Artículos publicados en revistas indizadas 2023

Publicados

1. **Álvarez, R.** and Camacho, M. Plumbing system of Hunga Tonga Hunga Ha'apai Volcano. *Journal of Earth Science*. 2023, Vol. 34, No. 3, p. 706-716.

2. Rivera, E., **Álvarez, R.** Structural traits of Cuitzeo Lake, Central Mexico, and areas of geothermal potential. *Geofísica Internacional*. 2023, Vol. 62, No. 4, p. 617-635.

3. Guevara, R., Yutsis, V., Varley, N., Almaguer, J., **Álvarez, R., Calderón, A.**[1] and Sieck, P. Insights into the plumbing system of Colima Volcanic Complex from geophysical evidence. *Journal of Volcanology and Geothermal Research*. 2023, Vol.433, Art. No. 107711.

4. **Ballesteros, M.A., Iniesta, D.A., Naumkin, I.** and Peña, C. Wave and scattering operators for the nonlinear matrix Schrödinger equation on the half-line with a potential. *Nonlinear Analysis*. 2023, Vol. 227, Art. 113183.

5. Solano, P., **Barberis, P.** and Sinha, K. Dissimilar collective decay and directional emission from two quantum emitters. *Physical Review A*. 2023, Vol. 107, No. 2, Art. No. 023723.

6. Del Ángel, A., Solano, P. and **Barberis, P.** Effects of environment correlations on the onset of collective decay in waveguide QED. *Physical Review A*. 2023, Vol. 108, No. 1, Art. No. 013703.

7. **Benítez, H.** y López, M. Un estudio empírico de los fotomosaicos. *Research in Computing Science*. 2023, Vol. 152, No. 6, p. 149-160.

8. Do Carmo, C., da Silva, E.R., Hild, B., Oliveira, C.E., Rodrigues, T., Pereira, L.O., Souza, I., Figueiredo, N., Portugal, A.B., Mendes, J.L., **Borges, A.,**[2] Correia, N. and de Lima, E.C. Design and synthesis of new anthranyl phenylhydrazides: Antileishmanial activity and structure–activity relationship. *Pharmaceuticals*. 2023, Vol. 16, No. 8, Art. No. 1120.

9. **Bravetti, A.,** Daza, M.L., Flores, H. and Betancourt, M. Bregman dynamics, contact transformations and convex optimization. *Information Geometry*. 2023, Vol. 6, No. 1, p. 355-377.

10. **Bravetti, A.,** Jackman, C. and Sloan, D. Scaling symmetries, contact reduction and Poincaré's dream. *Journal of Physics A: Mathematical and Theoretical*. 2023, Vol. 56, Art. No. 435203, 43 p.

---

[1] Becario Posdoctoral del Departamento de Física Matemática.

[2] Becario Posdoctoral de la Unidad Académica del IIMAS en el estado de Yucatán que causó baja el 30 de noviembre de 2023.

11. Zadra, F., **Bravetti, A.,** García, A.A. and Seri, M. The flow method for the Baker-Campbell-Hausdorff formula: exact results. *Journal of Physics A: Mathematical and Theoretical.* 2023, Vol. 56, Art. No. 385206, 25 p.

12. **Bravetti, A., García, M.A.[3]** and Tapias, D. Thermodynamic entropy as a Noether invariant from contact geometry. *Entropy.* 2023, Vol. 25, No. 7, Art. No. 1082.

13. **Bravo, J.,** Caballero, R.O., Haro, P., Heredia, F.J., **Hevia, N., Jorge, M.C.,** Medina, R.A., **Molino, E., Neme, J.A., Pérez, J.L.,** Sánchez, J.H. and Valdés, C. Mathematical modelling of composite phantoms for the calibration of ultrasound devices. *Journal of Applied Research and Technology.* 2023, Vol. 21, No. 2, p. 154-161.

14. Iglesias, E., **Bravo, J.,** Cruz, M.E. and Guinovart, R. Conductivity gain predictions for multiscale fibrous composites with interfacial thermal barrier resistance. *Mathematical Methods in the Applied Sciences.* 2023, Vol. 46, No. 6, p. 6613-6638.

15. Décio Junior, R.M.S., De Cezaro, A., Pérez, L.D. and **Bravo, J.** A preliminary study on the application of the two-space nonperiodic asymptotic homogenization method to the EEG forward problem with continuously differentiable coefficient. *Ciência e Natura.* 2023, Vol. 45, No. Esp. 3, Art. No. e75138, 16 p.

16. Oliveira, J.G.M., Rocha, F.C., Fernández, L.D.P., Sampaio, M.S.M. and **Bravo, J.** Asymptotic homogenization with finite elements for an orthotropic radially microperiodic sphere. *Ciência e Natura.* 2023, Vol. 45, No. Esp. 3, Art. No. e73779, 16 p.

