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Grados Académicos

- Doctorado en Física, especialidad: Física Médica y Materiales Biológicos (2009-2012) por la División de Ciencias e Ingenierías Campus León (DCI). Universidad de Guanajuato.
- Maestría en Administración (2006-2007) por la Universidad de Lasalle Bajío.
- Maestría en Ingeniería Eléctrica, especialidad: Instrumentación y Sistemas Digitales (2006-2007) por la Facultad de Ingeniería Mecánica, Eléctrica y Electrónica (FIMEE). Universidad de Guanajuato.
- Ingeniero Electricista (2001-2005) por la Facultad de Ingeniería Mecánica, Eléctrica y Electrónica (FIMEE). Universidad de Guanajuato.

Línea de Especialización

- Ecuaciones Diferenciales Fraccionarias y sus aplicaciones en el modelado de sistemas dinámicos.
- Biocombustibles.
- Electroquímica.
- Modelado Matemático y Simulación de Sistemas Electromecánicos.
- Aplicaciones del Control de Orden Fraccionario.
- Control de Procesos.
- Espectroscopia de Impedancia Eléctrica y sus Aplicaciones.
- Análisis de Fenómenos Electromagnéticos y Bioelectromagnetismo.
- Diagnóstico de Fallas en Máquinas Eléctricas.
- Investigación y Aplicación de Técnicas Modernas de Procesamiento de Imágenes y Señales.



Aspectos Relevantes

- Profesor-Investigador de Cátedras CONACyT comisionado al Departamento de Ingeniería Electrónica de CENIDET
- Miembro del Sistema Estatal de Investigadores del Estado de Morelos.
- Investigador Nacional Nivel 1 del Sistema Nacional de Investigadores.
- Miembro del Registro CONACyT de Evaluadores Acreditados (RCEA-07-29133-2014) en el Área 7 “Ingeniería e industria”.
- Estancia Postdoctoral (2013-2014) en el departamento de Materiales Solares del Instituto de Energías Renovables (IER) de la Universidad Nacional Autónoma de México (UNAM).
- Operadores en Matemáticas bajo mis Apellidos:

1) Derivada fraccionaria de tipo Atangana-Gómez con Tres-Ordenes de derivación (α, β, γ) en sentido Liouville-Caputo (AGC) y en sentido Riemann-Liouville (AGR).

Publicadas en:

J.F. Gómez-Aguilar, A. Atangana. New insight in fractional differentiation: power, exponential decay and Mittag-Leffler laws and applications. **The European Physical Journal Plus**, 132(1), (2017), 1-22. ISSN: 2190-5444. (JCR Impact Factor: 2.240 “Q2”).
<https://doi.org/10.1140/epjp/i2017-11293-3>

2) Derivada fraccionaria de tipo Atangana-Aguilar con Dos-Ordenes de derivación (α, β) en sentido Liouville-Caputo (AAC) y en sentido Riemann-Liouville (AAR).

Publicadas en:

A. Atangana, J.F. Gómez-Aguilar. Hyperchaotic behaviour obtained via a nonlocal operator with exponential decay and Mittag-Leffler laws. **Chaos, Solitons & Fractals**, 102, (2017), 285-294. ISSN: 0960-0779. (JCR Impact Factor: 2.213 “Q1”).
<https://doi.org/10.1016/j.chaos.2017.03.022>

3) Derivada fraccionaria de tipo Gómez-Atangana con Dos-Ordenes de derivación (α, β) en sentido Liouville-Caputo (GAC) y en sentido Riemann-Liouville (GAR).

Publicadas en:

J.F. Gómez-Aguilar, A. Atangana. Power and exponentials laws: Theory and application. **Journal of Computational and Applied Mathematics**. 354, (2019), 52-65. ISSN: 0377-0427. (JCR Impact Factor: 1.357 “Q1”).
<https://doi.org/10.1016/j.cam.2019.01.003>

4) Derivada fraccionaria de tipo Atangana-Gómez-Promediada en sentido Liouville-Caputo (AGAC) y en sentido Riemann-Liouville (AGAR).

Publicada en:



A. Atangana, J.F. Gómez-Aguilar. A new derivative with normal distribution kernel: Theory, methods and applications. **Physica A: Statistical mechanics and its applications**, 476, (2017), 1-14. ISSN: 0378-4371. (JCR Impact Factor: 2.243 “Q1”).
<https://doi.org/10.1016/j.physa.2017.02.016>

- Citas

Citas desde el 2013 (Fuente Google Académico y SCOPUS)	Índice h	Índice i10h
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ResearchGate.

https://www.researchgate.net/profile/Jf_Gomez-Aguilar

Google Académico.

https://scholar.google.com.mx/citations?hl=es&user=WjFY9UwAAAAJ&view_op=list_works&sortby=pubdate

Publicaciones

2019.

1. **A. Coronel-Escamilla, J.F. Gómez-Aguilar.** A novel predictor-corrector scheme for solving variable order fractional delay differential equations involving operators with Mittag-Leffler kernel. **Discrete and continuos dynamical system series S**, (2019). ISSN: 1937-1632. 0045-7906. (JCR Impact Factor: 0.561 “Q4”).
2. **V.F. Morales-Delgado, J.F. Gómez-Aguilar**, M.A. Taneco-Hernández. Mathematical modeling approach to the fractional Bergman's model. **Discrete and continuos dynamical system series S**, (2019). ISSN: 1937-1632. (JCR Impact Factor: 0.561 “Q4”).
3. **J.F. Gómez-Aguilar**, Abdon Atangana. Time fractional variable order telegraph equation involving operators with Mittag-Leffler kernel. **Journal of electromagnetic waves and applications**. Volume 30, Issue. 15, pp. 1937–1952, (2019). ISSN: 0920-5071. (JCR Impact Factor: 0.864 “Q4”).
4. Ebenezer Bonyah, M.A. Khan, K.O. Okosun, **J.F. Gómez-Aguilar**. Modelling the effects of heavy alcohol consumption on the transmission dynamics of gonorrhea with optimal control. **Mathematical Biosciences**. Volume 346, January 2019. pp. 247-260, (2019). ISSN: 0025-5564. (JCR Impact Factor: 1.5 “Q3”).
5. Ebenezer Bonyah, Amma Achiaa, **J.F. Gómez-Aguilar**, M.A. Khan. A mathematical model on prostitution and drug (alcohol) misuse: the menacing combination with exponential law optimal control. **Mathematical Biosciences**. Volume 346, January 2019. pp. 247-260, (2019). ISSN: 0025-5564. (JCR Impact Factor: 1.5 “Q3”).
6. H. Yépez-Martínez, **J.F. Gómez-Aguilar**. A new modified definition of Caputo-Fabrizio fractional-order derivative and their applications to the multistep homotopy analysis method (MHAM). **Journal**



of computational and applied mathematics. Volume 346, January 2019. pp. 247-260, (2019). ISSN: 0377-0427. (JCR Impact Factor: 1.357 "Q1").

