PRODUCTIVIDAD ACADÉMICA DEL DOCTORADO EN SISTEMAS INTELIGENTES

Profesores(as) del núcleo académico básico y año de adscripción al programa de Doctorado en Sistemas Inteligentes:

- *Vicente Alarcón Aquino (2014)*
- *Juan Antonio Díaz García (2014)*
- *Gibran Etcheverry Doger (2014 - 2022)*
- *Jorge Rodríguez Asomoza (2014)*
- *Roberto Rosas Romero (2014)*
- *Oleg Starostenko Basarab (2014)*
- *Rocío Salazar Varas (2018)*
- *Juan Horacio Espinoza Rodríguez (2018)*
- *Zobeida Jezabel Guzmán Zavaleta (2019)*
- *Mireya Paredes López (2020-2022)*
- *Pedro Bañuelos Sánchez (2021)*
- *Miguel Angel Reyes Cortés (2021)*
- *Cesar Martínez Torres (2022)*
- *Michael William Smith (2018-2020)*
- *Maxim Ivanov Todorov (2014-2021)*
- *Heidy Marisol Marín Castro (2023)*

Estudiantes y generación:

- *José Durán (2014-2021)*
- *Omar López (2015-2020)*
- *Héctor Camarillo (2015-2020)*
- *Lizbeth Peralta (2016-2021)*
- *María Sandoval (2016-2021)*
- *Luis Valencia (2016-2021)*
- *Miguel Jara (2017-2022)*
- *Ethery Ramírez* (2017-2022)
- *Gabriel Solana (2018-2023)*
- *Brenda Rangel (2018 -2023)*
- *Daniel Treviño (2018)*
- *David Limón (2018)*
- *Ernesto Cruz (2019)*
- *Jesus Cabello (2019)*
- *Martín Duran (2019)*
- *Erick Rodriguez (2020)*
- *Erik Martínez (2020)*
- *Andrés Siu (2020)*
- *Mariana Escobar (2021)*
- *Carlos Pérez (2022)*
- *Aislinn Díaz (2023)*

A continuación, se presenta una lista de productos generados (publicaciones en revistas listadas en el reporte Journal Citation Report – JCR y patentes) dentro de cada una de las líneas de investigación desde el 2014, año de inicio de operación del programa. Posteriormente se muestra la producción académica listada por profesor(a) del núcleo académico. Los nombres de los profesores que han formado parte del núcleo básico, profesores asociados y estudiantes aparecen en negritas.