17. Armandine, A., **Castañón, D.,** Jeannin, L., López, S. and Masson, R. Two-phase geothermal model with fracture network and multi-branch wells. *The SMAI Journal of Computational Mathematics.* 2023 Vol. 9, No. 2023, p. 121-149.

18. **Chaki, M.S.[4]** and **Bravo, J.** A mathematical analysis of anti-plane surface wave in a magneto-electro-elastic layered structure with non-perfect and locally perturbed interface. *European Journal of Mechanics − A/Solids.* 2023, Vol. 97, Art. No. 104820.

19. **Chaki, M.S.[4]** and **Bravo, J.** Dynamic asymptotic homogenization for wave propagation in magneto-electro-elastic laminated composite periodic structure. *Composite Structures.* 2023, Vol. 322, Art. No. 17410.

20. Legaria, J.U., Sánchez, F. and **Cortés, Y.** Evaluation of entropy and fractal dimension as biomarkers for tumor growth and treatment response using cellular automata. *Journal of Theoretical Biology.* Vol. 564, Art. No. 111462.

21. Hirata, F.M.R., Jorge, D.C.P., Pereira, F.A.C., Skalinski, L.M., **Cruz, G.,** Esteva, M.L.M. and Pinho, S.T.R. Co-circulation of Dengue and Zika viruses: A modelling approach applied to epidemics data. *Chaos Solitons & Fractals.* 2023, Vol. 173, Art. No. 113599.

22. De Araujo, R.G.S., Jorge, D.C.P., Dorn, R.C., **Cruz, G.,** Esteva, M.L.M., Pinho, S.T.R. Applying a multi-strain dengue model to epidemics data. *Mathematical Biosciences.* 2023, Vol. 360, Art. No. 109013.

---

[3] Becario Posdoctoral del Departamento de Matemáticas y Mecánica.

[4] Becario Posdoctoral de la Unidad Académica del IIMAS en el estado de Yucatán.

23. Cervantes, K., Riojas, H., **Díaz, C.,** Moreno, H., López, R., Stern, D., Acosta, J.O. and Texcalac, J.L. Geocoding and spatiotemporal modeling of long-term PM2.5 and NO2 exposure in the Mexican Teachers' Cohort. *Atmósfera*. 2023, Vol. 37, No. 1, p. 191-207.

24. Martínez, A.F., Chaudhuri, S., **Díaz, C.,** Juan, P., Mateu, J. and **Mena, R.H.** Clustering constrained on linear networks. *Stochastic Environmental Research and Risk Assessment*. 2023, Vol. 37, p. 1983-1995.

25. **Díaz, M.A.** and Mingo, J.A. On the analytic structure of second-order non-commutative probability spaces and functions of bounded Fréchet variation. *Random Matrices: Theory and Application*. 2023, Vol. 12, No. 1, Art. No. 2250044, 26 p.

26. **Eslava, L.C.,** Lodewijks, B. and Ortgiese, M. Fine asymptotics for the maximum degree in weighted recursive trees with bounded random weights. *Stochastic Processes and their Applications*. 2023, Vol. 58, p. 505-569.

27. Dailly, A., **Eslava, L.C.,** Hansberg, A. and Ventura, D. The balancing number and generalized balancing number of some graph classes. *Electronic Journal of Combinatorics*. 2023, Vol, 30, No. 1, 22 p.

28. **Folino, R.** and Strani, M. On reaction-diffusion models with memory and mean curvature-type diffusion. *Journal of Mathematical Analysis and Applications*. 2023, Vol. 522, No. 2, Art. No. 127027.

29. **Folino, R., Plaza, R.G.** and **Zhelyazov, D.**[5] Spectral stability of weak dispersive shock profiles for quantum hydrodynamics with nonlinear viscosity. *Journal of Differential Equations*. 2023, Vol. 359, p. 330-364.

30. Montalvo, R., Montalvo, B. and **Fuentes, G.** Improving transfer learning for movie trailer genre classification using a dual image and video transformer. *Information Processing & Management*. 2023, Vol. 60, No. 3, Art. No. 103343.

31. González, K.J., **Galán, E.,** Melis, F., **Pérez, E.** and Garrido, D. Structure of co-expression networks of Bifidobacterium species in response to human milk oligosaccharides. *Frontiers in Molecular Biosciences*. 2023, Vol. 10, Art. No. 1040721.

32. **García, C.,** Krawcewicz, W., Yu, S. and Wu, H.P. Subharmonic solutions in reversible difference equations. *Journal of Nonlinear and Convex Analysis*. 2023, Vol. 24, No. 3, p. 641-667.

33. Liu, J-Z., **García, C.** and Krawcewicz, W. Existence of non-radial solutions to semilinear elliptic systems on a unit ball in R^3. *Journal of Fixed Point Theory and Applications*. 2023, Vol. 25, Art. No. 86.

34. Victoria, C., Torres, F., **Garduño, E., Arámbula, F.** and Gastelum, A. Real-time 3D ultrasound reconstruction using octrees. *IEEE Access*. 2023, Vol. 11, p. 78970-78983.

