. 1, pp. 255-267, 2020.
26. Luis Gerardo de la Fraga and Heriberto Cruz-Hernández^D, “**Optimizing the Maximal Perturbation in Point Sets while Preserving the Order Type**”, *Mathematical and Computational Applications*, Vol. 24, No. 4, Article number: 97, 2019.
27. Miguel Tapia Romero^M, Amilcar Meneses Viveros, Erika Hernandez Rubio, “**Parallel QR factorization using Givens rotations in MPI-CUDA for multi-GPU**”, *International Journal of Advanced Computer Science and Applications*, Vol 11, No. 5, pp. 636-645, 2020.
28. Avik Chakraborti, Nilanjan Datta, Ashwin Jha, Cuauhtemoc Mancillas-López, Mridul Nandi and Yu Sasaki, “**INT-RUP Secure Lightweight Parallel AE Modes**”, *IACR Transactions on Symmetric Cryptology*, Vol. 2019, No. 4, pp. 81-118, 2020.
29. Avik Chakraborti, Nilanjan Datta, Ashwin Jha, Cuauhtemoc Mancillas-López, Mridul Nandi and Yu Sasaki, “**ESTATE: A Lightweight and Low Energy Authenticated Encryption Mode**”, *IACR Transactions on Symmetric Cryptology*, Vol. 2020, No. S1, pp. 350-389, 2020. 2020.

Libros

1. Esteban Tlelo-Cuautle, Mourad Fakhfakh and Luis Gerardo de la Fraga (Editors), **Analog Circuits: Fundamentals, Synthesis and Performance**, Nova Science Publishers, 2017, ISBN 978-1-53610-969-6.

Capítulos de Libro

1. Miguel A. Duarte-Villaseñor, Esteban Tlelo-Cuautle, Luis Gerardo de la Fraga, and Carlos Sánchez-López, “**Symbolic Analysis and Synthesis of Analog Circuits Using Nullors and Pathological Mirror Elements**”, in Mourad Fakhfakh and Marian Pierzchala (Editors), *Pathological Elements in Analog Circuit Design*, pp. 3-30, Springer. Lecture Notes in Electrical Engineering Vol. 479, 2018.
2. Esteban Tlelo-Cuautle, Omar Guillén-Fernández, Jose de Jesus Rangel-Magdaleno, Ashley Melendez-Cano, Jose Cruz Nuñez-Perez and Luis Gerardo de la Fraga, “**FPGA Implementation of Chaotic Oscillators, Their Synchronization, and Application to Secure Communications**”, in Olfa Boubaker and Sajad Jafari (Editors), *Recent Advances in Chaotic Systems and Synchronization. From Theory to Real World Applications*, pp. 301-328, Academic Press, 2019, ISBN 978-0-12-815838-8.
3. Erika Hernández-Rubio, Amilcar Meneses-Viveros and Sonia G. Mendoza-Chapa, “**Mobile Distributed User Interfaces**”, IntechOpen, pp. 109-122, May 2020, ISBN: 978-1-78984-939-4.

Artículos en memorias de congresos

1. Luis Gerardo de la Fraga and Daniel López Escogido^D, “**Point Cloud Registration with Surface Descriptors**”, in *10th International Conference on Computer Graphics, Visualization, Computer Vision and Image Processing 2016 CGVCVIP 2016*, Madeira, Portugal, July 2-4, 2016.
2. Nareli Cruz-Cortés, Eduardo Ochoa-Jiménez^M, Luis Rivera Zamarripa and Francisco Rodríguez Henríquez, “**A GPU Parallel Implementation of the RSA Private Operation**”, in Carlos Jaime Barrios Hernández, Isidoro Gitler and Jaime Klapp (Editors), *High Performance Computing, Third Latin American Conference, CARLA 2016*, pp. 188-203, Springer. Communications in Computer and Information Science Boo Series Vol. 697, Mexico City, Mexico, August 29-September 2, 2016, ISBN 978-3-319-57971-9.
3. Erika Hernández-Rubio, Amilcar Meneses Viveros, Erick Mancera-Serralde and Javier Flores-Ortiz, “**Combinations of modalities for the Words Learning memory test implemented on Tablets for seniors**”, in *Human Aspect of IT for the Aged Population. Design for Aging. Second International Conference, ITAP 2016 Held as Part of HCI International 2016*, pp. 309-319, Springer-Verlag, Lecture Notes in Computer Science, Volume 9754, Part I, Toronto, Ontario, Canada. Julio 17-22, 2016.
4. Pedro Cruz Caballero^M, Amilcar Meneses Viveros and Erika Hernández Rubio, “**Distributed User Interfaces for Luria’s Tests for Older Adults**”, *HCI International 2016 Posters’ Extended Abstracts 18th International Conference, HCI International 2016*. Toronto Canada. Julio 17-22, 2016, pp. 413-419, Springer. Communications in Computer and Information Science Vol. 617, Toronto, Ontario, Canada. Julio 17-22, 2016.
5. Uriel Cabello^D, José Rodríguez, Amilcar Meneses-Viveros, “**An Open MPI Extension for Supporting Task Based Parallelism in Heterogeneous CPU-GPU Clusters**”, in *High Performance*

Computer Applications Volume 595 of the series Communications in Computer and Information Science, pp. 144-155, Springer Professional Publishing, April 8, 2016.

6. Adriana C. Sanabria-Borbon, Esteban Tlelo-Cuautle, Luis Gerardo de la Fraga and Walter D. Leon-Salas, “**Symbolic sensitivity analysis in the multi-objective optimization of CMOS operational amplifiers**”, in *2017 IEEE XXIV International Conference on Electronics, Electrical Engineering and Computing (INTERCON'2017)*, IEEE Press, Cusco, Peru, 15-18 August 2017, ISBN 978-1-5090-6364-2.

7. Esteban Torres-Perez, Luis Gerardo de la Fraga, Esteban Tlelo-Cuautle and Walter D. Leon-Salas, “**On the FPGA implementation of random number generators from chaotic maps**”, in *2017 IEEE XXIV International Conference on Electronics, Electrical Engineering and Computing (INTERCON'2017)*, IEEE Press, Cusco, Peru, 15-18 August 2017, ISBN 978-1-5090-6364-2.

8. Thomaz Oliveira^D, Julio López, Hüseyin Hişil, Armando Faz-Hernández^M, Francisco Rodríguez-Henríquez, “**How to (Pre-)Compute a Ladder. Improving the Performance of X25519 and X448**”, in Carlisle Adams and Jan Camenisch (Editors), *Selected Areas in Cryptography - SAC 2017, 24th International Conference, Selected Papers*, pp. 172-191, Springer-Verlag, Lecture Notes in Computer Science Vol. 10719, 2018, ISBN 978-3-319-72564-2.

9. Alberto Beltrán-Herrera^D and Sonia Mendoza, “**Fast Convex Hull by a Geometric Approach**”, in José Francisco Martínez-Trinidad, Jesús Ariel Carrasco-Ochoa, José Arturo Olvera-López and Sudeep Sarkar (Editors), *Pattern Recognition, 10th Mexican Conference, MCPR 2018*, pp. 51-61, Springer-Verlag, Lecture Notes in Computer Science Vol. 10880, Puebla, México, June 27-30, 2018, ISBN 978-3-319-91197-6.

10. Luis Gerardo de la Fraga and Esteban Tlelo-Cuautle, “**Linearizing the Transconductance of an OTA Through the Optimal Sizing by Applying NSGA-II**”, in *2018 15th International Conference on Synthesis, Modeling, Analysis and Simulation Methods and Applications to Circuit Design (SMACD)*, IEEE Press, Prague, Czech Republic, 2-5 July, 2018, ISBN 978-1-5386-5153-7.

11. Ana Georgina Guerrero Huerta, Erika Hernández Rubio and Amilcar Meneses Viveros, “**Augmented Reality in Tablets for the Yerkes Test for Older Adults**”, in Jia Zhou and Gavriel Salvendy (Editors), *Human Aspects of IT for the Aged Population. Applications in Health, Assistance, and Entertainment, 4th International Conference, ITAP 2018, Held as Part of HCI International 2018, Proceedings, Part II*, pp. 36-48, Springer-Verlag, Lecture Notes in Computer Science Vol. 10927, Las Vegas, Nevada, USA, July 15-20, 2018, ISBN 978-3-319-92036-8.

12. Adriana Sanabria-Borbón, Esteban Tlelo-Cuautle, Luis Gerardo de la Fraga, “**Optimal Sizing of Amplifiers by Evolutionary Algorithms with Integer Encoding and gm/Id Design Method**”, in Yazmin Maldonado, Leonardo Trujillo, Oliver Schütze, Annalisa Riccardi and Massimiliano Vasile (Editors), *NEO 2016. Results of the Numerical and Evolutionary Optimization Workshop NEO 2016 and the NEO Cities 2016 Workshop* held on September 20-24, 2016 in Tlalnepantla, Mexico, pp. 263-279, Springer, 2018, ISBN 978-3-319-64062-4.

13. Erick Garcia Lopez, Wen Yu, Xiaoou Li, “**A Haptic Bilateral Robots System for Wrist Rehabilitation after Stroke**”, en *2018 14th IEEE International Conference on Automation Science and Engineering (CASE 2018)*, pp. 130-135, IEEE Press, Munich, Germany, August 20-24, 2018, ISBN 978-1-5386-2514-9.
14. Adrián J. Ramírez-Díaz^M, José Rodríguez-García, Sonia Mendoza and Amilcar Meneses Viveros, “**Indoor Location and Tracking System Using Computer Vision**”, in Yong Tang, Qiaohong Zu and José G. Rodríguez García (Editors), *Human Centered Computing, 4th International Conference, HCC 2018*, pp. 613-624, Springer. Lecture Notes in Computer Science Vol. 11354, Cham, Switzerland, 2019, ISBN 978-3-030-15126-3.
15. Amílcar Meneses-Viveros, Mireya Paredes-López^M and Isidoro Gitler, “**Amdahl’s Law Extension for Parallel Program Performance Analysis on Intel Turbo-Boost Multicore Processors**”, in Moises Torres, Jaime Klapp, Isidoro Gitler and Andrei Tchernykh (Editors), *Supercomputing, 9th International Conference, ISUM 2018*, pp. 87-96, Springer, Communications in Computer and Information Science Vol. 948, Cham, Switzerland, 2019, ISBN 978-3-030-10447-4.
16. Erika Hernández-Rubio, Amilcar Meneses Viveros, “**Kinect© Como dispositivo de interacción para la implementación de un algoritmo de detección de movimiento**”, pp. 34-40, *Memorias de la Novena Conferencia Iberoamericana de Complejidad, Informática y Cibernética (CICIC 2019)*, International Institute of Informatics and Systemics, Orlando, Florida, USA, 12-15 de Marzo de 2019, ISBN 978-1-941763-99-5.
17. Luis Gerardo de la Fraga and Axel Salazar Ordoñez^M, “**Performance evaluation of Leap Motion, Myo, and Space Navigator devices for 2D and 3D interactions**”, *2019 7th International Conference in Software Engineering Research and Innovation (CONISOFT)*, pp. 154-158, IEEE Press, Mexico City, 23rd-25th October 2019, ISBN: 978-1-7281-2524-4.
18. El Mehdi Benhani, Cuauhtemoc Mancillas Lopez and Lilian Bossuet, “**Secure Internal Communication of a TrustZone-Enabled Heterogenous SoC Lightweight Encryption**”, in *2019 International Conference on Field-Programmable Technology (ICFPT’2019)*, IEEE Press, Tianjin, China, 9-13 December 2019, 978-1-7281-2944-0.