Producción por Línea de Investigación

Sistemas Biomédicos

1. **L. Peralta-Malváez, R. Salazar-Varas, G. Etcheverry**, D. Gutiérrez, “Using data assimilation for quantitative electroencephalography analysis”, Brain Science, vol. 10, no. 11, 2021.
2. **B. Rangel-Olvera, R. Rosas-Romero**, "Detection and classification of burnt skin via sparse representation of signals by over-redundant dictionaries", Computers in Biology and Medicine, vol. 132, no. 104310, pp. 1-9, 2021.
3. **G. Solana-Lavalle, R. Rosas-Romero**, "Analysis of voice as an assisting tool for detection of Parkinson's disease and its subsequent clinical interpretation", Biomedical Signal Processing and Control, vol. 66, no. 102415, pp. 1-11, 2021.
4. **L. Peralta-Malváez, R. Salazar-Varas, G. Etcheverry**, D. Gutiérrez, “Using data assimilation for quantitative electroencephalography analysis”, Brain Science, vol. 10, no. 11, 2021.
5. Mercado-Uribe H, Andrade-Medina M, **Espinoza-Rodríguez JH**, Carrillo-Tripp M, Scheckhuber CQ (2020) Analyzing structural alterations of mitochondrial intermembrane space superoxide scavengers cytochrome-c and SOD1 after methylglyoxal treatment. PLoS ONE 15(4): e0232408. https://doi.org/10.1371/journal.pone.0232408
6. Alejandro Lopez-Rincón, Cesar Cantu**, Gibran Etcheverry**, Rogelio Soto, Shingo Shimoda, “Function based brain modeling and simulation of an ischemic region in post-stroke patients using the bidomain”, Journal of Neuroscience Methods, vol. 331, 2020.
7. **G. Solana-Lavalle, R. Rosas-Romero**, "Classification of PPMI MRI scans with voxel-based morphometry and machine learning to assist in the diagnosis of Parkinson's disease", Computer Methods and Programs in Biomedicine, vol. 198, no. 105793, pp. 1-15, 2021.
8. **M. A. Jara-Maldonado, V. Alarcón-Aquino, R. Rosas-Romero, O. Starostenko-Basarab**, J. M. Ramírez-Cortés, "Transiting exoplanet discovery using machine learning techniques: A survey", Earth Science Informatics, vol. 13, no. 3, pp. 573-600, 2020.
9. **G. Solana-Lavalle,** J. C. Galán-Hernández, **R. Rosas-Romero**, "Automatic Parkinson disease detection at early stages as pre-diagnosis tool by using classifiers and a small set of vocal features", Biocybernetics and Biomedical Engineering, vol. 40, no. 1, pp. 505-516, 2020.
10. E. Guevara, J. A. Flores-Castro, K. Peng, D. K. Nguyen, F. Lesage, P. Pouliot, **R. Rosas-Romero**, "Prediction of epileptic seizures using fNIRS and machine learning", Journal of Intelligent & Fuzzy Systems, vol. 38, no. 2, pp. 2055-2068, vol. 38, no. 2, 2020.
11. M. Ríos-Ramírez, **Juan-Horacio Espinoza-Rodríguez**, J. C. Ruiz-Suárez, H. Mercado-Uribe, “The effect of green light on the motility of mouse sperm at two different temperatures”, Photochemical & Photobiological Sciences, vol. 18, no. 12, pp. 2893-2900, 2019.
12. **R. Rosas-Romero**, E. Guevara, K. Peng, D. K. Nguyen, F. Lesage, P. Pouliot, E. W. Lima-Saad, "Prediction of epileptic seizures with convolutional neural networks and functional near-infrared spectroscopy signals", Computers in Biology and Medicine, vol. 111, no. 103355, 2019.
13. **Starostenko-Basarab**, C. Pérez-Cruz, **V. Alarcón-Aquino, R. Rosas-Romero**, "Real-time facial expression recognition using local appearance-based descriptors", Journal of Intelligent & Fuzzy Systems, vol. 36, no. 5, pp. 5037-5049, 2019.
14. **R. Rosas-Romero, O. López-Rincón, O. Starostenko-Basarab**, "Fully automatic alpha matte extraction using artificial neural networks", Neural Computing & Applications, 2019.
15. **Rocío Salazar-Varas**, Roberto A. Vazquez, “Evaluating the effect of the cutoff frequencies during the pre-processing stage of motor imagery EEG signals classification”, Biomedical Signal Processing and Control, vol. 54, 2019.
16. **Rocío Salazar-Varas,** Roberto A. Vazquez, “Facing high EEG signals variability during classification using fractal dimension and different cutoff frequencies”, Computational Intelligence and Neuroscience, 2019.