35. **Gershenson, C.** Emergence in artificial life. *Artificial Life*. 2023, Vol. 29, No. 2, p. 153-167.

36. Alatorre, D., **Gershenson, C.** and Mateos, J.L. Stocks and cryptocurrencies: Antifragile or robust? A novel antifragility measure of the stock and cryptocurrency marquetas. *PLoS ONE*. Vol. 18, No. 3, Art. No. E0280487.

---

[5] Becario Posdoctoral del Departamento de Matemáticas y Mecánica, que causó baja el 1 de septiembre de 2023.

37. López, A.J., Sánchez, F. and **Gershenson, C.** Temporal, structural, and functional heterogeneities extend criticality and antifragility in random Boolean networks. *Entropy*. 2023, Vol. 25, No. 2, Art. No. 254.

38. Caldarelli, G., Arcaute, E., Barthelemy, M., Batty, M., **Gershenson, C.,** Helbing, D., Mancuso, S., Moreno, Y., Ramasco, J.J., Rozenblat, C., Sánchez, A. and Fernández, J.L. The role of complexity for digital twins of cities. *Nature Computational Science*. 2023, Vol. 3, No. 5, p. 374-381.

39. **Gil-Leyva, M.F.** and **Mena, R.H.** Stick-breaking processes with exchangeable length variables. *Journal of the American Statistical Association*. 2023, Vol. 118, No. 541, p. 537-550.

40. De Blasi, P. and **Gil-Leyva, M.F.** Gibbs sampling for mixtures in order of appearance: The ordered allocation sampler. *Journal of Computational and Graphical Statistics*. 2023, Vol. 32, No. 4, p. 1416-1424.

41. Paiva, F.B., Orué, M.C., Vázquez, J.L., **Gómez, H.M.** and Calzada, V. RGB pixel n-grams: A texture descriptor. *Signal Processing: Image Communication*. 2023, Vol. 118, Art. No. 117028.

42. Bel-Enguix, G., **Gómez, H.M.,** Sierra, G., Vásquez, J., Andersen, S.T. and Ojeda, S. Overview of HOMO-MEX at Iberlef 2023: Hate speech detection in Online Messages directed Towards the MEXican Spanish speaking LGBTQ+ population. *Procesamiento del Lenguaje Natural*. 2023, Vol. 71, p. 361-370.

43. Reyes, J., Sierra, G., Bel-Enguix, G. and **Gómez, H.M.** LexAN: Lexical Association Network. *Computación y Sistemas*. 2023, Vol. 27, No. 4, p. 955-963.

44. **González-Barrios, J.M., Gutiérrez, E.A.,** Nieves, J.D. and **Rueda, R.** A characterization of multivariate independence using copulas. *Communications in Statistics-Theory and Methods*. 2023, Vol. 52, No. 16, p. 5716-5726.

45. Navarro, B., **González-Barrios, J.M.** and **Rueda, R.** Binary expansions of prime reciprocals. *Notes on Number Theory and Discrete Mathematics*. 2023, Vol. 29, No. 4, p. 724-736.

46. Noguez, R., Muñoz, J., Medina, D., Bárcenas, E., Molero, G., Reyes, P., Hughes, J.A., **Gracia-Medrano, L.E.,** Miranda, M., Rojas, G., Quiroz, H., Hernández, L.F., Fajardo, E.D., Ferreyra, E., García, R., Rubio, J.F., López, E., García, M., Lansingh, V.C. and Thébault, S.C. Preventable risk factors for type 2 diabetes can be detected using noninvasive spontaneous electroretinogram signals. *PLoS One*. 2023, Vol. 8, No. 1, Art. No. e0278388.

47. **Hernández, D.L.**[6] and Hernández, D. Portfolio management under drawdown constraint in discrete-time financial markets. *Journal of Applied Probability*. 2023, Vol. 60, p. 127-147.

48. **Hernández, D.L.**[6] and **Silva, L.O.** On a criterion for the determinate–indeterminate dichotomy of the moment problem. *Boletín de la Sociedad Matemática Mexicana*. 2023, Vol. 29, No. 3, Art. No. 76.

49. **Hevia, N.,** Haro, P., Guillermo, L., **Pérez, J.L.** Deep learning-based segmentation of *Trypanosoma cruzi* nests in histopathological images. *Electronics*. 2023, Vol. 12, No. 19, Art. No. 4144.

---

[6] Becario Posdoctoral del Departamento de Física Matemática que causó baja el 5 de octubre de 2022.

50. Haro, P., **Hevia, N.** and **Pérez, J.L.** ECG marker evaluation for the machine-learning-based classification of acute and chronic phases of *Trypanosoma cruzi* infection in a murine model. *Tropical Medicine and Infectious Disease*. 2023, Vol. 8, No. 3, Art. No. 157.