7. H. Yépez-Martínez, **J.F. Gómez-Aguilar**. M-derivative of order χ applied to the soliton solutions for the Lakshmanan-Porsezian-Daniel equation with dual-dispersion for optical fibers. **Optical and quantum electronics**, (2019). ISSN: 0306-8919 (print) 1572-817X (online). (JCR Impact Factor: 1.168 "Q3").
8. **C.J. Zúñiga-Aguilar, J.F. Gómez-Aguilar**, R.F. Escobar-Jiménez, H.M. Romero-Ugalde. A novel method to solve variable-order fractional delay differential equations based in Lagrange interpolations. **Chaos, solitons & fractals**. ISSN: 0960-0779. (JCR Impact Factor: 2.213 "Q1").
9. **P. Vázquez-Guerrero, J.F. Gómez-Aguilar**, F. Santamaría, R.F. Escobar-Jiménez. Synchronization of chimera states in neurons coupled with fractional dynamics. **Physica A: statistical mechanics and its applications**, (2019). ISSN: 0378-4371. (JCR Impact Factor: 2.243 "Q1").
10. **O.J. Ramos-Negrón, J.H. Arellano-Pérez**, R.F. Escobar-Jiménez, **J.F. Gómez-Aguilar**, D. Granados-Lieberman. Electrochemical noise analysis to identify the corrosion type using the Stockwell transform and the Shannon energy. **Journal of electroanalytical chemistry**. No. 836, pp. 50–61, (2019). ISSN: 1572-6657. (JCR Impact Factor: 3.235 "Q1").
11. **J.F. Gómez-Aguilar**, Abdon Atangana. Power and exponential laws: theory and applications. **Journal of computational and applied mathematics**. No. 346, January 2019. pp. 247-260, (2019). ISSN: 0377-0427. (JCR Impact Factor: 1.357 "Q1").
12. Ebenezer Bonyah, M.A. Khan, K.O. Okosun, **J.F. Gómez-Aguilar**. On the co-infection of dengue fever and zika virus. **Optimal control applications & methods**. No. 346, January 2019. pp. 247-260, (2019). ISSN: 1099-1514. (JCR Impact Factor: 1.614 "Q3").
13. Thabet Abdeljawad, Abdon Atangana, **J.F. Gómez-Aguilar**, Fahd Jarad. On a more general fractional integration by parts formulae and applications. **Physica A: statistical mechanics and its applications**, (2019). ISSN: 0378-4371. (JCR Impact Factor: 2.243 "Q1").
14. **V.F. Morales-Delgado, J.F. Gómez-Aguilar**, M.A. Taneco-Hernández. Solution of the time fractional diffusion and fractional convection-diffusion equation. **Revista Mexicana de Física**. No. 62, Enero 2019. pp. 21-28, (2019). ISSN: 0035-001X. (JCR Impact Factor: 0.406 "Q4").
15. **V.F. Morales-Delgado, J.F. Gómez-Aguilar**, K.M. Saad, R.F. Escobar-Jiménez. Application of the Caputo-Fabrizio and Atangana-Baleanu fractional derivatives to mathematical model of cancer chemotherapy effect. **Mathematical methods in the applied sciences**, (2019). ISSN: 1099-1476. (JCR Impact Factor: 1.08 "Q2").
16. K.M. Saad, M.M. Khader, **J.F. Gómez-Aguilar**, Dumitru Baleanu. Numerical solutions of the fractional Fisher's type equations with Atangana-Baleanu fractional derivative by using spectral collocation methods. **Chaos: an interdisciplinary journal of nonlinear science**, (2019). ISSN: 1054-1500, eISSN: 1089-7682. (JCR Impact Factor: 2.283 "Q1").