5.2 Relación de productos de investigación de las LGAC de estudiantes y profesores/profesoras del núcleo académico Doctorado en Ciencias en Computación

Departamento de Computación – CINVESTAV-IPN

PNPC 2021

LGAC3: Teoría de la Computación

En la Figura 1, se muestra la cantidad de diferentes tipos de productos, como tesis de doctorado, artículos de revista, libros, capítulos de libro, artículos de congreso y patentes, derivados de la LGAC de Teoría de la Computación, que contribuyeron a la productividad total del Departamento de Computación entre 2016 y 2020.

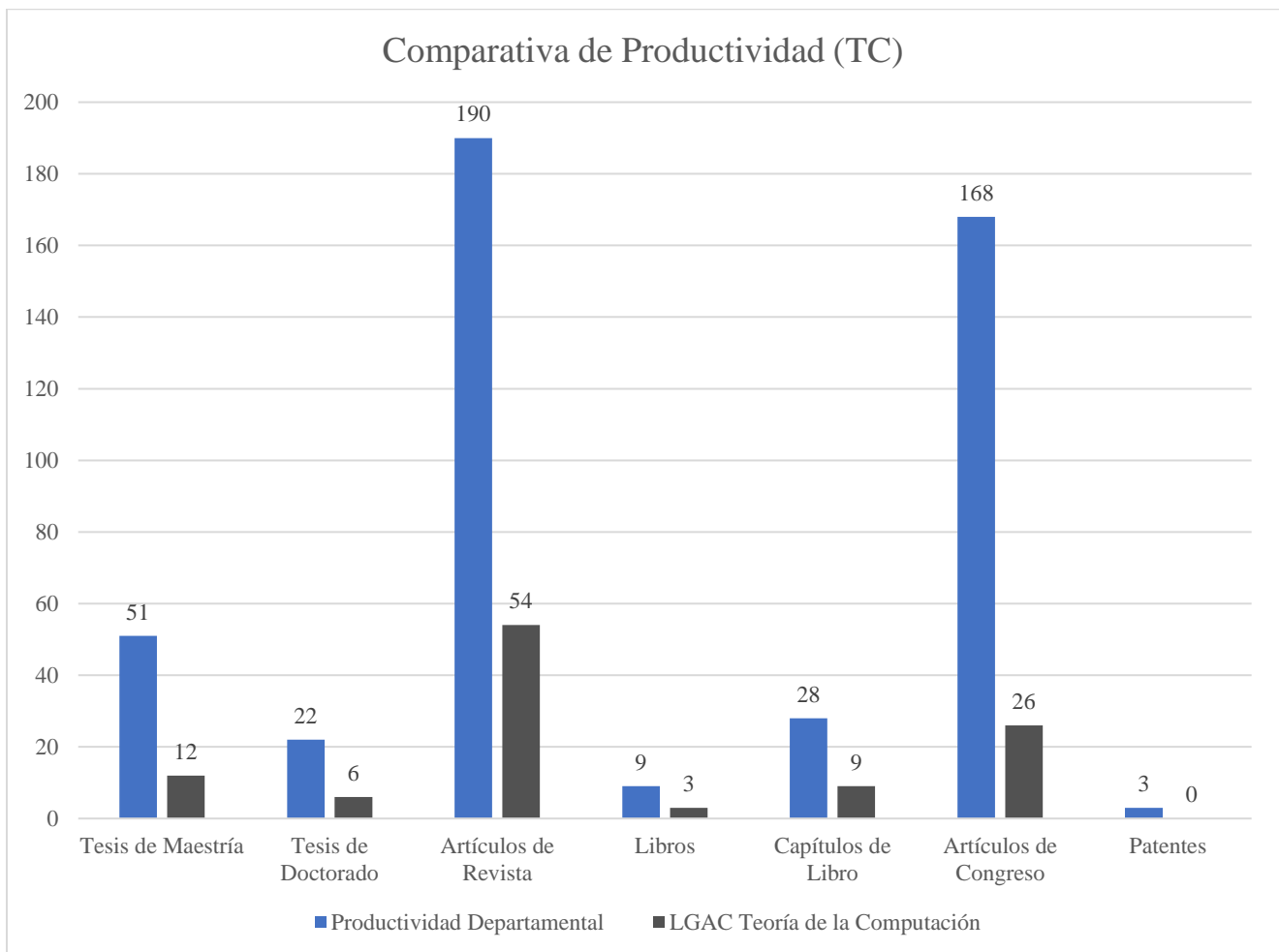


Figura 1. Contribución de la LGAC de Teoría de la Computación a la productividad del Departamento de Computación de 2016 a 2020

En la Tabla 1, se muestra el desglosado por año de los diferentes tipos de productos derivados de la LGAC de Teoría de la Computación. Después, se enlistan los productos organizados por tipo de producto y ordenados de manera cronológica de aparición (del más antiguo al más reciente).

Año	2016	2017	2018	2019	2020	Total
Tesis de maestría	4	3	0	2	3	12
Tesis de doctorado	2	1	0	2	1	6
Artículos de revista	12	5	10	14	13	54
Libros	0	0	2	1	0	3
Capítulos de libro	6	2	1	0	0	9
Artículos en memorias de congresos	8	3	5	9	1	26

Tabla 1. Número total de productos por año generados por profesores y estudiantes de la LGAC de Teoría de la Computación

Tesis de maestría

1. M. en C. Jhonatan Perera Angulo, “**Análisis de Distribución de Primos con Representaciones Binarias Signadas Cortas**”, Fecha de Grado: 04/02/2016. Director de Tesis: Dr. Guillermo Morales Luna.
2. M. en C. Daniel Idelfonso Cervantes Vázquez, “**De la búsqueda de endomorfismos eficientes en curvas elípticas binarias**”. Fecha de Grado: 05/08/2016. Director de Tesis: Dr. Francisco Rodríguez Henríquez.
3. M. en C. Ana Belém Juárez Méndez, “**Número de Grundy para la gráfica de intersección de triángulos**”. Fecha de Grado: 01/11/2016. Directora de Tesis: Dra. María Dolores Lara Cuevas.
4. M. en C. Benjamín Perea Medina, “**Modelo de optimización combinatoria basado en entropía (MOCE) para redes de transporte**”. Fecha de Grado: 09/12/2016. Director de Tesis: Dr. Sergio Víctor Chapa Vergara.
5. M. en C. Eliver Pérez Villegas, “**Plataforma de experimentación Criptográfica basada en Geometría Algebraica**”. Fecha de Grado 30/08/2017. Director de Tesis: Dr. Guillermo B. Morales Luna.

6. M. en C. Carlos Antonio Bulnes Domínguez, “**Búsqueda de Crossing Families para Gráficas Geométricas**”. Fecha de Grado: 16/10/2017. Directora de Tesis: Dra. María Dolores Lara Cuevas.
7. M. en C. Santiago León Ortiz, “**Tamaño máximo de un Thrackle de Triángulos**”. Fecha de Grado: 16/10/2017. Directora de Tesis: Dra. María Dolores Lara Cuevas.
8. M. en C. David Gustavo Merinos Sosa, “**Anti-thickness geométrico de gráficas completas con hasta 10 vértices**”. Fecha de grado: 1/11/2019. Director de tesis: Dra. María Dolores Lara Cuevas.
9. M. en C. Zelzin Marcela Márquez Navarrete, “**Inferencia de dependencias funcionales mediante funciones de similitud en minería de datos**”. Fecha de grado: 28/11/2019. Director de tesis: Dr. Guillermo Benito Morales Luna.
10. M. en C. María Fernanda Beltrán Llorente, “**El Algoritmo de Pareto Tracer para Problemas de Optimización Multiobjetivo con Restricciones Generales de Desigualdad**”. Fecha de Grado: 20/02/2020. Director de Tesis: Dr. Oliver Steffen Schütze.
11. M. en C. Miguel Ángel Márquez Hidalgo. “**Construcción de polinomios básicos primitivos y la expresión p-ádica aditiva de un anillo de Galois para un esquema de autenticación**”. Fecha de Grado: 04/12/2020. Director de Tesis: Dr. Juan Carlos Ku Cauich.
12. M. en C. Sergio Eduardo Juárez Martínez. “**Particiones de Cográficas en Gráficas Multipartitas Completas**”. Fecha de Grado: 15/12/2020. Directores de Tesis: Dra. María Dolores Lara Cuevas y Dr. César Hernández Cruz.