51. **Jiménez, M.**[7] and **Fuentes, G.** Learning a robust unified domain adaptation framework for cross-subject EEG-based emotion recognition. *Biomedical Signal Processing and Control*. 2023, Vol. 86, Part A, Art. No. 105138, 13 p.

52. **Jiménez, M.**[7] and **Fuentes, G.** Cross-subject EEG-based emotion recognition via semisupervised multisource joint distribution adaptation. *IEEE Transactions on Instrumentation and Measurement*. 2023, Vol. 72, Art. No. 2523911, 11 p.

53. De la Iglesia, M.D. and **Juárez, C.I.**[8] Birth-death chains on a spider: Spectral analysis and reflecting-absorbing factorization. *Journal of Mathematical Analysis and Applications*. 2023, Vol. 517, No. 2, Art. No. 126624, 20 p.

54. de la Iglesia M. and **Juárez, C.I.**[8] The bilateral birth–death chain generated by the associated Jacobi polynomials. *Studies in Applied Mathematics*. 2023, Vol. 151, No. 2, p. 616-642.

55. **Lomas, V.M.,** Suárez, M., Hernández, G. and **Neme, J.A.** A new method for classifying scenes for simultaneous localization and mapping using the boundary object function descriptor on RGB-D points. 2023, *Sensors*, Vol. 23, No. 21, Art. No. 8836.

56. Bernal, D., Giraldo, O.F., Rosset, P.M., **López, O.X.**[9] and Pérez, J. Campesino a Campesino (peasant to peasant) processes versus conventional extension: a comparative model to examine agroecological scaling. *Agroecology and Sustainable Food Systems*. 2023, Vol. 47, No. 4, p. 520-547.

57. Armas, F., Escolero, Ó., Sandoval, S., Nava, L.F., Mazari, M., Rojas, C. and **López, O.X.**[9] A quantitative approach to the watershed governance prism: The Duero River Basin, Mexico. *Water*. 2023, Vol. 15, No. 4, Art. No. 743.

58. Santoyo, l.G., Ramírez, E., Domínguez, J. and **López, O.X.**[9] Potential long consequences from internal and external ecology: loss of gut microbiota antifragility in children from an industrialized population compared with an indigenous rural lifestyle. *Journal of Developmental Origins of Health and Disease*. 2023, Vol. 14, p. 469-480.

59. Ramírez, E., Santoyo, I.G., **López, O.X.,**[9] Rojas, O.A., Falcón, L.I., Gaona, O., De la Fuente, R.M., Hernández, A., Cerqueda, D., Sánchez, A., Hernández, D. and Nieto, J. Similar connectivity of gut microbiota and brain activity networks is mediated by animal protein and lipid intake in children from a Mexican indigenous population. *PLoS ONE*. 2023, Vol. 18, No. 6, Art. No. e0281385.

60. Díaz, M., González, M., Aguayo, R., Rodríguez, R., Pérez, A., **Madariaga, A.**[10] and Mata, R. Discovery of inhibitors of protein tyrosine phosphatase 1B contained in a natural products library from Mexican

---

[7] Becario Posdoctoral del Departamento de Ciencias de la Computación, que causó baja el 1 de septiembre de 2023.

[8] Técnica Académica del Departamento de Probabilidad y Estadística que causó baja el 1 de abril de 2022.

[9] Investigador del Programa Investigadoras e Investigadores por México adscrito al Departamento de Matemáticas y Mecánica.

[10] Técnico Académico con cambio de adscripción temporal del Instituto de Química, UNAM a la Unidad Académica del IIMAS en el estado de Yucatán.

medicinal plants and fungi using a combination of enzymatic and in silico methods. *Frontiers in Pharmacology*. 2023, Vol. 14203, Art. No. 1281045.

61. Maldonado, E., Mineros, A., Torres, O.D., Ovalle, B., **Madariaga, A.,**[11] Pérez, A.L. and Martínez, M. Lipase inhibitory activity of constituents of *Physalis glutinosa* and *Physalis latiphysa*. *Medicinal Chemistry*. 2023, Vol. 32, No. 12, p. 2505-2515.

62. **Martínez, J.A.**[12] and Torres, G. The discrete canonical commutation relationship. *Physica Scripta*. 2023, Vol. 98, No. 11, Art. No. 115254

63. Correa, E., Hernández, A., Cuevas, G., Acevedo, Y., Esquivel, F. and **Martínez, K.**[13] Modifications in the piperazine ring of nucleozin affect anti-influenza activity. *PloS ONE*. 2023, Vol. 18, No. 2, Art. No. e0277073.

64. Barrera, J., Prieto, F.D., Hernández, A., **Martínez, K.**[13] and Castillo, R. In silico exploration of the Trypanothione reductase (TryR) of *L. mexicana*. *International Journal of Molecular Sciences*. 2023, Vol. 24, No. 22, Art. No. 16046.

65. González, K., Horta, C., Kirchmair, J., **Martínez, K.,**[13] Medina, J.L., Rarey, M., Tropsha, A., Varnek, A. and Zdrazil, B. School of chemoinformatics in Latin America. *Journal of Cheminformatics*. 2023, Vol. 15, No. 1, Art. No. 82.