17. **Michael W. Smith**, David Abarca, "Predicting electrocardiogram interpretation performance in Advanced Cardiovascular Life Support simulation: comparing knowledge tests and simulation performance among Mexican medical students", PeerJ, 2019.
18. **L. Peralta-Malváez, O. López-Rincón**, E. D. Rojas-Velázquez, **L. O. Valencia-Rosado, R. Rosas-Romero, G. Etecheverry,** "Newborn cry nonlinear features extraction and classification", Journal of Intelligent & Fuzzy Systems, vol. 34, no. 5, pp. 3281-3289, 2018.
19. J. Hernández-Capistrán, **J. Martínez-Carballido**, **R. Rosas-Romero**, "False positive reduction by an annular model as a set of few features for microcalcification detection to assist early diagnosis of breast cancer", Journal of Medical Systems, vol. 42, no. 134, pp. 1-9, 2018.
20. **Rocío Salazar-Varas**, Roberto A. Vázquez, "Evaluating spiking neural models in the classification of motor Imagery EEG signals using short calibration sessions", Applied Soft Computing, 67, 2018.
21. **Michael W. Smith**, Charnetta Brown, Salim S. Virani, Charlene R. Weir, Laura A. Petersen, Natalie Kelly, Julia Akeroyd, Jennifer H. Garvin, "Incorporating guideline adherence and practice implementation issues into the design of decision support for Beta-Blocker titration for heart failure", Applied Clinical Informatics, vol. 9, no. 2, pp. 478-489, 2018.
22. **Michael W. Smith**, A. M. Hughes, C. Brown, E. Russo, T. D. Giardina, P. Mehta, H. Singh, "Test results management and distributed cognition in electronic health record–enabled primary care", Health Informatics Journal, 2018.
23. **R. Rosas-Romero**, A. Díaz-Torres, **G. Etcheverry-Doger**, "Forecasting of stock return prices with sparse representation of financial time series over redundant dictionaries", Expert Systems with Applications, vol. 57, pp. 37-48, 2016.
24. **R. Rosas-Romero**, J. Martínez-Carballido, J. Hernández-Capistrán, L. J. Uribe-Valencia, "A method to assist in the diagnosis of early diabetic retinopathy: Image processing applied to detection of microaneurysms in fundus images", Computerized Medical Imaging and Graphics, vol. 44, pp. 41-53, 2015.
25. G. Castro-Muñoz, J. Martínez-Carballido, **R. Rosas-Romero**, "A human action recognition approach with a novel reduced feature set based on the natural domain knowledge of the human figure", Journal of Signal Processing: Image Communication, vol. 30, pp. 190-205, 2015.
26. **R. Rosas-Romero**, H. D. Tagare, "Segmentation of endocardium in ultrasound images based on sparse representation over learned redundant dictionaries", Journal of Engineering Applications of Artificial Intelligence, vol. 29, pp. 201-210, 2014.
27. **R. Rosas-Romero**, "Remote detection of forest fires from video signals with classifiers based on K-SVD learned dictionaries", Journal of Engineering Applications of Artificial Intelligence, vol. 33, pp. 1-11, 2014.

Procesamiento de Señales

1. **Trevino-Sanchez, D.; and Alarcon-Aquino,** V. Hybrid pooling with wavelets for convolutional neural networks. Journal of Intelligent & Fuzzy Systems, (vol. Pre-press): 1-10. January 2022.
2. **Luis Oswaldo Valencia-Rosado, Zobeida J. Guzman-Zavaleta, And Oleg Starostenko**, "A modular generative approach for realistic river deltas: when L-systems and cGANs meet", IEEE Access Journal, vol.10, January 5, 2022, pp.5753-5767
3. **D. Limon-Cantu, V. Alarcon-Aquino**, Multiresolution Dendritic Cell Algorithm for Network Anomaly Detection, in PeerJ Computer Science, 2021
4. L. Marrero, L. García-Santander, L. Hernandez-Callejo, **P. Bañuelos-Sánchez** and V. Jara González, "Harmonic distortion characterization in groups of distribution networks applying the IEEE Standard 519-2014," in IEEE Latin America Transactions, vol. 19, no. 4, pp. 526-533, April 2021, doi: 10.1109/TLA.2021.9448534.