Tesis de doctorado

1. Dr. Thomaz Eduardo de Figueiredo Oliveira, “**Criptografía en campos finitos de característica chica**”. Fecha de Grado: 26/02/2016. Directores de Tesis: Dr. Francisco José Rambó Rodríguez Henríquez y Dr. Julio César López Hernández.
2. Dr. Gora Adj, “**Logaritmo discreto en campos finitos de característica pequeña: atacando la criptografía basada en emparejamientos de tipo 1**”. Fecha de Grado: 27/07/2016. Directores de Tesis: Dr. Francisco Rodríguez Henríquez y Dr. Alfred John Menezes.
3. Dr. Carlos Ignacio Hernández Castellanos, “**Métodos Orientados a Conjuntos para Optimización Multi-Objetivo**”. Fecha de Grado: 07/12/2017. Director de Tesis: Dr. Oliver Steffen Schütze.
4. Dr. Jesús Javier Chi Domínguez, “**Curvas elípticas en la criptografía clásica y post-cuántica**”. Fecha de grado: 09/12/2019. Director de tesis: Dr. Francisco José Rambó Rodríguez Henríquez.
5. Dr. Oliver Fernando Cuate González, “**Herramientas de exploración para el tratamiento de problemas de optimización con muchos objetivos**”. Fecha de grado: 10/12/2019. Director de tesis: Dr. Oliver Steffen Schütze.

6. Dr. Edgar González Fernández, “**Pruebas de conocimiento nulo basados en sistemas de ternas de Steiner**”. Fecha de Grado: 25/02/2020. Director de Tesis: Dr. Guillermo Morales Luna.

Artículos de revista

1. Sandra Díaz-Santiago^D, Lil María Rodríguez-Henríquez^D, Debrup Chakraborty, “**A Cryptographic Study of Tokenization Systems**”, *International Journal of Information Security*, Vol. 15, No. 4, pp. 413-432, 2016.

2. Debrup Chakraborty and Palash Sarkar, “**On Modes of Operations of a Block Cipher for Authentication and Authenticated Encryption**”, *Cryptography and Communications: Discrete Structures, Boolean Functions and Sequences*, Vol. 8, No. 4, pp. 455-511, October 2016.

3. Saúl Zapotecas Martínez^D, Carlos A. Coello Coello, “**MONSS: A Multi-objective Nonlinear Simplex Search Approach**”, *Engineering Optimization*, Vol. 48, No. 1, pp. 16-38, January 2, 2016.

4. Satyam Paul, Wen Yu and Xiaoou Li, “**Recent Advances in Bidirectional Modeling and Structural Control**”, *Shock and Vibration*, Article ID 6275307, 2016.

5. Oliver Schütze, Christian Domínguez-Medina, Nareli Cruz-Cortés, Luis Gerardo de la Fraga, Jian-Qiao Sun, Gregorio Toscano and Ricardo Landa, “**A scalar optimization approach for averaged Hausdorff approximations of the Pareto front**”, *Engineering Optimization*, Vol. 48, No. 9, pp. 1593-1617, 2016.

6. O. Aichholzer, G. Araujo-Pardo, N. García-Colín, T. Hackl, D. Lara, C. Rubio-Montiel and J. Urrutia, “**Geometric Achromatic and Pseudoachromatic Indices**”, *Graphs and Combinatorics*, Vol. 32, No. 2, pp. 431-451, 2016.

7. Juan Carlos Ku-Cauich and Guillermo Morales-Luna, “**Authentication codes based on resilient Boolean maps**”, *Designs, Codes and Cryptography*, Vol. 80, No. 3, pp. 619-633, September 2016.

8. J. E. O. Jimenez^D, and F. R. Henriquez, “**Protected Implementation of Pairing Based Two Factor Authentication Protocol**”, *IEEE Latin America Transactions*, Vol. 14, No. 9, pp. 4173-4180, September 2016.

9. Fu-Rui Xiong, Oliver Schütze, Qian Ding and Jian-Qiao Sun, “**Finding Zeros of Nonlinear Functions Using the Hybrid Parallel Cell Mapping Method**”, *Communications in Nonlinear Science and Numerical Simulation*, Vol. 34, pp. 23-37, May 2016.

10. Jesús Fernández^M, Oliver Schütze, Carlos Hernández^D, Jian-Qiao Sun and Fu-Rui Xiong, “**Parallel simple cell mapping for multi-objective optimization**”, *Engineering Optimization*, Vol. 48, No. 11, pp. 1845-1868, 2016.

11. Valery Korzhik, Guillermo Morales-Luna and Ivan Fedyanin, “**Design of High Speed Stegosystem Based on Trellis Codes Jointly With Generalised Viterbi Algorithm**”, *International Journal of Computer Science & Applications*, Vol. 13, No. 2, pp. 1-15, 2016.
12. Feliú Sagols, Guillermo Morales-Luna, Israel Buitrón-Dámaso^D, “**Trajectory Graphs Appearing from the Skein Problems at the Hypercube**”, *Computación y Sistemas*, Vol. 20, No. 1, pp. 81-87, 2016.
13. Sanjit Chatterjee, Alfred Menezes and Francisco Rodríguez-Henríquez, “**On Instantiating Pairing-Based Protocols with Elliptic Curves of Embedding Degree One**”, *IEEE Transactions on Computers*, Vol. 66, No. 6, pp. 1061-1070, 2017.
14. Günter Rudolph, O. Schütze, Christian Grimme, Christian Dominguez-Medina and Heike Trautmann, “**Optimal Averaged Hausdorff Archives for Bi-objective Problems: Theoretical and Numerical Results**”, *Computational and Applied Optimization*, Vol. 64, No. 2, pp. 589-618, 2017.
15. Yousef Sardahi, Jin-Qiao Sun, Carlos Hernández^D and Oliver Schütze, “**Many-Objective Optimal and Robust Design of Proportional-Integral-Derivative Controls with a State Observer**”, *Journal of Dynamic Systems, Measurement and Control-Transactions of the ASME*, Vol. 139, No. 2, Article No. 024502, 2017.
16. Aleksey Zhuvikin, Valery I. Korzhik and Guillermo Morales-Luna, “**Semi-Fragile Image Authentication based on CFD and 3-Bit Quantization**”, *Indian Journal of Science and Technology*, Vol. 9, No. 48, pp. 1-7, 2017.
17. Victor Yakovlev , Valery I. Korzhik, Pavel Mylnikov and Guillermo Morales-Luna, “**Outdoor Secret Key Agreement Scenarios Using Wireless MIMO Fading-Channels**”, *International journal of Computer Science and Applications*, Vol. 14, No. 1, pp. 1-25, 2017.
18. Armando Faz-Hernandez^M, Julio Lopez, Eduardo Ochoa-Jimenez^D and Francisco Rodriguez-Henriquez, “**A Faster Software Implementation of the Supersingular Isogeny Diffie-Hellman Key Exchange Protocol**”, *IEEE Transactions on Computers*, Vol. 67, No. 11, pp. 1622-1636, November 2018.
19. Adanay Martin^M, Oliver Schütze, “**Pareto Tracer: A Predictor Corrector Method for Multi-objective Optimization Problems**”, *Engineering Optimization*, Vol. 50, No. 3, pp. 516-536, 2018.
20. Gora Adj^D, Isaac Canales-Martinez^M, Nareli Cruz-Cortes, Alfred Menezes, Thomaz Oliveira^D, Luis Rivera-Zamarripa and Francisco Rodríguez-Henriquez, “**Computing Discrete Logarithms in Cryptographically-Interesting Characteristic-Three Finite Fields**”, *Advances in Mathematics of Communications*, Vol. 12, No. 4, pp. 741—759, November 2018.
21. M. Paredes-López^M, A. Meneses-Viveros, G. Morales-Luna, “**Algoritmo cuántico de Deutsch y Jozsa en GAMA**”, *Revista Mexicana de Física E*, Vol. 64, No. 2, pp. 181-189, July-December 2018.

22. Thomaz Oliveira^D, Julio López and Francisco Rodríguez-Henríquez, “**The Montgomery ladder on binary elliptic curves**”, *Journal of Cryptographic Engineering*, Vol. 8, No. 3, pp. 241-258, September 2018.
23. Francisco Rodríguez-Henríquez, Erkay Savas, “**Special issue in honor of Peter Lawrence Montgomery**”, *Journal of Cryptographic Engineering*, Vol. 8, No. 3, pp. 185-187, September 2018.
24. Gora Adj^D, Isaac Canales-Martínez^M, Luis Rivera-Zamarripa, Francisco Rodríguez-Henríquez, “**Smoothness Test for Polynomials Defined Over Small Characteristic Finite Fields**”, *Mathematics in Computer Science*, Vol. 12, No. 3, pp. 319-337, September 2018.
25. Valery Korzhik, Vasily Alekseev, Guillermo Morales-Luna, “**Audio Watermarking System Resistant To Removal Attacks By Dereverberation**”, *International Journal of Computer Science & Applications*, Vol. 15, No. 1, pp. 1-15, 2018, ISSN: 0972-9038.
26. Juan Carlos Ku-Cauich, Guillermo Morales-Luna, Horacio Tapia-Recillas, “**An authentication code over Galois rings with optimal impersonation and substitution probabilities**”, *Mathematical and Computational Applications*, Vol. 23, No. 3, Article number: 46, 2018.
27. Johan M. Bogoya, Andrés Vargas, Oliver Cuate^D, Oliver Schütze, “**A (p,q)-Averaged Hausdorff Distance for Arbitrary Measurable Sets**”, *Mathematical and Computational Applications*, Vol. 23, No. 3, Article number: 51, 2018.
28. Sumit Mishra, Sriparna Saha, Samrat Mondal and Carlos A. Coello Coello, “**A Divide-and-Conquer based Efficient Non-dominated Sorting Approach**”, *Swarm and Evolutionary Computation*, Vol. 44, pp. 748-773, February 2019.
29. Sumit Mishra and Carlos A. Coello Coello, “**Parallelism in Divide-and-Conquer Non-dominated Sorting: A Theoretical Study Considering the PRAM-CREW Model**”, *Journal of Heuristics*, Vol. 25, No. 3, pp. 455--483, June 2019.
30. Sumit Mishra, Sriparna Saha, Samrat Mondal and Carlos A. Coello Coello, “**Divide-and-Conquer Based Non-dominated Sorting with Reduced Comparisons**”, *Swarm and Evolutionary Computation*, Vol. 51, Article no. 100580, December 2019.
31. Thomaz Oliveira^D, Julio López Hernandez, Daniel Cervantes-Vázquez^M, Francisco Rodríguez-Henríquez, “**Koblitz Curves over Quadratic Fields**”, *Journal of Cryptology*, Vol. 32, No. 3, pp. 867-894, July 2019.
32. Sebastián González Hermosillo de la Maza and César Hernández-Cruz, “**On the complexity of the k-kernel problem on cyclically k-partite digraphs**”, *Theoretical Computer Science*, Vol. 795, pp. 9-19, 26 November 2019.
33. Gabriela Araujo-Pardo, César Hernández-Cruz, Juan José Montellano-Ballesteros, “**Mixed Cages**”, *Graphs and Combinatorics*, Vol. 35, pp. 989-999, 2019.