66. **Martínez, M.E.,** Hughes, A.D., Thom, S.A.M., Parker, K.H. and Witt, N.W. Evaluation of a portable retinal imaging device: Towards a comparative quantitative analysis for morphological measurements of retinal blood vessels. *Royal Society Open Science*. 2023, Vol. 10, No. 6, Art. No. 230065.

67. Pereira, L.A., Gutiérrez, L., Taylor, D. and **Mena, R.H.** Bayesian nonparametric hypothesis testing for longitudinal data analysis. *Computational Statistics and Data Analysis*. 2023, Vol. 179, Art. No. 107629.

68. Martínez, M., González, M., Ramírez, N., Negrete, S. and **Mena, R.H.** Mid- and long-term ecological changes after enrichment planting with native tree species in Mexican tropical mountain forests. *Restoration Ecology*. 2023, Vol. 31, No. 4, Art. No. e13847.

69. García, E.E., **Méndez, P.E.** and **Rascón, C.A.** On the challenges of acoustic energy mapping using a WASN: Synchronization and audio capture. *Sensors*. 2023, Vol. 23, No. 10, Art. No. 4645.

70. Hernández, C.D. and **Meza, I.V.** The state of end-to-end systems for Mexican Spanish speech recognition. *Procesamiento del Lenguaje Natural*. 2023, No. 70, p. 135-144.

71. Aguilera, A.F. y **Meza, I.V.** Agente de navegación web para detección de noticias falsas usando aprendizaje profundo por refuerzo y listas de argumentos. *Research in Computer Science*. 2023, Vol. 152, No. 7, p. 87-100.

---

[11] Técnico Académico con cambio de adscripción temporal del Instituto de Química, UNAM a la Unidad Académica del IIMAS en el estado de Yucatán.

[12] Becario Posdoctoral del Departamento de Física Matemática.

[13] Investigadora con cambio de adscripción temporal del Instituto de Química, UNAM a la Unidad Académica del IIMAS en el estado de Yucatán que causó baja el 31 de julio de 2023.

72. Maqueda, E., Álvarez, J., Mena, C. and **Meza, I.V.** Triplet loss-based embeddings for forensic speaker identification in Spanish. *Neural Computing and Applications.* 2023, Vol. 35, No. 25, p. 18177-18186.

73. Jiménez, R. and **Mijangos, J.M.**[14] Relative homology of invariant group chains. *Topology and its Applications.* 2023, Vol. 339, Part A, Art. No. 108588.

74. López, J.C., **Minzoni, A.A.,[†] Olvera, A., Cruz, G.,** Chimal, J.C., Hernández, J., Álvarez, M.A., Bautista, M.Y. and Quispe, R.M. A mathematical model to optimize the neoadjuvant chemotherapy treatment sequence for triple-negative locally advanced breast cancer. *Mathematics.* 2023, Vol. 11, No. 11, Art. No. 2410.

75. **Miró, V.,[15]** Joly, E. and **Siri-Jégousse, A.** Estimating the Lambda measure in multiple-merger coalescents. Theoretical Population Biology. 2023, Vol. 154, p. 94-101.

76. Ortiz, M. y **Molino, E.** Agrupamiento automático de datos magnéticos en prospección geofísica para arqueología. *Research in Computing Science.* 2023, Vol. 152, No. 6, p. 49-63.

77. **Morales, L.B.** The maximum number of columns in E (s(2))-optimal supersaturated designs with 16 rows and s(max)=4 is 60. *Journal of Combinatorial Designs.* 2023, Vol. 31, No. 4, p. 165-178.

78. **Morales, L.B.** and Bulutoglu, D.A. A bit-parallel tabu search algorithm for finding $E(s^2)$-optimal and minimax-optimal supersaturated designs. *Computational and Mathematical Methods.* 2023, Vol. 2023, Art. No. 9431476.

79. Martel, Y. and **Naumkin, I.** Nonflat conformal blow-up profiles for the 1D critical nonlinear Schrödinger equation. *Tunisian Journal of Mathematics.* 2023, Vol. 5, No. 3, p. 505-572.

80. **Naumkin, I.** and **Weder, R.A.** The matrix nonlinear Schrödinger Equation with a potential. *Journal des Mathematiques Pures et Appliquees.* 2023, Vol. 172, p. 1-104.

81. Legaria, J.U., Martínez, S., Mota, S., Chable, A., Cobá, A. and **Neme, J.A.** Anomaly detection in the probability simplex under different geometries. *Information Geometry.* 2023, Vol. 6, No. 2, p. 385-412.

82. **Olivares, E.[16]** and **Padilla, P.** Creatividad computacional: un análisis a las teorías de M. Boden y G. Wiggins. *Technological Innovations Journal.* 2023, Vol. 2, No. 3, p. 36-52.