5. Tshibangu-Mbuebue, B.; Rojas Laguna, R.; Lee, M.W.; **Rodríguez-Asomoza, J.**; Zaldívar-Huerta, I.E. Numerical Study of a Reconfigurable Multiband Microwave Photonic Filter Using a Tunable Fabry-Perot Filter. Electronics 2021, 10, 1473. https://doi.org/10.3390/electronics10121473
6. **Luis Oswaldo Valencia-Rosado, Zobeida J. Guzman-Zavaleta, Oleg Starostenko**, Generation of Synthetic Elevation Models and Realistic Surface Images of River Deltas and Coastal Terrains Using cGANs, IEEE Access Journal, vol.9, 2021, pp.2975-2985
7. **Omar Lopez-Rincon, Oleg Starostenko**, and Alejandro Lopez-Rincon, Algorithmic music generation by harmony recombination with genetic algorithm, Journal of Intelligent & Fuzzy Systems, 2021, pp.1-13
8. **M. A. Jara-Maldonado, V. Alarcon-Aquino, R. Rosas-Romero, O. Starostenko**, J. M. Ramirez-Cortes, Transiting Exoplanet Discovery Using Machine Learning Techniques: A Survey, in Earth Science Informatics 13(3): 573-600, September 2020
9. E. Juárez-Guerra, **V. Alarcon-Aquino**, P. Gómez-Gil, J. M. Ramírez-Cortés, E. S. García-Treviño, A New Wavelet-Based Neural Network for Classification of Epileptic-Related States using EEG, Journal of Signal Processing Systems, Vol. 92 (2), February 2020
10. Leidy Johana Quintero-Rodríguez, Min Won Lee, **Jorge Rodríguez-Asomoza**, Ignacio Enrique Zaldívar-Huerta, Performance improvement of an optoelectronic oscillator by modifying the optical characteristics of a multimode laser diode. Optics & Laser Technology, Volume 128, 2020, 106263, ISSN 0030-3992, https://doi.org/10.1016/j.optlastec.2020.106263.
11. Quintero-Rodríguez, L.J.; Warnes-Lora, J.R.; Lee, M.W.; **Rodríguez-Asomoza, J**.; Zaldívar-Huerta, I.E. Demonstration of a Duplex Microwave Photonic Filter and Its Reconfigurability in a Frequency Range of 0–10 GHz. Electronics 2020, 9, 2159. https://doi.org/10.3390/electronics9122159
12. Correa-Mena, A.G.; Vera-Marquina, A.; García-Juárez, A.; **Rodríguez-Asomoza, J.;** Zaldívar-Huerta, I.E. Experimental Transmission of Digital Data Coded on Electrical Carriers at 2.1 GHz and 4.2 GHz by Using a Microwave Photonic Filter. Electronics 2020, 9, 833. https://doi.org/10.3390/electronics9050833
13. **M. A. Jara-Maldonado, V. Alarcón-Aquino,R. Rosas-Romero, O. Starostenko-Basarab**, J. M. Ramírez-Cortés, "Transiting exoplanet discovery using machine learning techniques: A survey",Earth Science Informatics, vol. 13, no. 3, pp. 573-600, 2020
14. **Hector M. Camarillo-Abad**, J. Alfredo Sánchez, **Oleg Starostenko**, "An environment for motor skill transfer based on wearable haptic communication", Springer Journal Personal and Ubiquitous Computing, vol. 25, pp. 411–435, 2020
15. J. E. Garcia-Bracamonte, J. M. Ramirez-Cortes, J. de Jesus Rangel-Magdaleno, P. Gomez-Gil, H. Peregrina-Barreto and **V. Alarcon-Aquino**, An Approach on MCSA-Based Fault Detection Using Independent Component Analysis and Neural Networks, IEEE Transactions on Instrumentation and Measurement, Vol. 68, Issue 5, May 2019
16. J. C. Sánchez-Díaz, J. M. Ramírez-Cortés, P. Gómez-Gil, P. Rodríguez-Montero, **V. Alarcón-Aquino**, and J. P. Escamilla Ambrosio, Bernoulli-Euler finite-element modelling of vibration modes on axisymmetric containers for level measurement. IEEE Latin America Transactions, 17(02): 330–337. February 2019.
17. **Starostenko,** C. Cruz-Perez, **V. Alarcon-Aquino, R. Rosas-Romero,** Real-time facial expression recognition using local appearance-based descriptors, Journal of Intelligent & Fuzzy Systems,Vol. 36, No. 5, pp. 5037-5049, 2019
18. E. S. Garcia-Trevino, **V. Alarcon-Aquino**, and J. A. Barria, The Radial Wavelet Frame Density Estimator, Computational Statistics & Data Analysis Volume 130, Pages 111-139, February 2019
19. **R. Rosas-Romero, O. López-Rincón, O. Starostenko-Basarab**, "Fully automatic alpha matte extraction using artificial neural networks", Neural Computing & Applications, 2019, vol.13, #3, pp. 1-13
20. **Starostenko-Basarab**, C. Pérez-Cruz, **V. Alarcón-Aquino, R. Rosas-Romero**, "Real-time facial expression recognition using local appearance-based descriptors", Journal of Intelligent & Fuzzy Systems, vol. 36, no. 5, pp. 5037-5049, 2019
21. **Omar López-Rincón, Oleg Starostenko-Basarab**, "Music visualization based on spherical projection with adjustable metrics", IEEE Access, vol. 7, pp. 140344-140354, 2019.