34. Germán Benítez-Bobadilla, Hortensia Galeana-Sánchez, César Hernández-Cruz, “**Characterization of color patterns by dynamic H-paths**”, *Discrete Applied Mathematics*, Vol. 267, pp. 41-51, 31 August 2019.
35. Pavol Hell, César Hernández-Cruz, Cláudia Linhares-Sales, “**Minimal obstructions to 2-polar cographs**”, *Discrete Applied Mathematics*, Vol. 261, pp. 219-228, 31 May 2019.
36. Hortensia Galeana-Sánchez, César Hernández-Cruz, “**A dichotomy for the kernel by H-walks problem in digraphs**”, *Journal of Graph Theory*, Vol. 90, pp. 213-226, 2019.
37. Johan M. Bogoya, Andrés Vargas, Oliver Schütze, “**The Averaged Hausdorff Distances in Multi-objective Optimization: A Review**”, *Mathematics*, Vol. 7, No. 10, Article No. 894, 2019.
38. Alejandro Alvarado-Iniesta, Oliver Cuate^D, Oliver Schütze, “**Multi-objective and many objective design of plastic injection molding process**”, *International Journal of Advanced Manufacturing Technology*, Vol. 102, Nos. 9-12. pp. 3165-3180, June 2019.
39. Honggang Wang, David Laredo^M, Oliver Cuate^D, and Oliver Schütze, “**Enhanced Directed Search: A Continuation Method for Mixed-Integer Multi-objective Optimization Problems**”, *Annals of Operations Research*, Vol. 279, Nos. 1-2, pp. 343-365, August 2019.
40. C. Huemer, D. Lara, C. Rubio-Montiel, “**Coloring decompositions of complete geometric graphs**”, *Acta Mathematica Hungarica*, Vol. 159, No. 2, pp. 429-446, December 2019.
41. Vladimir Starostin, Valery Korzhik, Muaed Kabardov, Aleksander Gerasimovich, Victor Yakovlev, Guillermo Morales-Luna, “**Key Generation Protocol Executing Through Non-Reciprocal Fading Channels**”, *International Journal of Computer Science & Applications*, Vol. 16 No. 1, pp. 1–16, 2019.
42. Fernando Esteban Contreras-Mendoza, César Hernández-Cruz, “**Minimal obstructions to (s,1)-polarity in cographs**”, *Discrete Applied Mathematics*, Vol. 281, pp. 111-117, July 15, 2020.
43. Marcos Kiwi, Yoshiharu Kohayakawa, Sergio Rajsbaum, Francisco Rodríguez-Henríquez, Jayme Luiz Szwarcfiter, Alfredo Viola, “**A perspective on theoretical computer science in Latin America**”, *Communications of the ACM*, Vol. 63, No. 11, pp. 102-107, 2020.
44. Juan Carlos Ku-Cauich, Guillermo Morales-Luna, “**A linear code based on resilient Boolean maps whose dual is a platform for a robust secret sharing scheme**”, *Linear Algebra and its Applications*, Vol. 596, pp. 216–229, 1 July 2020.
45. Edgar González Fernández^D, Guillermo Morales-Luna, Feliú Sagols, “**A Zero-Knowledge Proof System with Algebraic Geometry Techniques**”, *Applied Sciences-Basel*, Vol. 10, No. 2, Article No. 465, January 2020.
46. Carlos Ignacio Hernández Castellanos^D, Oliver Schütze, Jian-Qiao Sun, Guillermo Morales-Luna, Sina Ober-Blöbaum: “**Numerical Computation of Lightly Multi-Objective Robust Optimal Solutions by Means of Generalized Cell Mapping**”, *Mathematics*, Vol. 8, No. 11, Article No. 1959, November 2020.

47. Lourdes Uribe, Johan M. Bogoya, Andrés Vargas, Adriana Lara^D, Günter Rudolph, Oliver Schütze, “**A Set Based Newton Method for the Averaged Hausdorff Distance for Multi-Objective Reference Set Problems**”, *Mathematics*, Vol. 8, No. 10, Article No. 1822, October 2020.
48. Oliver Cuate^D, Oliver Schütze, “**Pareto Explorer for Finding the Knee for Many Objective Optimization Problems**”, *Mathematics*, Vol. 8, No. 10, Article No. 1651, October 2020.
49. Oliver Schütze, Oliver Cuate^D, Adanay Martin^M, Sebastian Peitz, and Michael Dellnitz, “**Pareto Explorer: A Global/Local Exploration Tool for Many Objective Optimization Problems**”, *Engineering Optimization*, Vol. 52, No. 5, pp. 832-855, Mar 3, 2020.
50. Fernanda Beltrán^M, Oliver Cuate^D, Oliver Schütze, “**The Pareto Tracer for General Inequality Constrained Multi-Objective Optimization Problems**”, *Mathematical and Computational Applications*, Vol. 25, No. 4, Article No. 80, 2020.
51. Juan Carlos Ku-Cauich, Guillermo Morales-Luna, “**Conversion of Element Representations in Galois Rings**”, *Mathematics in Computer Science*, Vol. 14, No. 2, pp. 209-222, June 2020.
52. Valery Korzhik, Cuong Nguyen, Ivan Fedyanin, Guillermo Morales-Luna, “**Side Attacks on Stegosystems Executing Message Encryption Previous to Embedding**”, *Journal of Information Hiding and Multimedia Signal Processing*, Vol. 11, No. 1, pp: 44-57, March 2020.
53. Oliver Cuate^D and Oliver Schütze, “**Pareto Explorer for Solving Real World Applications**”, *Research in Computing Science*, Vol. 149, No. 3, pp. 29 - 36, 2020.
54. Oliver Cuate^D, Lourdes Uribe, Adriana Lara^D, and Oliver Schütze, “**Dataset on a Benchmark for Equality Constrained Multi-objective Optimization**”, *Data in Brief*, Vol. 29, Article no. 105130, 2020.

Libros

1. Alberto García-Robledo, Arturo Díaz-Perez and Guillermo Morales Luna, “**Creativity in Load-Balance Schemes for Multi/Many-Core Heterogeneous Graph Computing: Emerging Research and Opportunities**”, *IGI Global*, 2018, ISBN 9781522537991.
2. Guillermo Morales-Luna, **Topología de Conjuntos: Un Enfoque Debido a O.A. Biberstein**, *Publicaciones del Instituto Politécnico Nacional, México*, 2018, ISBN 978-607-414-588-5.
3. Jian-Qiao Sun, Fu-Rui Xiong, Oliver Schütze and Carlos Hernández^D, “**Cell Mapping Methods. Algorithmic Approaches and Applications**”, *Springer*, Singapore, 2019, ISBN 978-981-13-0456-9.

Capítulos de libro

1. Alberto García-Robledo, Arturo Díaz-Pérez and Guillermo Morales-Luna, “**Characterization and Coarsening of Autonomous System Networks: Measuring and Simplifying the Internet**”, in *N. Meghanathan (Editor), Advanced Methods for Complex Network Analysis, Chapter 6, pp. 148-179, IGI Global, Series Advances in Wireless Technologies and Telecommunication, 2016, ISBN 978-1-4666-9964-9.*
2. Alberto García-Robledo, Arturo Díaz-Pérez, Guillermo Morales-Luna, “**Characterization and Traversal of Large Real-World Networks**”, in Rajkumar Buyya, Rodrigo Calheiros and Amir Vahid Dastjerdi, *Big Data: Principles and Paradigms, Chapter 5, pp. 119-136, Morgan Kaufmann Publishers, San Francisco, California, USA, June 3, 2016, ISBN: 978-012-8053-942.*
3. Jean-Luc Beuchat, Nadia El Mrabet, Laura Fuentes-Castañeda^M and Francisco Rodríguez-Henríquez, “**Mathematical Background**”, in *Nadia El Mrabet, Marc Joye (editors). Guide to Pairing-Based Cryptography, pp. 2:2-1--2-29, Chapman and Hall/CRC, Cryptography and Network Security Series, San José, California, USA, December 13, 2016, ISBN 9781498729505.*
4. Jean-Luc Beuchat, Luis J. Dominguez Perez, Sylvain Duquesne, Nadia El Mrabet, Laura Fuentes-Castañeda^M and Francisco Rodríguez-Henríquez, “**Arithmetic of Finite Fields**”, in *Nadia El Mrabet, Marc Joye (editors), Guide to Pairing-Based Cryptography, pp. 5:5-1--5-49, Chapman and Hall/CRC, Cryptography and Network Security Series, San José, California, USA, December 13, 2016, ISBN 9781498729505.*
5. Jean-Luc Beuchat, Luis J. Dominguez Perez, Laura Fuentes-Castañeda^M and Francisco Rodríguez-Henríquez, “**Final Exponentiation**”, in *Nadia El Mrabet, Marc Joye (editors), Guide to Pairing-Based Cryptography, pp. 7:7-1--7-28, Chapman and Hall/CRC, Cryptography and Network Security Series, San José, California, USA, December 13, 2016, ISBN 9781498729505.*
6. Eduardo Ochoa-Jiménez^D, Francisco Rodríguez Henríquez and Mehdi Tibouchi, “**Hashing into Elliptic Curves**”, in *Nadia El Mrabet, Marc Joye (editors). Guide to Pairing-Based Cryptography, pp. 8:8-1--8-37, Chapman and Hall/CRC, Cryptography and Network Security Series, San José, California, USA, December 13, 2016. ISBN 9781498729505.*
7. Carlos Hernández^D, Oliver Schütze and Jian-Qiao Sun, “**Global Multi-objective Optimization by Means of Cell Mapping Techniques**”, in Michael Emmerich, André Deutz, Oliver Schütze, Pierrick Legrand, Emilia Tantar and Alexandru-Adrian Tantar (Editors), *EVOLVE – A Bridge between Probability, Set Oriented Numerics and Evolutionary Computation VII*, pp. 25-56, Springer. Studies in Computational Intelligence Book Series Vol. 662, Cham, Switzerland, 2017, ISBN 978-3-319-49324-4.
8. Zhi-Chang Qin, Fu-Rui Xiong, Yousef Sardahi, Yousef Naranjani, Oliver Schütze and J.Q. Sun, “**Multi-objective Optimal Design of Nonlinear Controls**”, in Oliver Schütze, Leonardo Trujillo, Pierrick Legrand and Yazmin Maldonado (Editors), *Results of the Numerical and Evolutionary Optimization Workshop NEO 2015*, pp. 205-222, Springer. Studies in Computational Intelligence Book Series Vol. 663, Cham, Switzerland, 2017, ISBN 978-3-319-44002-6.
9. Carlos A. Coello Coello, **Multiobjective Optimization**, in Rafael Martí, Pardalos Panos and Mauricio G. C. Resende (editors), *Handbook of Heuristics*, pp. 177-204, Springer, Cham, Switzerland, 2018, ISBN 978-3-319-07153-4.