83. Ávila, U., Vázquez, A., **Padilla, P.** and Reséndis, O. Uncoding the interdependency of tumor microenvironment and macrophage polarization: insights from a continuous network approach. *Frontiers in Immunology.* 2023, Vol. 14, Art. No. 1150890.

84. Espinosa, Y., Yanes, V., Rodríguez, R., Otero, J.A., Sánchez, C.F., Camacho, H., **Padilla, P.** and **Sabina, F.J.** Effect of imperfect interface on the effective properties of elastic micropolar multilaminated nanostructures. *Journal of Applied Mathematics and Computational Mechanics.* 2023, Vol. 103, No. 8, Art. No. e202200368, 15 p.

---

[14] Becario Posdoctoral del Departamento de Matemáticas y Mecánica.

[15] Becaria Posdoctoral del Departamento de Probabilidad y Estadística que causó baja el 15 de octubre de 2020.

[16] Becario Posdoctoral del Departamento de Matemáticas y Mecánica.

85. Juárez, G., Ramírez, M.A., Báez, A., Lobato, A., Iglesias, E., **Padilla, P.** and Rodríguez, R. Hopf bifurcation for a fractional van der Pol oscillator and applications to aerodynamics: implications in flutter. *Journal of Engineering Mathematics*. 2023, Vol. 139, No. 1, Art. No. 1(2023).

86. Paz, I., Knights, F., **Padilla, P.** and Tidhar, D. An information-theoretical method for comparing completions of contrapunctus XIV from Bach's Art of Fugue. *Empirical Musicology Review. Published*: 2023-08-10, Vol. 17, No. 1, (2022), p. 2-10.

87. **Panayotaros, P.** and Vargas, R.M. Hamiltonian model for water waves in a triangular domain. Wave Motion. 2023, Vol. 117, Art. No. 103106.

88. **Panayotaros, P.** Stationary solutions of discrete Landau–de Gennes theory: 3×3 Q-tensor case. *Physica D: Nonlinear Phenomena*. 2023, Vol. 449, Art. No. 133751.

89. Martínez, I. and **Peña, J.M.** Analysis optimization and comparison to detect failures in the squirrel-cage rotor using high-level wavelets. *International Journal of Electrical and Electronics Research*. 2023, Vol. 11, No. 4, p. 966-972.

90. Martínez, I. and **Peña, J.M.** Method to detect faults in the rotor squirrel cage with low load in permanent state using DWT. *Journal Industrial Engineering*. 2023, Vol. 7, No. 18, p. 21-33.

91. Molotla, Ó., **Peña, J.M.** and **Lomas, V.M.** Configurable hybrid integral manufacturing platform: subtractive-additive process with industrial robot arm, proof of concept results. *IEEE Latin America Transactions*. 2023, Vo. 21, No. 11, p. 1227-2235.

92. Bandala, D. y **Pérez, J.L.** Estimación del mapa de anisotropía fraccional y difusividad media en materia blanca utilizando *Transformers*. *Research in Computing Science*. 2023, Vol. 152, No. 8, p. 221-228.

93. Sganzerla, G., **Pérez, E.,** Kumar, A., Sarkar, S. De Avila, S. Explainable artificial intelligence as a reliable annotator of archaeal promoter regions. *Scientific Report*. 2023, Vol. 13, No. 1, Art. No. 1763.

94. Costa, M.D.O.C.E., Nascimento, A.P.B.D., Martins, Y., Santos, M.T.D., Figueiredo, A.M.D.S., **Pérez, E.** and Nicolás, M.F. The gene regulatory network of Staphylococcus aureus ST239-SCCmecIII strain Bmb9393 and assessment of genes associated with the biofilm in diverse backgrounds. *Frontiers in Microbiology*. 2023, Vol. 13, Art. No. 1049819.

95. **Pineda, L.A.** and Morales, R. Imagery in the entropic associative memory. *Scientific Reports*. 2023, Vol. 13, No. 1, Art. No. 9553.

96. Aung, T., Hill, A.K., Pfefferle, D., McLester, E., Fuller, J., Lawrence, J.M., García, I., Kendal, R.L., Petersdorf, M., Higham, J.P., Galat, G., Lameira, A.R., Apicella, C.L., Barelli, C., Glenn, M.E., **Ramos, G.** and Puts, D.A. Group size and mating system predict sex differences in vocal fundamental frequency in anthropoid primates. *Nature Communications*. 2023, Vol. 14, No. 1, Art. No. 4069.

97. Falcón, A., Boyer, D., Aldana, M. and **Ramos, G.** Lévy movements and a slowly decaying memory allow efficient collective learning in groups of interacting foragers. *PLoS Computational Biology*. 2023, Vol. 19, No. 10, Art. No. e1011528.

98. Ceja, C., **Rascón, C.A., Garduño, E.,** Carvalho, B.M. and Herman, G.T. Smooth normals with blobs for surfaces from 3D binary images. *Topology Proceedings.* 2023, Vol. 61, p. 239-267.