22. **Hector-Miguel Camarillo-Abad**, José-Alfredo Sánchez-Huitrón, **Oleg Starostenko-Basarab**, Maria-Gabriela Sandoval-Esquivel, "A basic tactile language to support leader-follower dancing", Journal of Intelligent & Fuzzy Systems, vol. 36, no. 5, pp. 5011-5022, 2019.
23. J.C. Galan-Hernandez, **V. Alarcon-Aquino**, **O. Starostenko**, J.M. Ramirez-Cortes, Pilar Gomez-Gil, Wavelet-based frame video coding algorithms using fovea and SPECK, Engineering Applications of Artificial Intelligence, Vol. 69, Pages 127–136 March 2018
24. L. A. González-Mondragón, L. J. Quintero-Rodríguez, A. G. Correa-Mena, **J. Rodríguez-Asomoza,** A. García-Juárez, A. L. Leal-Cruz, I. E. Zaldívar-Huerta, "Tuning of the free spectral range of a fiber optic Notch filter using a dispersive link", Laser Science, 2018.
25. J. R. Warnes-Lora, I. E. Zaldívar-Huerta, **Jorge Rodríguez-Asomoza**, R. Amezcua-Correa, J. E. Antonio-López, A. García-Juárez, "Performance evaluation of a photonic lantern by transmitting microwave signals", Photonics North, 2018.
26. J. C. Galan-Hernandez**, V. Alarcon-Aquino, O. Starostenko-Basarab**, J. M. Ramirez-Cortes, Pilar Gomez-Gil, "Wavelet-based frame video coding algorithms using fovea and SPECK", Engineering Applications of Artificial Intelligence, Vol. 69, Pages 127–136, 2018.
27. **Lopez-Rincon, O. Starostenko, V. Alarcon-Aquino**, J.C. Galan-Hernandez, Binary Large Object-Based Approach for QR Code Detection in Uncontrolled Environments. Journal of Electrical and Computer Engineering, Volume 2017, Article ID 4613628, 15 pages, 2017
28. Zaldívar-Huerta, I. E., Correa-Mena, A. G., Hernández-Nava, P., García-Juárez, A., **Rodríguez-Asomoza, J.,** & Lee, M. W. (2016). Demonstration and experimental evaluation of a bi-directional 10-GHz microwave photonic filter. Optics & Laser Technology, 83, 76-80.
29. Gisela Lopez-Galmiche, Z. Sanjabi Eznaveh, J. E. Antonio-Lopez, A. M. Velazquez-Benitez, **Jorge Rodriguez-Asomoza,** J. J. Sanchez-Mondragon, Cedric Gonnet, Pierre Sillard, G. Li, Axel Schülzgen, C. M. Okonkwo, R. Amezcua Correa. "Few-mode erbium-doped fiber amplifier with photonic lantern for pump spatial mode control". Optics letters, 2016.
30. D. Rico-Aniles, J. M. Ramirez-Cortes, J. Rangel-Magdaleno, P. Gomez-Gil, H. Peregrina-Barreto and **V. Alarcón-Aquino,** "MATLAB and FPGA-based interactive tool for exploring concepts on compressed sensing", Computer Applications in Engineering Education, vol. 23, no. 6, pp. 921–930, 2015.
31. **Starostenko-Basarab**, C. Cruz-Perez, F. Uceda-Ponga, and **V. Alarcon-Aquino**, "Breaking text-based CAPTCHAs with variable word and character orientation", Pattern Recognition, vol. 48, no. 4, 2015.
32. **Starostenko-Basarab**, X. Cortés, J. A. Sánchez and **V. Alarcon-Aquino**, Unobtrusive emotion sensing and interpretation in smart environment, Journal of Ambient Intelligence and Smart Environments Vol. 7, No. 1, pp. 59-83, 2015.
33. J. Alfredo Sánchez, Ximena Cortés, **Oleg Starostenko**, Ofelia Cervantes and Wanggen Wan, An "Extensible Platform for Seamless Integration and Management of Applications for Emotion Sensing and Interpretation", Journal of Ambient Intelligence and Smart Environments, IOS Press, ISSN 1876-1364, vol. 7, #1, 2015, pp. 5-19
34. **V. Alarcon-Aquino**, J. M. Ramirez-Cortes, P. Gomez-Gil, **O. Starostenko**, Y. Garcia-Gonzalez, "Network intrusion detection using self-recurrent Wavelet Neural Networks with multidimensional radial wavelons", Information Technology and Control, vol. 43, no. 4, 2014.
35. J. M. Ramirez-Cortes, **V. Alarcon-Aquino**, P. Gomez-Gil, A. Diaz-Mendez, M. Ibarra, I. Garcia, "Interactive educational tool for compensators design in MATLAB using frequency response analysis", Computer Applications in Engineering Education, vol. 22, pp. 699–707, 2014.
36. Ignacio E. Zaldívar-Huerta, Alejandro García-Juárez, **Jorge Rodríguez-Asomoza**, Gustavo Aguayo-Rodríguez, A software tool to evaluate the frequency response of a microwave photonic filter in MATLAB based on a Graphical User Interface, Optik, Volume 125, Issue 1, 2014, Pages 318-323, ISSN 0030-4026, https://doi.org/10.1016/j.ijleo.2013.06.060.
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38. Oleg Starostenko, Claudia Perez-Lezama, V. Alarcon-Aquino, J.Alfredo Sanchez, Formalization of learning objects for image-based language learning in mobile environments, Procedia-Social and Behavioral Journal, Elsevier, v.116, pp.3905-3910, 2014
39. V. Alarcon-Aquino, J. M. Ramirez-Cortes, P. Gomez-Gil, O. Starostenko, Y. Garcia-Gonzalez, "Network intrusion detection using self-recurrent Wavelet Neural Networks with multidimensional radial wavelons", Information Technology and Control, vol. 43, no. 4, 2014.