Artículos en memorias de congresos

1. Dalia Cervantes and Guillermo Morales-Luna, “**Quregisters, Symmetry Groups and Clifford Algebras**”, *Journal of Physics: Conference Series*, pp. 1-5, Vol. 698, 2016.
2. Alberto García-Robledo, Arturo Díaz-Pérez and Guillermo Morales-Luna, “**Partitioning of complex networks for heterogeneous computing: A methodological approach**”, in *Proceedings of the 2016 IEEE 13th International Conference on Networking, Sensing, and Control (ICNSC'2016)*, IEEE Press, Mexico City, Mexico, 28-30 April, 2016.
3. Sergio Alvarado^D, Adriana Lara^D, Víctor Sosa^D and Oliver Schütze, “**An Effective Mutation Operator to Deal With Multi-objective Constrained Problems: SPM**”, in *13th International Conference on Electrical Engineering, Computing Science and Automatic Control (CCE16)*, Mexico City, Mexico, September 26-30, 2016. ISBN 978-1-5090-3511-3.
4. Oliver Cuate^D, Adriana Lara^D and Oliver Schütze, “**A Local Exploration Tool for Linear Many Objective Optimization Problems**”, in *13th International Conference on Electrical Engineering, Computing Science and Automatic Control (CCE16)*, Mexico City, Mexico, September 26-30, 2016. ISBN 978-1-5090-3511-3.
5. Edgar González^D, Guillermo Morales-Luna, Feliú D. Sagols Troncoso, “**Procedimientos de Autenticación de Conocimiento Nulo Mediante Técnicas de Geometría Algebraica**”, en *Actas de las Segundas Jornadas Nacionales de Investigación en Ciberseguridad (JNIC 2016)*, pp. 96-102, Universidad de Granada, UGR Cyber Security Group (UCyS – <http://ucys.ugr.es>), Granada, España, Junio 15-17, 2016, ISBN: 978-84-608-8070-7.
6. Aleksey Zhuvikin, Valery Korzhik and Guillermo Morales-Luna, “**Semi-Fragile Image Authentication based on CFD and 3-Bit Quantization**”, in *Proceedings of the International Conference on Computing, Engineering and Emerging Technologies ICCEET 2016*. The World Academy of Research in Science and Engineering, Dubai, Emiratos Árabes Unidos. Noviembre 7-8, 2016.
7. Victor Yakovlev, Valery I. Korzhik, Pavel Mylnikov and Guillermo Morales-Luna, “**Secret key agreement based on a communication through wireless MIMO fading channels**”, in *Proceedings of the Federated Conference on Computer Science and Informations Systems*, pp. 833-840, IEEE Computer Society, Gdansk, Poland, September 11-14, 2016, ISBN: 978-1-4673-4471-5.
8. Thomaz Oliveira^D, Julio López and Francisco Rodríguez-Henríquez, “**Software Implementation of Koblitz Curves over Quadratic Fields**”, in *Cryptographic Hardware and Embedded Systems CHES'2016*, pp. 259-279, Springer-Verlag, Lecture Notes in Computer Science Vol. 9183, 2016.
9. J.Q. Sun and Oliver Schütze, “**A hybrid evolutionary algorithm and cell mapping method for multi-objective optimization problems**”, in *2017 IEEE Symposium Series on Computational Intelligence (SSCI'2017)*, pp. 492-500, IEEE Press, Honolulu, Hawaii, USA, 27 November-1 December 2017, ISBN 978-1-5386-2727-3.

10. Valery Korzhik, Ivan Fedyanin, Artur Godlewski and Guillermo Morales-Luna, “**Steganalysis Based on Statistical Properties of the Encrypted Messages**”, in Jacek Rak, John Bay, Igor Kottenko, Leonard Popyack, Victor Shormin and Krzysztof Szczypiorski (Editors), *Computer Network Security, 7th International Conference on Mathematical Methods, Models, and Architectures for Computer Network Security, MMM-ACNS-2017*, pp. 288-298, Springer. Lecture Notes in Computer Science Vol. 10446, Warsaw, Poland, August 28-30, 2017, ISBN 978-3-319-65126-2.
11. Valéry Korzhik, Vasily Alekseev and Guillermo Morales Luna, “**Design of audio digital watermarking system resistant to removal attack**”, in *2017 Federated Conference on Computer Science and Information Systems (FedCSIS'2017)*, pp. 647-652, IEEE Press, Prague, Czech Republic, 3-6 September 2017, ISBN 978-1-5090-4414-6.
12. Sumit Mishra and Carlos A. Coello Coello, “**P-ENS: Parallelism in Efficient Non-dominated Sorting**”, in *2018 IEEE Congress on Evolutionary Computation (CEC'2018)*, pp. 508--515, IEEE Press, Rio de Janeiro, Brazil, 8-13 July, 2018, ISBN 978-1-5090-6017-7.
13. Luis Gerardo de la Fraga, Nataly García-Morales, Daybelis Jaramillo-Olivares^M and Adrian J. Ramírez-Díaz^M, “**A Lightweight Library for Augmented Reality Applications**”, in José Francisco Martínez-Trinidad, Jesús Ariel Carrasco-Ochoa, José Arturo Olvera-López and Sudeep Sarkar (Editors), *Pattern Recognition, 10th Mexican Conference, MCPR 2018*, pp. 221-228, Springer-Verlag, Lecture Notes in Computer Science Vol. 10880, Puebla, México, June 27-30, 2018, ISBN 978-3-319-91197-6.
14. Luis Gerardo de la Fraga, Heriberto Cruz Hernández^D, “**Point Set Matching with Order Type**” in José Francisco Martínez-Trinidad, Jesús Ariel Carrasco-Ochoa, José Arturo Olvera-López and Sudeep Sarkar (Editors), *Pattern Recognition, 10th Mexican Conference, MCPR 2018*, pp. 229-237, Springer-Verlag, Lecture Notes in Computer Science Vol. 10880, Puebla, México, June 27-30, 2018, ISBN 978-3-319-91197-6.
15. Valery I. Korzhik, Aleksandr Gerasimovich, Cuong Nguyen, Vladimir Starostin, Victor Yakovlev, Muaed Kabardov, Guillermo Morales-Luna, “**Secret Key Sharing Protocol between Units Connected by Wireless MIMO Fading Channels**”, in *Proceedings of the 2018 Federated Conference on Computer Science and Information Systems (FedCSIS)*, pp. 569-576, IEEE Press, Poznan, Poland, September 9–12, 2018, ISBN: 978-83-949419-5-6.
16. Feliú Sagols, Guillermo Morales Luna, Edgar González Fernández^D, “**Steiner Triple Systems and Zero Knowledge Protocols**”, en Josep Domingo Ferrer (Editor), *Actas de la XV Reunión Española sobre Criptología y Seguridad de la Información*, pp. 18-22, Universidad de Granada, Granada, España, ISBN 978-84-09-02463-6, Octubre de 2018.
17. Sumit Mishra and Carlos A. Coello Coello, “**Parallel Best Order Sort for Non-dominated Sorting: A Theoretical Study Considering the PRAM-CREW Model**”, in *2019 IEEE Congress on Evolutionary Computation (CEC'2019)*, pp. 1022-1029, IEEE Press, Wellington, New Zealand, 10-13 June 2019, ISBN 978-1-7281-2153-6.
18. Sumit Mishra and Carlos A. Coello Coello, “**An Approach for Non-domination Level Update Problem in Steady-State Evolutionary Algorithms with Parallelism**”, in *2019 IEEE Congress on Evolutionary Computation (CEC'2019)*, pp. 1006--1013, IEEE Press, Wellington, New Zealand, 10-13 June 2019, ISBN 978-1-7281-2153-6.