17. Behzad Ghanbari, **J.F. Gómez-Aguilar**. A new approach to the conformable time Ginzburg-Landau equation with Kerr law nonlinearity. **Revista mexicana de Física**. No. 62, Enero 2019. pp. 1-14, (2019). ISSN: 0035-001X. (**JCR Impact Factor: 0.406 “Q4”**).
18. **J.E. Solís-Pérez, J.F. Gómez-Aguilar**, L. Torres, R.F. Escobar-Jiménez, J. Reyes-Reyes. Fitting of experimental data using a fractional Kalman-like observer. **ISA Transactions**, (2019). ISSN: 0019-0578. (**JCR Impact Factor: 3.394 “Q1”**).
19. H. Yépez-Martínez, **J.F. Gómez-Aguilar**. M-derivative applied to the dispersive optical solitons for the Schrodinger-Hirota equation. **European physical journal plus**. No. 132, pp. 1-15, (2019). ISSN: 2190-5444. (**JCR Impact Factor: 2.240 “Q2”**).
20. M.A. Taneco-Hernández, **V.F. Morales-Delgado, J.F. Gómez-Aguilar**. Fundamental solutions of the fractional Fresnel equation in the real half-line. **Physica A: statistical mechanics and its applications**, (2019). ISSN: 0378-4371. (**JCR Impact Factor: 2.243 “Q1”**).
21. Hasib Khan, **J.F. Gómez-Aguilar**, Aziz Khan, Tahir Saeed Khan. Stability analysis for fractional order advection-reaction-diffusion system. **Physica A: statistical mechanics and its applications**, (2019). ISSN: 0378-4371. (**JCR Impact Factor: 2.243 “Q1”**).
22. **J.I. Hidalgo-Reyes, J.F. Gómez-Aguilar**, R.F. Escobar-Jiménez, V.M Alvarado-Martínez, M.G. López-López. Classical and fractional-order modelling of equivalent circuits for supercapacitors, batteries and PEM fuel cells, state of charge estimation and energy management strategies: A review. **Microelectronics journal**, (2019). ISSN: 0026-2692. (**JCR Impact Factor: 1.290 “Q3”**).
23. K.A. Abro, **J.F. Gómez-Aguilar**. A comparison of heat and mass transfer on Walter's B fluid via Caputo-Fabrizio versus Atangana-Baleanu fractional derivatives using Fox-H function. **European physical journal plus**, (2019). ISSN: 2190-5444. (**JCR Impact Factor: 2.240 “Q2”**).
24. **V.F. Morales-Delgado, J.F. Gómez-Aguilar**, Khaled M. Saad, Muhammad Altaf Khan, P. Agarwal. Analytic solution for oxygen diffusion from capillary to tissues involving external force effects: a fractional calculus approach. **Physica A: statistical mechanics and its applications**, (2019). ISSN: 0378-4371. (**JCR Impact Factor: 2.243 “Q1”**).
25. **J.F. Gómez-Aguilar**, Kashif Ali Abro, Olusola Kolebaje, Ahmet Yildirim. Chaos in a calcium oscillation model via Atangana-Baleanu operator with strong memory. **European physical journal plus**, (2019). ISSN: 2190-5444. (**JCR Impact Factor: 2.240 “Q2”**).
26. H. Yépez-Martínez, **J.F. Gómez-Aguilar**. β -conformable fractional order derivative and sub-equation method applied to the optical solitons to the resonance nonlinear Schrödinger equation. **Waves in random and complex media**, (2019). ISSN: 1745-5030, eISSN:1745-5049. (**JCR Impact Factor: 2.540 “Q1”**).
27. K.A. Abro, Ilyas Khan, **J.F. Gómez-Aguilar**. Thermal effects of MHD micropolar fluid embedded in porous medium with Fourier sine transform technique. **Journal of the Brazilian society of**



- mechanical sciences and engineering**, (2019). ISSN: 1678-5878 (print), 1806-3691 (online). (**JCR Impact Factor: 1.627 “Q2”**).
28. Behzad Ghanbari, **J.F. Gómez-Aguilar**. Optical soliton solutions for perturbed Radhakrishnan-Kundu-Lakshmanan equation with β -conformable time derivative using two integration schemes. **Revista mexicana de Física**, (2019). ISSN: 0035-001X. (**JCR Impact Factor: 0.406 “Q4”**).
29. Saif Ullah, Muhammad Altaf Khan, **J.F. Gómez-Aguilar**. Mathematical formulation of hepatitis B virus with optimal control analysis. **Optimal control applications & methods**, (2019). ISSN: 1099-1514. (**JCR Impact Factor: 1.614 “Q3”**).
30. M.A. Taneco-Hernández, V.F. Morales-Delgado, **J.F. Gómez-Aguilar**. Fractional Kuramoto-Sivashinsky equation with power law and stretched Mittag-Leffler kernel. **Physica A: statistical mechanics and its applications**, (2019). ISSN: 0378-4371. (**JCR Impact Factor: 2.243 “Q1”**).
31. Aziz Khan, **J.F. Gómez-Aguilar**, Tahir Saeed Khan, Hasib Khan. Stability analysis and numerical solutions of fractional order HIV/AIDS model. **Chaos, solitons & fractals**. ISSN: 0960-0779. (**JCR Impact Factor: 2.213 “Q1”**).
32. Ndolane Sene, **J.F. Gómez-Aguilar**. Analytical solutions of electrical circuits considering certain generalized fractional derivatives. **European physical journal plus**. No. 132, pp. 1-15, (2019). ISSN: 2190-5444. (**JCR Impact Factor: 2.240 “Q2”**).
33. **J.I. Hidalgo-Reyes, J.F. Gómez-Aguilar**, R.F. Escobar-Jiménez, V.M Alvarado-Martínez, M.G. López-López. Determination of supercapacitor parameters based on fractional differential equations. **International journal of circuit theory and applications**. ISSN: 1097-007X. (**JCR Impact Factor: 1.571 “Q3”**).
34. Salah Abuasad, Ahmet Yildirim, Ishak Hashim, Samsul Abdul Karim, **J.F. Gómez-Aguilar**. Fractional multi-step deferential transformed method for approximate a fractional stochastic SIS epidemic model with imperfect vaccination. **International journal of environmental research and public health**. ISSN: 1660-4601; ISSN: 1661-7827 for printed edition. (**JCR impact factor: 2.145 “Q2”**).
35. Hasib Khan, **J.F. Gómez-Aguilar**, Abdulwasea Alkhazzan, Aziz Khan. A fractional order HIV-TB co-infection model with non-singular Mittag-Leffler law. **Mathematical methods in the applied sciences**. ISSN: 1099-1476. (**JCR impact factor: 1.08 “Q2”**).
36. M.A. Khan, Syed Wasim Shah, Saif Ullah, **J.F. Gómez-Aguilar**. A dynamical model of asymptomatic carrier Zika virus with optimal control strategies. **Nonlinear analysis: Real world applications**. ISSN: 1468-1218. (**JCR impact factor: 2.012 “Q1”**).
37. Khaled M. Saad, Abdon Atangana, H.M. Srivastava, **J.F. Gómez-Aguilar**. Chemical clock reactions: fractional quadratic autocatalysis with linear inhibition. **Chaos, solitons & fractals**. ISSN: 0960-0779. (**JCR Impact Factor: 2.213 “Q1”**).