99. **Rascón, C.A.** Characterization of deep learning-based speech-enhancement techniques in online audio processing applications. *Sensors.* 2023, Vol. 23, No. 9, Art. No. 4394.

100. **Rascón, C.A.** and **Fuentes, G.** Target selection strategies for demucs-based speech enhancement. *Applied Science-Basel.* 2023, Vol. 13, No. 3, Art. No. 7820.

101. Palomares, L.O., Reyes, J.A. and **Reyes, G.**[17] Non-linear optical chiral nematic bandgap. *Liquid Crystals.* 2023, Vol. 5, No. 7-10, p. 1547-1554.

102. **Riva Palacio, A., Mena, R.H.** and Walker, S.G. On the estimation of partially observed continuous-time Markov chains. *Computational Statistics.* 2023, Vol. 38, p. 1357-1389.

103. Munguía, L., **Robles, E.** and **Escalante, J.C.** The management of scientific and technological infrastructures: The case of the Mexican National Laboratories. *Quantitative Science Studies.* 2023, Vol. 4, No. 1, p. 246-261.

104. **Rodríguez, C.** and **Rodríguez, K.** The variance-covariance model as a decision support for chartered financial analysts in portfolio optimization. *Brazilian Journal of Business.* 2023, Vo. 5, No. 1, p. 428-438.

105. Morales, S.L., Badillo, I., **Rodríguez, K.,** Hernández, J. and Rojas, J.A. Análisis de la gestión del tránsito vial mediante el modelo de sistemas viales: caso Ciudad de México. *Científica, Revista Mexicana de Ingeniería Electromecánica y de Sistemas.* 2023, Vol. 27, No.1, p. 1-16.

106. Márquez, E., Barrón, E.V., **Rodríguez, K.,** Savage, J. and Sánchez, A.L. Supervised machine learning methods for seasonal influenza diagnosis. *Diagnostics.* 2023, Vol. 13, No. 21, Art. No. 3352.

107. Poot, A.C., **Rodríguez, K.** and **Pérez, E.** Identifying similarities at metabolic pathways with a strategy of enzymatic step sequences. *MethodsX.* 2023, Vol. 10, Art. No. 102118.

108. **Romero, J.R.,** González, C.A. and Ramírez, G. A multiscale model of the role of microenvironmental factors in cell segregation and heterogeneity in breast cancer development. *PLoS Computational Biology.* 2023, Vol. 19, No. 11, Art. No. e1011673, 29 p.

109. Gallen, A.F., **Romero, J.R.,** Barrio, R.A. and Hernández, A. Vesicle formation induced by thermal fluctuations. *Soft Matter.* 2023, Vol. 19, p. 2908-2918.

110. Ferre, J., Noguera, A., López, A., **Romero, J.R.,** Barrio, R., Castaño, Ó. and Hernández, A. Modelling of chemotactic sprouting endothelial cells through an extracellular matrix. *Frontiers in Bioengineering and Biotechnology.* 2023, Vol. 11, Art. No. 1145550.

111. Castañeda, A. van Ditmarsch, H., **Rosenblueth, D.A.** and Velázquez, D.A. Communication pattern logic: Epistemic and topological views. *Journal of Philosophical Logic.* 2023, Vol. 52, No. 5, p. 1445-1473.

---

[17] Becario Posdoctoral del Departamento de Matemáticas y Mecánica.

112. **Rosenblueth, J.F.** Admissible directions in optimal control under uniqueness assumptions. *WSEAS Transactions on Systems and Control*. 2023, Vol. 18, p. 382-392.

113. **Ruiz, A.A., Ortega, S., López, L.** and Márquez, S. Las referencias bibliográficas en la producción científica como indicador del uso de los acervos de libros y revistas: un estudio de caso. *Ibersid-Revista de Sistemas de Información y Documentación*. 2023, Vol. 17, No. 1, p. 73-80.

114. Ramírez, L. and **Ruiz A.A.** Índice de Continuidad y Contemporaneidad (ICC): medir, visualizar y significar las asimetrías de género en la producción científica sobre el trastorno de la personalidad. *Redes. Revista Hispana para el Análisis de Redes Sociales*. 2023, Vol. 34, No. 2, p. 223-237.

115. Cansino, S., Torres, F., Estrada, C., Flores, A., Ramírez, G. and **Ruiz-Velasco, S.** Nutrient effects on working memory across the adult lifespan. *Nutritional Neuroscience*. 2023, Vol. 26, No. 5, p. 456-469.

116. López, A., Pérez, J.R., García, L.A., Hernández, M.A., Osio, M.J., Mondragón, R., Sánchez, J.J., **Ruiz-Velasco, S.** and Moreno, A.B. Atención plena compasiva para dejar de fumar en México: un ensayo clínico aleatorizado. *Revista Internacional de Investigación en Adicciones*. 2023, Vol. 9, No. 1, p. 28-41.