Inteligencia Artificial

1. L. O. Valencia-Rosado, Z. J. Guzman-Zavaleta and O. Starostenko, "A Modular Generative Approach for Realistic River Deltas: When L-Systems and cGANs Meet," in IEEE Access, vol. 10, pp. 5753-5767, 2022, doi: 10.1109/ACCESS.2022.3140226.
2. E. Cruz-Esquivel and Z. J. Guzman-Zavaleta, "An Examination on Autoencoder Designs for Anomaly Detection in Video Surveillance," in IEEE Access, vol. 10, pp. 6208-6217, 2022, doi: 10.1109/ACCESS.2022.3142247.
3. L. O. Valencia-Rosado, Z. J. Guzman-Zavaleta and O. Starostenko, "Generation of Synthetic Elevation Models and Realistic Surface Images of River Deltas and Coastal Terrains Using cGANs," in IEEE Access, vol. 9, pp. 2975-2985, 2021, doi: 10.1109/ACCESS.2020.3048083.
4. Meneses-Viveros, A., Paredes-López, M., Hernández-Rubio, E. et al. Energy consumption model in multicore architectures with variable frequency. J Supercomput 77, 2458–2485 (2021). https://doi.org/10.1007/s11227-020-03349-0
5. María-Gabriela Sandoval-Esquivel, Juan-Antonio Díaz-García, Roger Z. Ríos-Mercado, "An improved exact algorithm for a territory design problem with p-center-based dispersion minimization", Expert Systems with Applications, vol. 146, pp. 113-150, 2020.
6. Sayed, S. I., Contreras, I., Díaz, J. A., & Luna, D. E. Integrated cross-dock door assignment and truck scheduling with handling times. Top, 28(3), 705-727, 2020.
7. Casas-Ramírez, M.S., Camacho-Vallejo, J.F., Díaz, J.A. & Luna, D.E. A bi-level maximal covering location problem. Operational Research: An International Journal, 10(2):827-855, 2020.
8. Arizbeth Pérez, Tatyana Poznyak, Isaac Chairez, Z. Jezabel Guzmán-Zavaleta, Mariel Alfaro-Ponce, "Influence of sodium sulfate on the direct red 28 degradation by ozone in a wastewater recycling process: A stoichiometric and novel image analysis", Ozone: Science & Engineering, 2019.
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10. Juan-Antonio Díaz-García, Dolores-Edwiges Luna-Reyes, "GRASP with path relinking for the manufacturing cell formation problem considering part processing sequence", Journal of the Operational Research Society, vol. 69, no. 9, pp. 1493-1511, 2018.
11. A. N. Iusem, Maxim Ivanov Todorov, "On OM-decomposable sets", Computational and Applied Mathematics, vol. 37, no. 3, pp. 2837-2844, 2018.
12. Díaz, J.A., Luna, D.E., Camacho-Vallejo, J.F., & Casas-Ramírez, M.S. GRASP and hybrid GRASP-TABU heuristics to solve a maximal covering location problem with customer preference ordering. Expert Systems with Applications, 82: 67-76, 2017.
13. Alberto Ferrer, Miguel A. Goberna, Enrique González-Gutiérrez, Maxim Ivanov Todorov, "A comparative note on the relaxation algorithms for the linear semi-infinite feasibility problem", Annals of Operations Research, vol. 258, no. 2, pp. 587-612, 2017.
14. Juan Enrique Martínez-Legaz, Maxim Ivanov Todorov, "Weakly Motzkin predecomposable sets", Set-Valued and Variational Analysis, vol. 25, no. 3, pp. 507-516, 2017.