38. K.A. Abro, Ilyas Khan, **J.F. Gómez-Aguilar**. Heat transfer in magnetohydrodynamic free convection flow of generalized ferrofluid with magnetite nanoparticles: a comparative analysis of Atangana-Baleanu and Caputo-Fabrizio fractional derivatives. **Journal of thermal analysis and calorimetry**. ISSN: 1388-6150 (PRINT) 1588-2926 (ONLINE). (**JCR** impact factor: 2.209 “Q1”).
39. **J.F. Gómez-Aguilar**, K.M. Saad, D. Baleanu. Fractional dynamics of an erbium-doped fiber laser model. **Optical and quantum electronics**. ISSN: 0306-8919 (print) 1572-817x (online). (**JCR** Impact Factor: 1.168 “Q3”).
40. Abdelilah Kamal H. Sedeeg, R.I. Nuruddeen, **J.F. Gómez-Aguilar**. Generalized optical soliton solutions to the (3+1)-dimensional resonant nonlinear Schrödinger equation with Kerr and parabolic law nonlinearities. **Optical and quantum electronics**. ISSN: 0306-8919 (print) 1572-817x (online). (**JCR** Impact Factor: 1.168 “Q3”).
41. Behzad Ghanbari, **J.F. Gómez-Aguilar**. New exact optical soliton solutions for nonlinear Schrödinger equation with second order spatio-temporal dispersion involving M-derivative. **Modern physics letters B**. ISSN: 0217-9849 (print), 1793-6640 (electronic). (**JCR** impact factor: 0.731 “Q4”).
42. **J.F. Gómez-Aguilar**. Fractional Meissner-Ochsenfeld effect in Superconductors. **Modern physics letters B**. ISSN: 0217-9849 (print), 1793-6640 (electronic). (**JCR** impact factor: 0.731 “Q4”).

DISTRIBUCIÓN – CUARTILES – ARTICULOS 2019 (Fuente SCOPUS)			
Q1	Q2	Q3	Q4
17	8	9	8

2018.

1. Ebenezer Bonyah, **J.F. Gómez-Aguilar**, Augustina Adu. Stability analysis and optimal control of a fractional order model for trypanosomiasis. **Chaos, solitons & fractals**. No. 103, pp. 382-403, (2018). ISSN: 0960-0779. (**JCR** Impact Factor: 2.213 “Q1”).
2. **A. Coronel-Escamilla, J.F. Gómez-Aguilar**, L. Torres, R.F. Escobar-Jiménez, V.H. Olivares-Peregrino. Fractional observer to estimate periodical forces. **ISA transactions**, (2018). ISSN: 0019-0578. (**JCR** Impact Factor: 3.394 “Q1”).
3. **J.E. Solís-Pérez, J.F. Gómez-Aguilar**, D. Baleanu, Fairouz Tchier. Chaotic attractors with fractional conformable derivatives in the Liouville-Caputo sense and its dynamical behaviors. **Entropy**. Número 19(12), pp. 1-19, (2018). ISSN: 1099-4300. (**JCR** Impact Factor: 1.821 “Q2”).
4. **J.E. Solís-Pérez, J.F. Gómez-Aguilar**, Abdon Atangana. Novel numerical method for solving variable-order fractional differential equations with power, exponential and Mittag-Leffler laws. **Chaos, solitons & fractals**. Volumen 103, pp. 382-403, (2018). ISSN: 0960-0779. (**JCR** Impact Factor: 2.213 “Q1”).



5. M. González-Lee, H. Vázquez-Leal, **J.F. Gómez-Aguilar**, L.J. Morales-Mendoza, V.M. Jiménez-Fernández, J.R. Laguna-Camacho, C. Calderón-Ramón. Exploring the cross-correlation watermarking systems and its reformulation into the fractional calculus framework. **IEEE Access**, (2018). ISSN: 2169-3536. (**JCR Impact Factor: 3.557 “Q1”**).
6. **M. Cervantes-Bobadilla**, R.F. Escobar-Jiménez, **J.F. Gómez-Aguilar**, J. García-Morales, V.H. Olivares-Peregrino. Experimental study on the performance of controllers for the hydrogen gas production demanded by an internal combustion engine. **Energies**. No. 103, pp. 382-403, (2018). ISSN: 1996-1073. (**JCR Impact Factor: 2.676 “Q2”**).
7. **V.F. Morales-Delgado**, **J.F. Gómez-Aguilar**, R.F. Escobar-Jiménez, M.A. Taneco-Hernández. Fractional operator without singular kernel: applications to linear electrical circuits. **International journal of circuit theory and applications**. No. 45, Abril 2017, pp. 1-20, (2017). ISSN: 1097-007X. (**JCR Impact Factor: 1.571 “Q3”**).
8. Teodoro Córdova-Fraga, Dulce María Magdaleno, **José Francisco Gómez**, Blanca Murillo-Ortiz, Modesto Sosa, Dumitru Baleanu, Rafael Guzmán-Cabrera. Magnetic stimulation on human blood: electromotive force analysis. **Revista de Chimie**. vo. 67, no. 6, pp. 1140-1143, (2018). (**JCR Impact Factor: 1.412 “Q2”**).
9. A. Atangana, **J.F. Gómez-Aguilar**. Fractional derivatives with no-index law property: application to chaos and statistics. **Chaos, solitons & fractals**. No. 114, pp. 516-535, (2018). ISSN: 0960-0779. (**JCR Impact Factor: 2.213 “Q1”**).
10. **L.F. Avalos-Pérez**, **C.J. Zúñiga-Aguilar**, **J.F. Gómez-Aguilar**, R.F. Escobar-Jiménez, H.M. Romero-Ugalde. FPGA implementation and control of chaotic systems involving the variable-order fractional operator with Mittag-Leffler law. **Chaos, solitons & fractals**. No. 103, pp. 382-403, ISSN: 0960-0779. (**JCR Impact Factor: 2.213 “Q1”**).
11. **B. Cuahutenango-Barro**, M.A. Taneco-Hernández, **J.F. Gómez-Aguilar**. On the solutions of fractional-time wave equation with memory effect involving operators with regular kernel. **Chaos, solitons & fractals**. No. 103, pp. 382-403, (2018). ISSN: 0960-0779. (**JCR Impact Factor: 2.213 “Q1”**).
12. Behzad Ghanbari, **J.F. Gómez-Aguilar**. Modeling the dynamics of nutrient-phytoplankton-zooplankton system with variable-order fractional derivatives. **Chaos, solitons & fractals**. No 103, pp. 382-403, (2018). ISSN: 0960-0779. (**JCR Impact Factor: 2.213 “Q1”**).
13. **M. Alegría-Zamudio**, R.F. Escobar-Jiménez, **J.F. Gómez-Aguilar**. Fault tolerant system based on fractional order observers: application in a heat exchanger. **ISA transactions**. No. 80, September 2018. pp. 286-296, (2018). ISSN: 0019-0578. (**JCR Impact Factor: 3.394 “Q1”**).
14. H. Yépez-Martínez, **J.F. Gómez-Aguilar**. Local M-derivative of order α and sub-equation method applied to the longitudinal wave equation in a magneto electro-elastic circular rod. **Optical and quantum electronics**. ISSN: 0306-8919 (print) 1572-817x (online). (**JCR Impact Factor: 1.168 “Q3”**).