19. Daniel Cervantes-Vázquez^M, Mathilde Chenu, Jesús-Javier Chi-Domínguez^D, Luca De Feo, Francisco Rodríguez-Henríquez and Benjamin Smith, “**Stronger and Faster Side-Channel Protections for CSIDH**”, in Peter Schwabe and Nicolas Thériault (Editors), *Progress in Cryptology – LATINCRYPT 2019, 6th International Conference on Cryptology and Information Security in Latin America*, pp. 173-193, Springer. Lecture Notes in Computer Science Vol. 11774, Santiago de Chile, Chile, October 2-4, 2019, ISBN 978-3-030-30529-1.
20. Gora Adj^D, Daniel Cervantes-Vázquez^M, Jesús-Javier Chi-Domínguez^D, Alfred Menezes and Francisco Rodríguez-Henríquez, “**On the Cost of Computing Isogenies Between Supersingular Elliptic Curves**” in Carlos Cid and Michael J. Jacobson Jr. (Editors), *Selected Areas in Cryptography – SAC 2018, 25th International Conference*, pp. 322-343, Springer. Lecture Notes in Computer Science Vol. 11349, Cham, Switzerland, 2019, ISBN 978-3-030-10-969-1.
21. Manuel Cázares and Oliver Schütze, “**An Application of Data Envelopment Analysis to the Performance Assessment of Online Social Networks Usage in Mazatlán Hotel Organizations**”, in Leonardo Trujillo, Oliver Schütze, Yazmin Maldonado and Paul Valle (Editors), *Numerical and Evolutionary Optimization – NEO 2017*, pp. 295-310, Springer, Studies in Computational Intelligence Vol. 785, Cham, Switzerland, 2019, ISBN 978-3-319-96103-3.
22. A. Alejandra Serrano-Rubio^M, Amilcar Meneses-Viveros, Guillermo B. Morales-Luna and Mireya Paredes-López^M, “**Generic Methodology for the Design of Parallel Algorithms Based on Pattern Languages**”, in Moises Torres, Jaime Klapp, Isidoro Gitler and Andrei Tchernykh (Editors), *Supercomputing, 9th International Conference, ISUM 2018*, pp. 35-48, Springer, Communications in Computer and Information Science Vol. 948, Cham, Switzerland, 2019, ISBN 978-3-030-10447-4.
23. Valery Korzhik, Vladimir Starostin, Guillermo Morales-Luna, Muaed Kabardov, Aleksandr Gerasimovich, Victor Yakovlev and Aleksey Zhuvikin, “**Information theoretical secure key sharing protocol for noiseless public constant parameter channels without cryptographic assumptions**”, in *2019 Federated Conference on Computer Science and Information Systems (FedCSIS)*, pp. 327-332, IEEE Press, Leipzig, Germany, 1-4 September, 2019, ISBN 978-83-952357-8-8.
24. Valery Korzhik, Nguyen Duy Cuong and Guillermo Morales-Luna, “**Cipher Modification Against Steganalysis Based on NIST Tests**”, in *2019 24th Conference on Open Innovations Association (FRUCT)*, pp. 179-186, IEEE Press, Moscow, Russia, April 8-12, 2019, ISBN 978-952-68653-8-6.
25. Zelzin M. Márquez-Navarrete^M and Guillermo B. Morales-Luna, “**Inferring Functional Dependencies through Similarity Functions in a Crime Database**”, in *2019 16th International Conference on Electrical Engineering, Computing Science and Automatic Control (CCE'2019)*, IEEE Press, Mexico City, Mexico, September 11-13, 2019, ISBN 978-1-7281-4840-3.
26. Guillermo Morales-Luna, “**Unitary Operators Over Quantum Systems with Several Levels**”, *Journal of Physics: Conference Series*, Vol. 1540, pp. 1-8, Article No. 012023, IOP Publishing, 2020.

5.2 Relación de productos de investigación de las LGAC de estudiantes y profesores/profesoras del núcleo académico Doctorado en Ciencias en Computación

Departamento de Computación – CINVESTAV-IPN

PNPC 2021

LGAC4: Sistemas de Información

En la Figura 1, se muestra la cantidad de diferentes tipos de productos, como tesis de doctorado, artículos de revista, libros, capítulos de libro, artículos de congreso y patentes, derivados de la LGAC de Sistemas de Información, que contribuyeron a la productividad total del Departamento de Computación entre 2016 y 2020.

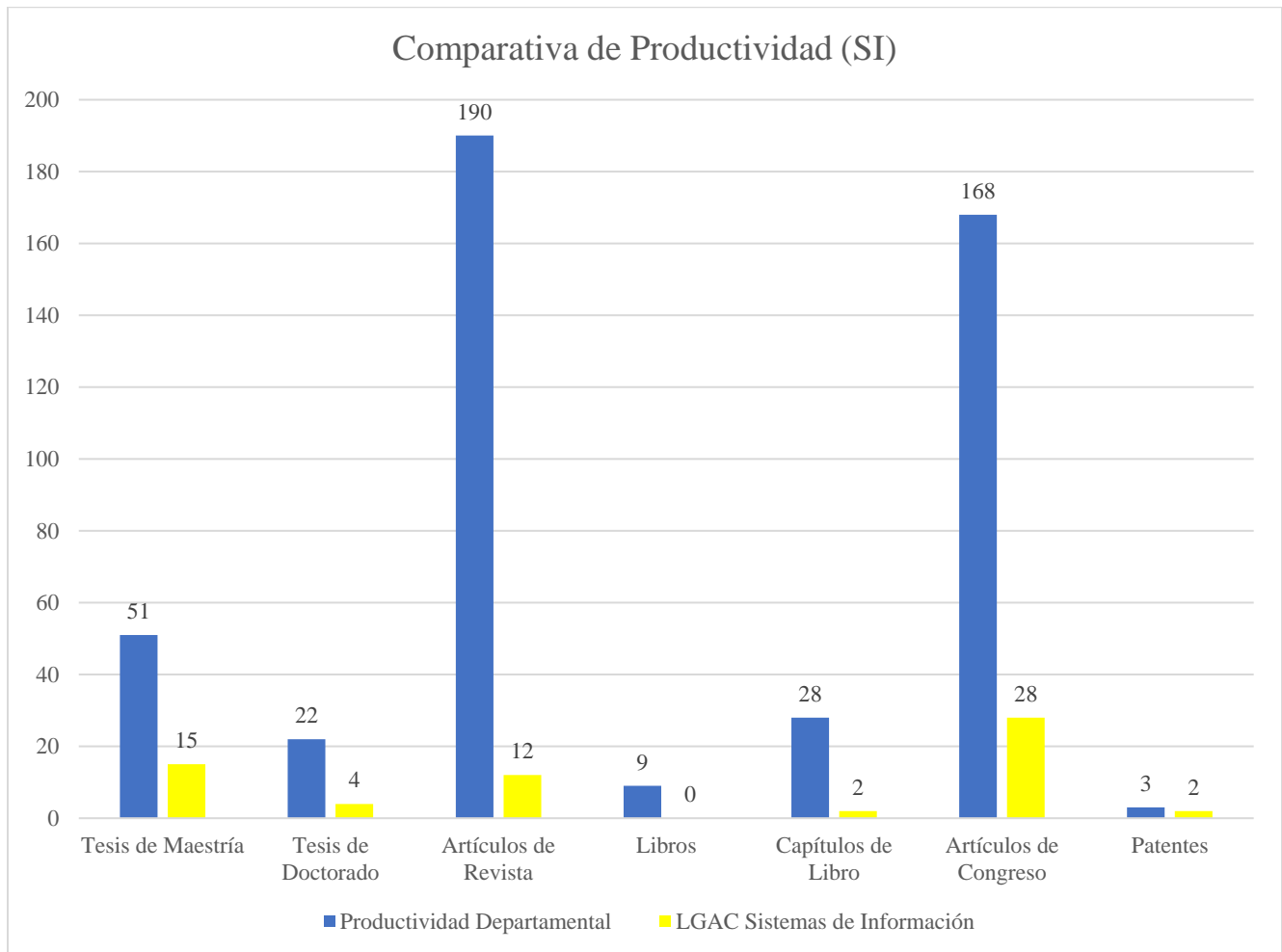


Figura 1. Contribución de la LGAC de Sistemas de Información a la productividad del Departamento de Computación de 2016 a 2020

En la Tabla 1, se muestra el desglosado por año de los diferentes tipos de productos derivados de la LGAC de Sistemas de Información. Después, se enlistan los productos organizados por tipo de producto y ordenados de manera cronológica de aparición (del más antiguo al más reciente).

Año	2016	2017	2018	2019	2020	Total
Tesis de maestría	9	3	0	3	0	15
Tesis de doctorado	0	1	2	1	0	4
Artículos de revista	2	0	8	0	2	12
Capítulos de libro	2	0	0	0	0	2
Artículos en memorias de congresos	14	2	4	5	3	28
Patentes Nacionales	0	2	0	0	0	2

Tabla 1. Número total de productos por año generados por profesores y estudiantes de la LGAC de Sistemas de Información

Tesis de maestría

1. M. en C. Luis Martín Sánchez Adame, “**Heurísticas de coherencia para el diseño de meta-interfaces de usuario**”. Fecha de Grado: 23/02/2016. Directora de Tesis: Dra. Sonia Guadalupe Mendoza Chapa.
2. M. en C. Pedro Cruz Caballero, “**Interfaces de usuario distribuidas para pruebas de Luria aplicadas en adultos mayores**”. Fecha de Grado: 03/11/2016. Directores de Tesis: Dr. Amílcar Meneses Viveros y M. en C. Erika Hernández Rubio.
3. M. en C. Luis Alfonso Marín Mota, “**Exploración 3D de Interiores Mediante Múltiples MAVS**”. Fecha de Grado: 07/12/2016. Directores de Tesis: Dra. Sonia Guadalupe Mendoza Chapa y Dr. Dominique Decouchant.
4. M. en C. Omar Israel Lara Ramírez, “**Optimización del rendimiento y extensión de la funcionalidad de cuantificación de la aplicación web de visualización molecular HTMoL a través de la implementación de funciones WebGL y un lenguaje de comandos sintácticos**”. Fecha de Grado: 07/12/2016. Directores de Tesis: Dr. Sergio Víctor Chapa Vergara y Dr. Mauricio Carrillo Tripp.
5. M. en C. Eliot Yañez Ortega, “**Ambiente de visualización de un sistema de información geográfica Web**”. Fecha de Grado: 14/12/2016. Director de Tesis: Dr. Sergio Víctor Chapa Vergara.

6. M. en C. Axel Salazar Ordoñez, “**Análisis de los dispositivos Space Navigator, Myo y Leap Motion y su evaluación en aplicaciones de software**”. Fecha de Grado: 28/09/2016. Director de Tesis: Dr. Luis Gerardo de la Fraga.

7. M. en C. José Nefi Gamboa Castañeda, “**Punto de acceso seguro en IPv6**”. Fecha de Grado: 29/11/2016. Director de Tesis: Dr. Luis Gerardo de la Fraga.

8. M. en C. Gil Alberto Díaz Balderas, “**Traductor del lenguaje de señas mexicano a texto**”. Fecha de Grado: 14/12/2016. Director de Tesis: Dr. José Guadalupe Rodríguez García.

9. M. en C. Erik Alejandro Reyes Lozano, “**Soporte multi-plataforma de espacios colaborativos ejecutables en arreglos de dispositivos móviles**”. Fecha de Grado: 14/12/2016. Director de Tesis: Dra. Sonia Guadalupe Mendoza Chapa.

10. M. en C. Diana Méndez García, “**Modelo para la creación de Interfaces de usuario Multi-Modales**”. Fecha de Grado: 18/05/2017. Directores de Tesis: Dra. Sonia Guadalupe Mendoza Chapa, Dra. Beatriz Adriana González Beltrán.

11. M. en C. Ismael González Martínez, “**Marco Conceptual para la Administración del Contexto en Sistemas Colaborativos**”. Fecha de Grado: 08/12/2017. Director de Tesis: Dra. Sonia Guadalupe Mendoza Chapa.