117. Argatov, I.I. and **Sabina, F.J.** Indentation stiffness tomography of fibrous inhomogeneities — An asymptotic model. *International Journal of Engineering Science*. 2023, Vol. 188, Art. No. 103851.

118. Yanes, V., Espinosa, Y., Rodríguez, R., Sánchez, C.F., **Sabina, F.J.** and Montans, F.J. Effective properties of centro-symmetric micropolar composites with non-uniform imperfect contact conditions. *European Journal of Mechanics -A/Solids*. 2023, Vol. 101, Art. No. 105038.

119. Otero, J.A., Rodríguez, R., Espinosa, Y., **Sabina, F.J.** and Levin, V. Homogenization approaches for the effective characteristics of fractional visco-piezoelastic fibrous composites. *Acta Mechanica*. 2023, Vol. 234, No. 5, p. 2087-2101.

120. Cetina, A.J., **Sánchez, I.,** A. Casillas, A. and Bassam, A. 9E analysis of a flat plate solar collector system implementation: A new approach based on digital twin model coupled with global sensitivity analysis and multi-objective optimization. *Journal Renewable Sustainable Energy*. 2023, Vol. 15, No. Art. 033702.

121. **Sánchez, N.**[18] Deep graph learning in molecular docking: Advances and opportunities. *Artificial Intelligence in the Life Sciences*. 2023, Vol. 3, Art. No. 100062, 4 p.

122. Hernández, C.A. and **Sánchez, N.**[18] Experimental uncertainty in training data for protein-ligand binding affinity prediction models. *Artificial Intelligence in the Life Sciences*. 2023, Vol. 4, Art. No. 100087, 6 p.

123. Charli, L., **Siqueiros, J.M.,** Eakin, H., Navarrete, D.M., Mazari, M., Shelton, R., Pérez, P. and Ruizpalacios, B. Enabling collective agency for sustainability transformations through reframing in the Xochimilco social–ecological system. *Sustainability Science*. 2023, Vol. 18, p. 1215-1233.

124. Hernández, B., Manuel, D., Lerner, A.M. and **Siqueiros, J.M.** Making informal water distribution work: Collective agency and self-organization in informal areas of Xochimilco, Mexico City. *International Journal of the Commons*. 2023, Vol. 17, No. 1, p. 54-68.

[18] Investigador con cambio de adscripción temporal del Instituto de Química, UNAM a la Unidad Académica del IIMAS en el estado de Yucatán.

125. Pérez, F., **Siqueiros, J.M.,** Solorio, F.J. and Galindo, F. Integrating social dynamics in the participatory modeling of small-scale cattle farmers' perceptions and responses to climate variability in the Yucatan Peninsula, Mexico. *Frontiers in Sustainable Food Systems.* 2023, Vol. 7, Art. No. 1321252.

126. González-Casanova, A. Peñaloza, L. and **Siri-Jégousse, A.** Seed bank Cannings graphs: How dormancy smoothes random genetic drift. *ALEA Latin American Journal of Probability and Mathematical Statistics.* 2023, Vol. 20, p. 1165-1186.

127. Alonso, A., Toribio, L., Quirant, A., **Tardío, C.,**[19] De la Fuente, J., Cantón, R., Rocha, E., Ubeda, C., Peña, R. and San Millán, A. Antimicrobial resistance level and conjugation permissiveness shape plasmid distribution in clinical enterobacteria. *Proceedings of the National Academy of Sciences of the United States of America.* 2023, Vol. 120, No. 51, Art. No. e2314135120.

128. **Villaseñor, D.B.,**[20] Pilatowsky, S., Bastarrachea, M.A., Lerma, S., Santos, L.F. and Hirsch, J.G. Chaos and thermalization in the spin-boson Dicke model. *Entropy.* 2023, Vol. 25, No.1, Art. No. 8.

129. Aktosun, T. and **Weder, R.A.** Factorization for the full-line matrix Schrödinger Equation and a unitary transformation to the half-line scattering. *Journal of Mathematical Physics Analysis Geometry.* 2023, Vol. 19, No. 2, p. 251-300.

130. **Weder, R.A.** Answer to M. Ben-Artzi and T. Umeda, Spectral theory of first-order systems: From crystals to Dirac operators, Rev. Math. Phys. 33(5) (2021) 2150014. *Reviews in Mathematical Physics.* 2023, Vol. 35, No. 2, 2350002, Letter, 2 p.

131. **Zhelyazov, D.**[21] Existence of standing and traveling waves in quantum hydrodynamics with viscosity. *Zeitschrift für Analysis und ihre Anwendungen.* 2023, Vol. 42, No. 1, p. 65-89.

---

[19] Becario Posdoctoral de la Unidad Académica del IIMAS en el estado de Yucatán que causó baja el 1 de mayo de 2023.

[20] Becario Posdoctoral del Departamento de Física Matemática.

[21] Becario Posdoctoral del Departamento de Matemáticas y Mecánica que causó baja el 1 de septiembre de 2023.