15. K.M. Saad, **J.F. Gómez-Aguilar**. Coupled reaction-diffusion waves in a chemical system via fractional derivatives in Liouville-Caputo sense. **Revista Mexicana de Física**. No. 62, Marzo-Abril 2016. pp. 144-154, (2016). ISSN: 0035-001X. (JCR Impact Factor: 0.406 “Q4”).
16. K.A. Abro, Ilyas Khan, **J.F. Gómez-Aguilar**. A mathematical analysis of circular pipe in rate type fluid via Hankel transform. **European physical journal plus**. No. 132, pp. 1-15, (2017). ISSN: 2190-5444. (JCR Impact Factor: 2.240 “Q2”).
17. **V.F. Morales-Delgado, J.F. Gómez-Aguilar**, R.F. Escobar-Jiménez. Fractional conformable attractors with low fractality. **Mathematical methods in the applied sciences**, (2018). ISSN: 1099-1476. (JCR Impact Factor: 1.08 “Q2”).
18. Kolade M. Owolabi, **J.F. Gómez-Aguilar**. Numerical simulations of multilingual competition dynamics with nonlocal derivative. **Chaos, solitons & fractals**. No. 103, pp. 382-403, (2018). ISSN: 0960-0779. (JCR Impact Factor: 2.213 “Q1”).
19. José R. Razo-Hernández, Martín Valtierra-Rodríguez, Juan P. Amezcua-Sánchez, David Granados-Lieberman, **J.F. Gómez-Aguilar**, José de J. Rangel-Magdaleno. Homogeneity-PMU-based method for detection and classification of power quality disturbances. **Electronics**. No. 7(12), December 2018. pp. 1-13, (2018). ISSN: 2079-9292. (JCR Impact Factor: 2.110 “Q2”).
20. **A. Coronel-Escamilla, J.F. Gómez-Aguilar**, L. Torres, R.F. Escobar-Jiménez. A numerical solution for a variable-order reaction-diffusion model by using fractional derivatives with non-local and non-singular kernel. **Physica A: statistical mechanics and its applications**. Vol. 491, pp. 406-424, (2018). ISSN: 0378-4371. (JCR Impact Factor: 2.243 “Q1”).
21. H. Yépez-Martínez, **J.F. Gómez-Aguilar**, D. Baleanu. Beta-derivative and sub-equation method applied to the optical solitons in medium with parabolic law nonlinearity and higher order dispersion. **Optik – International journal for light and electron optics**. No. 155, pp. 357-365, (2018). ISSN: 0030-4026. (JCR Impact Factor: 1.191 “Q3”).
22. **J.F. Gómez-Aguilar**. Analytical and numerical solutions of a nonlinear alcoholism model via variable-order fractional differential equations. **Physica A: statistical mechanics and its applications**. Vol. 494. pp. 52-75, (2018). ISSN: 0378-4371. (JCR Impact Factor: 2.243 “Q1”).
23. J.E. Escalante-Martínez, **J.F. Gómez-Aguilar**, C. Calderón-Ramón, A. Aguilar-Meléndez, P. Padilla-Longoria. A mathematical model of circadian rhythms synchronization using fractional differential equations system of coupled Van der Pol oscillators. **International journal of biomathematics**. No. 22, pp. 1-22, (2018). ISSN: 1793-5245. (JCR Impact Factor: 1.05 “Q4”).
24. **C.J. Zúñiga-Aguilar, J.F. Gómez-Aguilar**, R.F. Escobar-Jiménez, H.M. Romero-Ugalde. Robust control for fractional variable-order chaotic systems with non-singular kernel. **European physical journal plus**. Vol. 133, No. 13, pp. 1-13, (2018). ISSN: 2190-5444. (JCR Impact Factor: 2.240 “Q2”).



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46. **V.F. Morales-Delgado, J.F. Gómez-Aguilar**, M.A. Taneco-Hernández, R.F. Escobar-Jiménez, V.H. Olivares-Peregrino. Mathematical modelling of the smoking dynamics using fractional differential equations with local and non-local kernel. **Journal of nonlinear science and applications**, (2018). ISSN: 2008-1898. (**JCR Impact Factor: 1.340 “Q2”**).
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DISTRIBUCIÓN – CUARTILES – ARTICULOS 2018 (Fuente SCOPUS)			
Q1	Q2	Q3	Q4
17	16	6	8

2017.

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9. **D.A. Carbot-Rojas**, R.F. Escobar-Jiménez, **J.F. Gómez-Aguilar**, A.C. Téllez-Anguiano. A survey on modeling, biofuels, control and supervision systems applied in internal combustion engines. **Renewable & sustainable energy reviews**. Vol. 73, pp. 1070-1085, (2017). ISSN: 1364-0321. (**JCR** Impact Factor: 8.05 “Q1”).
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23. **J.F. Gómez-Aguilar**, A. Atangana, V.F. Morales-Delgado. Electrical circuits RC, LC and RL described by Atangana-Baleanu fractional derivatives. **International journal of circuit theory and applications**. No. 45, pp. 1-20, (2017). ISSN: 1097-007x. (JCR Impact Factor: 1.571 “Q3”).
24. **B. Cuahutenango-Barro**, M.A. Taneco-Hernández, **J.F. Gómez-Aguilar**. Application of fractional derivative with exponential law to bi-fractional-order wave equation with frictional memory kernel. **European physical journal plus**. Vol. 132, No. 100, pp. 1-15, (2017). ISSN: 2190-5444. (JCR Impact Factor: 2.240 “Q2”).