12. M. en C. José Luis Ortigosa Flores, “**Administrador de Recursos Compartidos y Distribuidos para Trabajo Colaborativo en la Web**”. Fecha de Grado: 08/12/2017. Director de Tesis: Dra. Sonia Guadalupe Mendoza Chapa y Dr. Dominique Decouchant.

13. M. en C. Manuel Hernández León, “**Desarrollo de un chatbot inteligente, caso de estudio: alumnos y profesores de secundaria**”. Fecha de Grado: 20/02/2019. Directores de Tesis: Dra. Sonia Guadalupe Mendoza Chapa y Dr. José Guadalupe Rodríguez García.

14. M. en C. Sergio Daniel Romero García, “**Minería de datos para determinar la calidad educativa de las escuelas de nivel básico en México**”. Fecha de grado: 18/10/2019. Directores de tesis: Dr. Sergio Víctor Chapa Vergara y M. en C. Erika Hernández Rubio.

15. M. en C. Raúl Maximiliano Urrieta Hernández, “**Clasificación por nivel socio-económico de las regiones geográficas de México**”. Fecha de grado: 18/10/2019. Directores de tesis: Dr. Amílcar Meneses Viveros y Dr. Sergio Víctor Chapa Vergara.

Tesis de doctorado

1. Dr. Andrés Cortés Dávalos, “**Marco de desarrollo para la edición colaborativa de objetos en 3D mediante realidad aumentada**”. Fecha de Grado: 28/02/2017. Directora de Tesis: Dra. Sonia Guadalupe Mendoza Chapa.

2. Dr. Andrés Bernal Jiménez, “**Modelo Espacial-Temporal para Sistemas Dinámicos Discretos en Sistemas de Información Geográfica**”. Fecha de Grado: 26/01/2018. Director de Tesis: Dr. Sergio V. Chapa Vergara.

3. Dra. Bella Citlali Martínez Seis, “**Uso de atributos para detectar comunidades de calidad en redes sociales**”. Fecha de Grado: 23/03/2018. Directora de Tesis: Dra. Xiaou Li.

4. Dr. Alberto Beltrán Herrera, “**Ajuste y clasificación de objetos hechos por el ser humano utilizando técnicas de sketching automático y restricciones geosemánticas**”. Fecha de Grado: 22/02/2019. Director de Tesis: Dra. Sonia Guadalupe Mendoza Chapa.

Artículos de revista

1. Xiaou Li, Wen Yu, Salvador Villegas^M, “**Structural Health Monitoring of Building Structures with Online Data Mining Methods**”, *IEEE Systems Journal*, Vol. 10, No. 3, pp. 1291-1300, September 2016.

2. Belen G. Rodríguez-Santana, Amilcar Meneses Viveros, Blanca E. Carvajal Gámez and Diana Carolina Trejo-Osorio, “**Mobile computation offloading architecture for mobile augmented reality, case study: Visualization of cetacean skeleton**”, *International Journal of Advanced Computer Science and Applications (IJACSA)*, Vol. 7, No. 1, 2016. ISSN 2156 5570.

3. Muhammad Farhan, Sohail Jabbar, Muhammad Aslam, Awais Ahmad, Muhammad Munwar Iqbal, Murad Khan and Ana María Martínez-Enríquez, “**A Real-Time Data Mining Approach for Interaction Analytics Assessment: IoT Based Student Interaction Framework**”, *International Journal of Parallel Programming*, Vol. 46, No. 5, pp. 886-903, October 2018.

4. Dario Emmanuel Vázquez Ceballos, Erika Hernández Rubio, Amilcar Meneses-Viveros, “**Equivalence Relation Between Widgets for GUIs in Mobile Applications**”, *IEEE Latin America Transactions*, Volumen 16, No. 7, pp. 2007-2012, July, 2018.

5. Mauricio Carrillo-Tripp, Leonardo Alvarez-Rivera, Omar Israel Lara-Ramírez^M, Francisco Javier Becerra-Toledo, Adan Vega-Ramírez, Emmanuel Quijas-Valades, Eduardo González-Zavala, Julio Cesar González-Vázquez, Javier García-Vieyra, Nelly Beatriz Santoyo-Rivera, Sergio Victor Chapa-Vergara, Amilcar Meneses-Viveros, “**HTMoL: full-stack solution for remote access, visualization, and analysis of molecular dynamics trajectory data**”, *Journal of Computer-Aided Molecular Design*, Vol. 32, No. 8, pp. 869-876, August 2018.

6. Naiqi Wu, Zhiwu Li, Kamel Barkaoui, Xiaou Li, Tadahiko Murata and MengChu Zhou, “**IoT-based Smart and Complex Systems: A Guest Editorial Report**”, *IEEE-CAA Journal of Automatica Sinica*, Vol. 5, No. 1, pp. 69-73, January 2018.

7. Kimberly García^D, Sonia Mendoza, Dominique Decouchant and Patrick Brézillon, “**Facilitating resource sharing and selection in ubiquitous multi-user environments**”, *Information Systems Frontiers*, Vol. 20, No. 5, pp. 1075-1095, October 2018.
8. Alberto Beltrán^D and Sonia Mendoza, “**SymmetricHull: A Convex Hull Algorithm Based on 2D Geometry and Symmetry**”, *IEEE Latin America Transactions*, Vol. 16, No. 8, pp. 2289-2295, August 2018.
9. Darío E. Vázquez Ceballos, Luis J. Flores-Guarneros, Erika Hernández Rubio, Amilcar Meneses Viveros, “**Patrones de Diseño en HCI para la Visualización de Imágenes**”, *Revista Hispano-Americana de Sistemas, Cibernética e Informática (RISCI)*, Vol. 15, No. 1, pp. 46-51, 2018, ISSN: 1690-8627.
10. Heriberto Cruz Hernández^D and Luis Gerardo de la Fraga, “**Order type dataset analysis for fiducial markers**”, *Data in Brief*, Vol. 20, pp. 1068-1072, October 2018.
11. Imran Mujaddid Rabbani, Muhammad Aslam, Ana María Martínez-Enriquez, Zeshan Qudeer, “**Service Association Factor (SAF) for Cloud Service Selection and Recommendation**”, *Information Technology and Control*, Vol. 49, No. 1, pp. 113-126, March 2020.
12. Luis Martín Sánchez-Adame, José Fidel Urquiza-Yllescas, and Sonia Mendoza, “**Measuring Anticipated and Episodic UX of Tasks in Social Networks**”, *Applied Sciences-Basel*, Vol. 10, No. 22, Article No. 8199, 2020.

Capítulos de libro

1. Maricela Bravo, José Rodríguez and Jorge Pascual, “**SDWS: Semantic Description of Web Services**”, in *Mobile Computing and Wireless Networks: Concepts, Methodologies, Tools and Applications*, Chapter 11, pp. 217-240, IGI-Global, USA, 2016, ISBN 978-1-46668751-6.
2. E. Tlelo-Cuautle, M. Sánchez-Sánchez, V.H. Carbajal-Gómez, A.D. Pano-Azucena, L.G. de la Fraga and G. Rodríguez-Gómez, “**On the Verification for Realizing Multi-scroll Chaotic Attractors with High Maximum Lyapunov Exponent and Entropy**”, in S. Vaidyanathan and C. Volos (Editors) *Advances and Applications in Chaotic Systems, Studies in Computational Intelligence* 636, Springer, pp. 311-336, Switzerland 2016. ISBN 978-3-319-30278-2.

Artículos en memorias de congresos

1. Andrés Bernal^D and Sergio V. Chapa, “**Topology spatial model for dynamic systems in geographic information systems**”, *Geoinformatics, 2016 24th International Conference on Geoinformatics*, IEEE Press, Galway, Irlanda, August 14-20, 2016. ISSN: 2161-0258.

2. Wen Yu and Xiaoou Li, “**Stability Analysis of Wireless Networked Control With Time-Varying Sampling Period**”, in *Proceedings of the 2016 IEEE 13th International Conference on Networking, Sensing, and Control (ICNSC’2016)*, IEEE Press, Mexico City, Mexico, 28-30 April, 2016.
3. Xiaoou Li, G. Liu, Jun Wang and Jiacun Wang, “**Resource Requirement Analysis for Cyclic Workflows**”, in *Proceedings of the 2016 IEEE 13th International Conference on Networking, Sensing, and Control (ICNSC’2016)*, IEEE Press, Mexico City, Mexico, 28-30 April, 2016.
4. Bella Martinez-Seis^D and Xiaoou Li, “**Ranking features in Facebook to detect overlapping communities**”, in *Proceedings of the 2016 IEEE 13th International Conference on Networking, Sensing, and Control (ICNSC’2016)*, IEEE Press, Mexico City, Mexico, 28-30 April, 2016.
5. J. Wang, X. Li and G. Liu, “**Cyclic Workflow resource requirement analysis and application in healthcare**”, in *Proceedings of WODES 2016: 13th International Workshop on Discrete Event Systems*, pp. 291-297, IEEE Press, Xi’an, China, May 30-June 1, 2016.
6. Xiaoou Li, Zhaozhao Zhang and Wen Yu, “**Dynamic Feedforward Network Architecture Design Based on Information Entropy**”, in *13th International Conference on Electrical Engineering, Computing Science and Automatic Control (CCE16)*, Mexico City, Mexico, Septiembre 26-30, 2016. ISBN 978- 1-5090-3511-3.
7. Andrés Cortés-Dávalos^D and Sonia Mendoza, “**Layout Planning for Academic Exhibits using Augmented Reality**”, in *13th International Conference on Electrical Engineering, Computing Science and Automatic Control (CCE16)*, Mexico City, Mexico, Septiembre 26-30, 2016. ISBN 978-1-5090-3511-3.
8. Andrés Cortés-Dávalos^D and Sonia Mendoza, “**AR-based Modeling of 3D Objects in Multi-user Mobile Environments**”, In Takaya Yuizono, Hiroaki Ogata, Ulrich Hoppe and Julita Vassileva (Editors), *Collaboration Technology, 22nd International Conference, CRIWG’2016*, pp. 21-36, Kanazawa, Japón. Springer, Lecture Notes in Computer Science Vol. 9848, Septiembre14-16, 2016.
9. Andrés Cortés-Dávalos^D and Sonia Mendoza, “**Collaborative Web Authoring of 3d Surfaces using Augmented Reality on Mobile Devices**”, In *2016 IEEE/WIC/ACM International Conference on Web Intelligence (WI’2016)*, pp. 640-643, Omaha, Nebraska, USA, IEEE Computer Society, Octubre 2016, ISBN 978-1-5090-4470-2.
10. Andrés Cortés-Dávalos^D and Sonia Mendoza, “**Augmented Reality-based Groupware for Editing 3D Surfaces in Mobile Devices**”, In *Proceedings of The 2016 International Conference on Collaboration Technologies and Systems (CTS 2016). The 17th Annual Meeting*, IEEE Computer Society. Orlando, Florida USA. Octubre 31- Noviembre 4, 2016.
11. Jiacun Wang, Bill Tepfenhart, and Xiaoou Li, “**Analysis of minimum workflow resource requirement**”, in Jian Cao, Xiao Liu and Kaijun Ren (Editors), *Process-Aware Systems. Second International Workshop, PAS 2015*, pp. 53-66, Springer, Communications in Computer and Information Science Vol. 602, Singapore, 2016, ISBN 978-981-10-1019-4.