15. Abraham B. Barragan, Lidia A. Hernandez, **Maxim Ivanov Todorov**, "New primal-dual partition of the space of linear semi-infinite continuous optimization problems", Comptes rendus de l'Académie bulgare des Sciences, vol. 69, no. 10, pp. 1263-1275, 2016.
16. **Juan-Antonio Díaz-García**, Dolores-Edwiges Luna-Reyes, "Primal and dual bounds for the vertex p-median problem with balance constraints", Annals of Operations Research, 2016.
17. Mónica G. Elizondo-Amaya, Roger Z. Ríos-Mercado, **Juan-Antonio Díaz-García**, "A dual bounding scheme for a territory design problem", Computers & Operations Research, vol. 44, pp. 193-205, 2014.

Producción del Núcleo Académico

Dr. Vicente Alarcón Aquino (SNI Nivel I)

- Trevino-Sanchez, D.; and **Alarcon-Aquino, V.** Hybrid pooling with wavelets for convolutional neural networks. Journal of Intelligent & Fuzzy Systems, (vol. Pre-press): 1-10. January 2022.
- D. Limon-Cantu, **V. Alarcon-Aquino**, Multiresolution Dendritic Cell Algorithm for Network Anomaly Detection, in PeerJ Computer Science, 2021
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- J. E. Garcia-Bracamonte, J. M. Ramirez-Cortes, J. de Jesus Rangel-Magdaleno, P. Gomez-Gil, H. Peregrina-Barreto and **V. Alarcon-Aquino**, An Approach on MCSA-Based Fault Detection Using Independent Component Analysis and Neural Networks, IEEE Transactions on Instrumentation and Measurement, Vol. 68, Issue 5, May 2019
- J. C. Sánchez-Díaz, J. M. Ramírez-Cortés, P. Gómez-Gil, P. Rodríguez-Montero, **V. Alarcón-Aquino**, and J. P. Escamilla Ambrosio, Bernoulli-Euler finite-element modelling of vibration modes on axisymmetric containers for level measurement. IEEE Latin America Transactions, 17(02): 330–337. February 2019.
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- E. S. Garcia-Trevino, **V. Alarcon-Aquino**, and J. A. Barria, The Radial Wavelet Frame Density Estimator, Computational Statistics & Data Analysis Volume 130, Pages 111-139, February 2019
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Productividad en el Programa de 2014 a Primavera 2022

	Líneas de Investigación			
Año	Inteligencia Artificial	Procesamiento de Señales	Sistemas Biomédicos	Total
2014	1	6	2	9
2015		5	2	7
2016	2	2	2	6
2017	3	2		5
2018	1	4	6	11
2019	2	8	6	16
2020	3	7	7	17
2021	2	5	4	11
2022	2	2		4
Total	**16**	**41**	**29**	**86**