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28. **A. Coronel-Escamilla, F. Torres, J.F. Gómez-Aguilar**, R.F. Escobar-Jiménez, G.V. Guerrero-Ramírez. On the trajectory tracking for a Scara robot manipulator in fractional model driven by induction motors with PSO tuning. **Multibody system dynamics**. No. 1, pp. 1-21, (2017). ISSN: 1573-272x, 1384-5640. (**JCR Impact Factor**: 2.286 "Q1").
29. **J.F. Gómez-Aguilar**. Chaos in a nonlinear Bloch system with Atangana-Baleanu fractional derivatives. **Numerical methods for partial differential equations**. No. 1, pp. 1-23, (2017). ISSN: 1098-2426. (**JCR Impact Factor**: 1.079 "Q2").

DISTRIBUCIÓN – CUARTILES – ARTICULOS 2017 (Fuente SCOPUS)			
Q1	Q2	Q3	Q4
11	11	3	4

2016.

1. **J.F. Gómez-Aguilar**, M. Miranda-Hernández, V. Alvarado-Martínez, M.G. López-López, Dumitru Baleanu. Modeling and simulation of the fractional space-time diffusion equation. **Communications in nonlinear science and numerical simulation**. Volumen 30 (1-3), pp. 115-127, (2016). (**JCR Impact Factor**: 2.866 "Q1").
2. **J.F. Gómez-Aguilar**, M.G. López-López, V.M. Alvarado-Martínez, J. Reyes-Reyes, M. Adam-Medina. Modelling diffusive transport with a fractional derivative without singular kernel. **Physica A: statistical mechanics and its applications**. Volumen 447, pp. 467-481, (2016). (**JCR Impact Factor**: 2.243 "Q1").
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8. **José Francisco Gómez-Aguilar**. Behavior characteristic of a cap-resistor, memcapacitor and a memristor from the response obtained of RC and RL electrical circuits described by fractional differential equations. **Turkish journal of electrical engineering & computer sciences**. Número 24, Marzo 2016, pp. 1421-1433, (2016). (JCR Impact Factor: 0.518 “Q4”).
9. **J.F. Gómez Aguilar**, J.R. Razo Hernández, R.F. Escobar Jiménez, C.M. Astorga Zaragoza, V.H. Olivares Peregrino, T. Córdova Fraga. Fractional electromagnetic waves in a plasma. **Proceedings of the romanian academy, series A**. Volumen 17(1), Enero-Marzo 2016, pp. 31-38, (2016). (JCR Impact Factor: 1.735 “Q2”).
10. Martin Valtierra-Rodríguez, David Granados-Lieberman, José E. Torres-Fernández, Juan R. Rodríguez-Rodríguez, **José F. Gómez-Aguilar**. An automatic system for tracking and instantaneous characterization of voltage variations. **IEEE transactions on instrumentation and measurement**. Número 65 (7), pp. 1596-1604, (2016). (JCR Impact Factor: 1.808 “Q2”).
11. J.E. Escalante-Martínez, **J.F. Gómez-Aguilar**, C. Calderón-Ramón, L.J. Morales-Mendoza, I. Cruz-Orduña, J.R. Laguna-Camacho. Experimental evaluation of viscous damping coefficient in the fractional underdamped oscilator. **Advances in mechanical engineering**. Volumen 8(4), pp. 1–12, (2016). (JCR Impact Factor: 0.640 “Q4”).
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15. **A. Coronel-Escamilla, J.F. Gómez-Aguilar**, M.G. López-López, V.M. Alvarado-Martínez, G.V. Guerrero-Ramírez. Triple pendulum model involving fractional derivatives with different kernels. **Chaos, solitons & fractals**. Volumen 91, pp. 248-261, (2016). (**JCR** Impact Factor: 2.213 "Q1").
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Q1	Q2	Q3	Q4
6	4	6	14



2015.

1. **J.F. Gómez**, L.J. Morales, M. González, V.M. Alvarado, M.G. López. Fractional thermal diffusion and the heat equation. **Open physics**. Volumen 13 (1), pp. 170–176, (2015). (**JCR** Impact Factor: 1.085 “Q3”).
2. **J.F. Gómez-Aguilar**, H. Yépez-Martínez, R.F. Escobar-Jiménez, C.M. Astorga-Zaragoza, L.J. Morales-Mendoza, M. González-Lee. Universal character of the fractional space-time electromagnetic waves in dielectric media. **Journal of electromagnetic waves and applications**. Volumen 29 (6), pp. 727–740, (2015). (**JCR** Impact Factor: 0.864 “Q4”).
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Q1	Q2	Q3	Q4
0	2	2	3

2014.

1. **J.F. Gómez-Aguilar**, R. Razo-Hernández, D. Granados-Lieberman. A physical interpretation of fractional calculus in observables terms. Analysis of the fractional time constant and the transitory



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(Fuente SCOPUS)

Q1	Q2	Q3	Q4
0	1	3	1

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Q1	Q2	Q3	Q4
0	0	2	0

2012.

1. **J.F. Gómez-Aguilar**, J.J. Rosales-García, J.J. Bernal-Alvarado, T. Córdova-Fraga, R. Guzmán-Cabrera. Fractional mechanical oscillators. **Revista mexicana de Física.** Número 58, Agosto 2012. pp. 524-537, (2012).



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Q1	Q2	Q3	Q4
0	0	0	1

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Sistema y método para medir la velocidad de corrosión en metales. FOLIO: MX/E/2017/008639.

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2015. 1 Foro de Ingeniería Mecánica, Eléctrica e Industrial (FIMEI). 26-30 de Octubre en Poza Rica Veracruz México. Introducción al cálculo fraccionario. 26-30 de Octubre de 2015.