12. Gil Díaz Balderas^M and José Rodríguez, “**Traducer of Letters from the Mexican Sign Language to Text Using Leap Motion**”, in *Workshop KdCloudApps, en Mexican International Conference on Computer Science 2016 ENC’2016*. Chihuahua, Chihuahua, México. Noviembre 14-16, 2016.
13. José A. Bernal^M, José Rodríguez, Maricela Bravo, “**Web Services for Controlling User’s Environments Through Ontologies**”, in *Workshop KdCloudApps, en Mexican International Conference on Computer Science 2016 ENC’2016*. Chihuahua, Chihuahua, México. Noviembre 14-16, 2016.
14. Ana Georgina Guerrero Huerta, Erika Hernández Rubio and Amílcar Meneses Viveros, “**Interaction Modalities for Augmented Reality in Tablets for Older Adults**”, in Constantine Stephanidis (Editor), *HCI International 2017 – Posters’ Extended Abstracts, 19th International Conference, HCI International 2017*, pp. 427-434, Springer. Communications in Computer and Information Science Book Series Vol. 714, Vancouver, British Columbia, Canada, July 9-14, 2017, ISBN 978-3-319-58752-3.
15. Pedro Cruz Caballero^M, Amílcar Meneses-Viveros, Erika Hernández-Rubio and Oscar Zamora Arévalo, “**Distributed User Interfaces for Poppelreuters and Raven Visual Tests**”, in Jia Zhou and Gavriel Salvendy (Editors), *Human Aspects of IT for the Aged Population. Applications, Services and Contexts, Third International Conference, ITAP 2017, Held as Part of HCI International 2017*, pp. 325-338, Springer. Lecture Notes in Computer Science Vol. 10298, Vancouver, British Columbia, Canada, July 9-14, 2017, ISBN 978-3-319-58535-2.
16. Luis Martín Sánchez-Adame^M, Sonia Mendoza, Beatriz A. González-Beltrán, Amilcar Meneses Viveros, and José Rodríguez, “**Towards an AUX Evaluation Framework for User Tools in Virtual Communities**”, in Amanda Rodrigues, Benjamin Fonseca and Nuno Preguiça (Editors), *Collaboration and Technology, 24th International Conference, CRIWG 2018*, pp. 25-33, Springer-Verlag, Lecture Notes in Computer Science Vol. 11001, Costa de Caparica, Portugal, September 5-7, 2018.
17. Luis Martín Sánchez-Adame^M, Sonia Mendoza, Beatriz A. González-Beltrán, José Rodríguez, and Amilcar Meneses Viveros, “**UX Evaluation Over Time: User Tools in Social Networks**”, in *Proceedings of the 2018 15th International Conference on Electrical Engineering, Computing Science and Automatic Control (CCE 2018)*, IEEE Press, Mexico City, Mexico, September 5-7, 2018, ISBN 978-1-5386-7034-7.
18. Heriberto Cruz Hernández^D and Luis Gerardo de la Fraga, “**A Multi-objective Robust Ellipse Fitting Algorithm**”, in Yazmin Maldonado, Leonardo Trujillo, Oliver Schütze, Annalisa Riccardi and Massimiliano Vasile (Editors), *NEO 2016. Results of the Numerical and Evolutionary Optimization Workshop NEO 2016 and the NEO Cities 2016 Workshop* held on September 20-24, 2016 in Tlalnepantla, Mexico, pp. 141-158, Springer, 2018, ISBN 978-3-319-64062-4.
19. Luis Martín Sánchez-Adame^M, Sonia Mendoza, Beatriz A. González-Beltrán, José Rodríguez and Amilcar Meneses Viveros, “**AUX and UX Evaluation of User Tools in Social Networks**”, in *Proceedings of the 2018 IEEE/WIC/ACM International Conference on Web Intelligence (WI 2018)*, pp. 104-111, IEEE Computer Society, Santiago de Chile, Chile, December 4-6, 2018.

20. Erika Hernández Rubio, Amílcar Meneses Viveros y Elena Fabiola Ruiz Ledesma, “**Middleware para uso de Sistemas de Gestión de Aprendizaje**”, en Elena Fabiola Ruiz Ledesma, Laura Ivonne Garay Jiménez y Juan Jesús Gutiérrez García (Coordinadores), *Sistemas Computacionales Móviles en las Ciencias y la Ingeniería*, Capítulo 3, pp. 40-53, Editorial Centro de Estudios e Investigaciones para el Desarrollo Docente, CENID A.C., ISBN 978-607-8435-59-3, 2018.
21. Bella Martinez-Seis^D, Xiaoou Li and Xizhao Wang, “**Measure community quality by attribute importance and density in social networks**”, in *15th IEEE International Conference on Automation Science and Engineering (CASE 2019)*, pp. 628-633, IEEE, Vancouver, Canada, August 22-26, 2019, ISBN 978-1-7281-0356-3.
22. Salvador Ortiz, Wen Yu and Xiaoou Li, “**Autonomous navigation in unknown environments using robust SLAM**”, in *45th Annual Conference of the IEEE Industrial Electronics Society (IECON 2019)*, pp. 5590-5595, October 14-17, 2019, ISBN 978-1-7281-4878-6.
23. Luis Martín Sánchez-Adame^M, Sonia Mendoza, Amílcar Meneses Viveros and José Rodríguez, “**Consistency in Multi-device Environments: A Case Study**”, in Kohe Arai, Rahul Bhatia and Supriya Kapoor (Editors), *Intelligent Computing, Proceedings of the 2019 Computing Conference*, Vol. 1, pp. 232-242, Springer, Advances in Intelligent Systems and Computing Vol. 997, Cham, Switzerland, 2019, ISBN 978-3-030-22870-5.
24. Luis Martín Sánchez-Adame^M, Sonia Mendoza, Amílcar Meneses Viveros and José Rodríguez, “**Towards a Set of Design Guidelines for Multi-device Experience**”, in Masaaki Kurosu (Editor), *Human-Computer Interaction. Perspectives on Design. Thematic Area, HCI 2019, Held as Part of the 21st HCI International Conference, HCII 2019*, pp. 210-223, Springer. Lecture Notes in Computer Science Vol. 11566, Orlando, Florida, USA, July 26-31, 2019, ISBN 978-3-030-22645-9.
25. Erika Hernández-Rubio, Amílcar Meneses-Viveros, Laura Muñoz Salazar, “**User Experience in Older Adults Using Tables for Neuropsychological Tests in Mexico City**”, in Pei-Luen Patrick Rau (Editor), *Cross-Cultural Design. Culture and Society, 11th International Conference, CCD 2019, Held as Part of the 21st HCI International Conference, HCII 2019*, pp. 135-149, Springer. Lecture Notes in Computer Science Vol. 11577, Orlando, Florida, USA, July 26-31, 2019, ISBN 978-3-030-22579-7.
26. Sergio V. Chapa Vergara, Erika Hernández-Rubio, Sergio D. Romero-García^M, Amilcar Meneses-Viveros, “**Visualization of Classification of Basic Level Schools in Mexico based on Academic Performance and Infrastructure**”, in Constantine Stephanidis and Margherita Antona (Editors), *HCI International 2020 – Posters, 22nd International Conference on Human-Computer Interaction, HCII2020*, pp. 225-232, Springer, Communications in Computer and Information Science Vol. 1225, Copenhagen, Denmark, 19-24 July 2020.
27. Sonia Mendoza, Manuel Hernández-León^M, Luis Martín Sánchez-Adame^M, José Rodríguez, Dominique Decouchant, Amilcar Meneses-Viveros, “**Supporting Student-Teacher Interaction Through a Chatbot**”, in Panayiotis Zaphiris and Andri Ioannou (Editors), *Learning and Collaboration Technologies. Human and Technology Ecosystems, 7th International Conference, LCT 2020, Held as Part of the 22nd HCI International Conference, HCII 2020*, pp. 93-107, Springer, Lecture Notes in Computer Science Vol. 12206, Copenhagen, Denmark, 19-24 July 2020.

28. Luis Martín Sánchez-Adame^M, Sonia Mendoza, Beatriz A. González-Beltrán, Amilcar Meneses-Viveros, José Rodríguez, “**The Man in the Besieged Castle: Heuristic Evaluation of Home Security Systems**”, in Abbas Moallem (Editor), *HCI for Cybersecurity, Privacy and Trust, Second International Conference, HCI-CPT 2020, Held as Part of the 22nd HCI International Conference, HCII 2020, Copenhagen, Denmark, July 19-24, 2020*, pp. 250-260, Springer. Lecture Notes in Computer Science Vol. 12210, Cham Switzerland, ISBN 978-3-030-50308-6.

Patentes Nacionales

1. Amilcar Meneses Viveros, Sergio Víctor Chapa Vergara, Ana Laura Colín Pérez y José Antonio Hajar Miranda, “**Sistema de panel de video para contenido Web de un navegador**”, 2017. Número MX/a/2012/006672. Registro MX345915B: Febrero 16, 2017. Puesta en circulación: Marzo 10, 2017.

2. Anallely Olivares Toledo^M y Sonia Guadalupe Mendoza Chapa, “**Sistema y método para coordinación y sincronización de actividades en un entorno colaborativo**”, 2017. Título de patente no. 352343. Solicitud no. MX/a/2013/007595. Fecha de expedición: 13 de octubre de 2017.