Dirección/Co-Dirección de Tesis – Doctorado

	Titulo	Nombre del Estudiante	Institución		Fecha de Graduación
1	Modelado y control de sistemas dinámicos usando calculo fraccionario	Antonio Coronel Escamilla	Tecnológico Nacional de México/CENIDET	Asesor	Graduado 17 de Diciembre de 2018



			Doctorado en ciencias en Ingeniería Electrónica		
2	Desarrollo y control de una fuente de energía Híbrida compuesto de un sistema de celdas de combustible tipo PEM	Jorge Iván Hidalgo Reyes	Tecnológico Nacional de México/CENIDET Doctorado en ciencias en Ingeniería Electrónica	Asesor	En proceso
3	Identificación de sistemas y control usando redes neuronales de orden fraccionario	Carlos Jesús Zúñiga Aguilar	Tecnológico Nacional de México/CENIDET Doctorado en ciencias en Ingeniería Electrónica	Asesor	En proceso
4	Cálculo fraccionario aplicado en procesamiento de imágenes y señales	Jesús Emmanuel Solís Pérez	Tecnológico Nacional de México/CENIDET Doctorado en ciencias en Ingeniería Electrónica	Asesor	En proceso
5	Calculo fraccionario y su aplicación en el modelado y control de sistemas cerrados usados en la estimulación profunda del cerebro	Patricia Vázquez Guerrero	Tecnológico Nacional de México/CENIDET Doctorado en ciencias en Ingeniería Electrónica	Asesor	En proceso
6	Modelado y control de orden arbitrario enfocado a un sistema termodinámico con cambio de fase	Montserrat Alegría Zamudio	Tecnológico Nacional de México/CENIDET Doctorado en ciencias en Ingeniería Electrónica	Coasesor	En proceso
7	Diseño y dimensionamiento de una fuente de energía híbrida: celda de combustible – ultracapacitor – batería para aplicaciones móviles y estacionarias	Ian Llunas Correa Escudero	Tecnológico Nacional de México/CENIDET Doctorado en ciencias en Ingeniería Electrónica	Asesor	En proceso

Dirección/Co-Dirección de Tesis – Maestría

	Titulo	Nombre del Estudiante	Institución		Fecha de Graduación



1	Optimización de la planeación de la red eléctrica de transmisión utilizando algoritmos genéticos	Ernesto Villalobos Castro	Tecnológico Nacional de México/ITESI Maestría en Ingeniería Eléctrica	Coasesor	Graduado 26 de Febrero de 2016
2	Identificación de modelos Wiener-Hammerstein utilizando cálculo fraccionario	Patricia Vázquez Guerrero	Tecnológico Nacional de México/CENIDET Maestría en ciencias en ingeniería electrónica	Coasesor	Graduado 1 de Julio de 2016
3	Análisis dinámico de un sistema de regeneradores de energía para establecer acciones de control, enfoque basado en calculo fraccionario	Ivonne Elizabeth Guerrero Ozuna	Tecnológico Nacional de México/CENIDET Maestría en ciencias en ingeniería electrónica	Asesor	Graduado 1 de Agosto de 2016
4	Diseño de un observador de Luenberger de orden fraccionario	Mario Alberto Hernández Soriano	Tecnológico Nacional de México/CENIDET Maestría en ciencias en ingeniería electrónica	Asesor	Graduado 21 de Diciembre de 2016
5	Esquema tolerante a fallas basado en observadores de orden fraccionario aplicado a sensores de temperatura en un intercambiador de calor	Josué Oswaldo Ortiz García	Tecnológico Nacional de México/CENIDET Maestría en ciencias en ingeniería electrónica	Coasesor	Graduado 1 de Diciembre de 2017
6	Fricción fraccional en ecuaciones de onda no lineales con efecto de memoria	Bricio Cuahutenango Barro	Facultad de Matemáticas Universidad Autónoma de Guerrero Maestría en Matemáticas	Coasesor	Graduado 14 de Julio de 2017
7	Control de orden fraccionario tolerante a fallas aplicado a un sistema de tanques acoplados	Jairo Filemón Rueda de León Reyes	Tecnológico Nacional de México/CENIDET Maestría en ciencias en ingeniería electrónica	Asesor	Graduado 9 de Abril de 2019
8	Detección de fallas en celdas de combustible basado en modelos Bond Graph	Juan Francisco Anchondo Vázquez	Tecnológico Nacional de México/CENIDET	Asesor	Graduado 31 de Julio de 2018



			Maestría en ciencias en ingeniería electrónica		
9	Diseño de algoritmos de diagnóstico y pronostico basado en modelos. Caso de estudio: Modelo fractal de un ducto hidráulico	Ian Llunas Correa Escudero	Tecnológico Nacional de México/CENIDET Maestría en ciencias en ingeniería electrónica	Asesor	Graduado 10 de Enero de 2019
10	Identificación de modelos Hammerstein-Wiener utilizando métodos de cálculo fraccionario	Luis Carlos Arguelles de los Ríos	Tecnológico Nacional de México/CENIDET Maestría en ciencias en ingeniería electrónica	Coasesor	Graduado 29 de Marzo de 2019
11	Esquema de control basado en una red neuronal artificial de bajo orden	Gregorio Pérez del Ángel	Tecnológico Nacional de México/CENIDET Maestría en ciencias en ingeniería electrónica	Coasesor	Graduado 11 de Abril de 2019
12	Modelado y control de un banco de supercapacitores con convertidor	Maydelin Escribano Reyes	Tecnológico Nacional de México/CENIDET Maestría en ciencias en ingeniería electrónica	Coasesor	En proceso
13	Detección y diagnóstico de fallas en un sistema de almacenamiento de energía	Diana Arleth Muñoz Menéndez	Tecnológico Nacional de México/CENIDET Maestría en ciencias en ingeniería electrónica	Asesor	En proceso
14	Sincronización y control de sistemas caóticos e hipercaóticos	Luis Felipe Avalos Ruiz	Tecnológico Nacional de México/CENIDET Maestría en ciencias en ingeniería electrónica	Asesor	En proceso
15	Diagnóstico de fallas en máquinas eléctricas empleando transformadas integrales de orden generalizado	Héctor Martín Cortés Campos	Tecnológico Nacional de México/CENIDET Maestría en ciencias en ingeniería electrónica	Asesor	En proceso



16	Diseño de Filtros Digitales de Orden Fraccionario	Jonathan Diego Pereyra Guzmán	Tecnológico Nacional de México/CENIDET Maestría en ciencias en ingeniería electrónica	Asesor	En proceso
17	Control y análisis de robustez en presencia de incertidumbres de modelado y disturbios externos de robots manipuladores usando cálculo fraccionario.	Samuel Chávez Vázquez	Tecnológico Nacional de México/CENIDET Maestría en ciencias en ingeniería electrónica	Asesor	En proceso
18	Modelado Electroquímico de una Batería de Ion-Litio con Identificación de Parámetros	Donaciano Flores Gaspar	Tecnológico Nacional de México/CENIDET Maestría en ciencias en ingeniería electrónica	Coasesor	En proceso
19	Uso de la espectroscopia de impedancia eléctrica en la caracterización de frutas y vegetales.	Zuleyma Lorena España Ruiz	Tecnológico Nacional de México/CENIDET Maestría en ciencias en ingeniería electrónica	Asesor	En proceso

Dirección/Co-Dirección de Tesis – Licenciatura

	Titulo	Nombre del Estudiante	Institución		Fecha de Titulación
1	Modelo electrónico de sistemas biológicos y biomédicos	Silvana Valencia Rodríguez	DCI – Campus León Universidad de Guanajuato. Licenciatura en Ingeniería Física	Coasesor	Titulado. 7 de Agosto de 2014
2	Oscilaciones y atractores ocultos en sistemas dinámicos caóticos	Ma. Guadalupe Salgado Castorena	Facultad de Matemáticas. Universidad Autónoma de Guerrero. Licenciatura en Matemáticas	Coasesor	En proceso

Proyectos Posdoctorales bajo mi supervisión



	Título	Nombre del Investigador	Institución	Fecha de Estancia	
1	Identificación, control y análisis de robustez en presencia de incertidumbres de modelado y disturbios externos de robots manipuladores usando cálculo de orden fraccionario.	Jorge Enrique Lavín Delgado CVU: 206139	Tecnológico Nacional de México CENIDET. Departamento de Ingeniería Electrónica	Estancias Posdoctorales vinculadas al fortalecimiento de la calidad del posgrado nacional CONACyT (2018-1).	Agosto 2018 --

Revisor de Tesis Internacionales – PhD y MSc

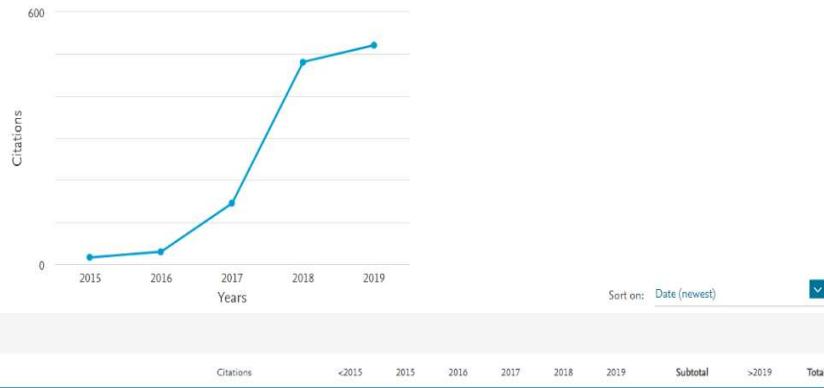
	Título	Nombre del Estudiante	Institución		Año de Revisión
1	New numerical scheme for groundwater transport problem: modelling with local and nonlocal operators.	Amy Allwright	Institute for Groundwater Studies (IGS). IGS (Internal box 56), P.O. Box/Posbus 339, Bloemfontein 9300, South Africa/Suid-Afrika	External assessor PhD Thesis	2017
2	New model for groundwater transport in dual media	Mpafane Deyi	Institute for Groundwater Studies (IGS). IGS (Internal box 56), P.O. Box/Posbus 339, Bloemfontein 9300, South Africa/Suid-Afrika	External assessor PhD Thesis	2017
3	Modelling reactive ground water transport: interaction of two species	Hans Mbah	Institute for Groundwater Studies (IGS). IGS (Internal box 56), P.O. Box/Posbus 339, Bloemfontein 9300, South Africa/Suid-Afrika	External assessor MSc Thesis	2018
4	A new method for modeling groundwater flow problems: Fractional-Stochastic approach	Mohau Mahantane	Institute for Groundwater Studies (IGS). IGS (Internal box 56), P.O. Box/Posbus	External assessor MSc Thesis	2018



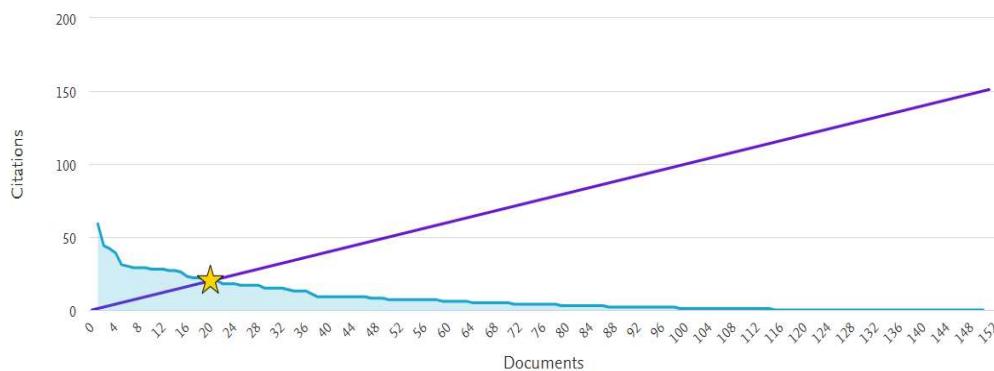
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Citas – Última Actualización 1 de Marzo de 2019 (Fuente Scopus).

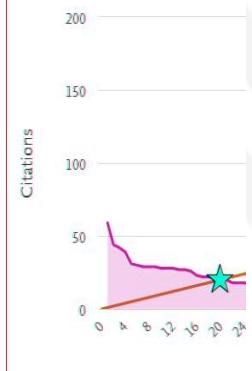
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Referencias

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