

Professor. Miguel José Vivas Cortez, PhD  
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## Research Interests

Miguel Vivas-Cortez was born in Acarigua, Portuguesa State (Venezuela). He graduated as a Mathematician from the Universidad Centroccidental Lisandro Alvarado (UCLA), where he also obtained his master's degree in mathematics with a specialization in pure mathematics. His thesis, which studied a competitive system of the Lotka-Volterra type with infinite delay, was published in the prestigious journal (Q1 Scopus) *Nonlinear Analysis: Real World Applications* (United Kingdom) (see <https://doi.org/10.1016/j.nonrwa.2005.09.005>).

He received his Doctorate in Sciences, specializing in Mathematics, from the Central University of Venezuela (UCV). His thesis extended the notion of bounded variation to functions defined over compact subsets of the complex plane (<https://doi.org/10.14708/cm.v54i1.757>), generating four publications in prestigious international journals. He has authored over 200 scientific publications and has accumulated more than 1,500 citations. He has supervised numerous undergraduate, master's, and doctoral theses in research areas such as Differential Equations (Ecological Models), Fractional and Generalized Derivatives (Conformal and Non-Conformal), Nonlinear Analysis (Generalized Convexity), and Functional Analysis (Generalized Bounded Variation Functions). He has authored several textbooks, including *Linear Algebra: A Practical Approach*, *Differential Calculus for Science and Engineering*, *Pre-Calculus Mathematics*, and *Analysis of a Complex Variable*, among others.

Globally ranked by SciVal Scopus among the top 100 most productive mathematicians (2018–2023) in the field of analysis based on publication volume in Scopus, he is also ranked as the number one mathematician in Ecuador and number six in Latin America (2019–2025) in mathematical productivity, according to SciVal Scopus. Dr. Vivas has over 25 years of experience teaching mathematics at the undergraduate, master's, and doctoral levels. He joined the Universidad Centroccidental "Lisandro Alvarado" (UCLA) in 1997 through a competitive selection process in complex analysis, where he worked until October 2017. He has been a visiting professor at the Universidad Nacional Arturo Prat (Chile), a tenured professor at UCLA, and an invited and occasional professor at the Escuela Superior Politécnica del Litoral (ESPOL), Guayaquil, Ecuador, from October 2016 to September 2017.

He actively engages in science outreach related to mathematics through public and scientific lectures at national and international events. He has frequently been invited as the keynote speaker at the *Encuentro Internacional de Matemáticas (EIMAT)* at the Universidad del Atlántico.

Dr. Vivas-Cortez has served as a reviewer for various national and international research projects, a referee for prominent Scopus-indexed journals, and a guest editor for the journal *Mathematics*. He is a member of the *Mathematical Reviews* by the American Mathematical Society (AMS) and serves on the editorial board of various national and international journals among others of Innovative Journal of Mathematics (<https://www.sigmawings.com/journals/index.php/IJM/editorialboard2>), he is also an associate editor of the Journal of Inequalities and Special Functions <https://mjl.clarivate.com/search-results?issn=2217-4303>.

Dr. Vivas-Cortez has received the Research Incentive Award (PEI) and the Research Promotion Award (PPI) in Venezuela. Since September 17, 2017, he has been a Full Professor (Category 3) and a high-productivity researcher in the Faculty of Exact, Natural, and Environmental Sciences at the Pontifical Catholic University of Ecuador (PUCE), Quito Campus, after winning a competitive selection process with a score of 97/100.

His main research interests include ordinary and fractional differential equations, functional analysis (Bounded Variation Functions), and nonlinear analysis (Generalized Convexity, Integral Inequalities).

Founder and leader of the research group **FRACTAL** (Fractional Research in Analysis Convexity and Their Applications Lab) at the **Pontifical Catholic University of Ecuador (PUCE)**, a key reference in Latin America for modern analysis and fractional calculus.

## Employment

**Faculty of Exact and Natural Sciences**  
Pontifical Catholic University of Ecuador  
9 Aug 2009 → present

**Fractional Research in Analysis, Convexity, and Their Applications Laboratory**  
Pontifical Catholic University of Ecuador  
1 Jan 2023 → present

**Biological Sciences**  
Pontifical Catholic University of Ecuador

1 Jan 2019 → present

## **PUCE Quito**

Pontifical Catholic University of Ecuador

8 Aug 2009 → present

## **Research outputs**

### **A Generalized Local Fractional Laplace Transform via a Unified Derivative Operator**

Vivas-Cortez, M., Velasco Velasco, J. & Cedeño-Mendoza, S., 1 May 2026, In: Applied Mathematics and Information Sciences. 20, 3, p. 789-806 18 p.

### **NUMERICAL SOLUTION OF COUPLED FRACTIONAL BURGER'S EQUATION**

Agarwal, P., Massoun, Y., Cesarano, C., Said, A., Talbi, M. E., Jain, S. & Vivas-Cortez, M., 25 Mar 2026, In: Fractals. 2540278.

### **A comprehensive analytical study of solitons and nonlinear dynamics in a concatenated DNLS-type model**

Farooq, F. B., Raza, N., Ejaz, A., Bayram, M. & Vivas-Cortez, M., 5 Mar 2026, In: Scientific Reports. 16, 1, 15557.

### **Una variación de la Transformada Doble de Laplace No-Conformable**

Jarrín, H. D., Marcillo-Parra, J. L., Velasco-Velasco, J. & Vivas-Cortez, M., 3 Mar 2026, In: Revista de la Academia Colombiana de Ciencias Exactas, Físicas y Naturales. 50, 194, p. 213-233 21 p.

### **Variable-Order Fractional Delay Differential Equations with Integral Boundary Values: A Study on Existence, Uniqueness, and Stability**

Muhammad Imran Liaqa, Vivas-Cortez, M. & Majeed Ahmad Yousif, 16 Feb 2026, In: European Journal of Pure and Applied Mathematics. 19, 1, p. 1-27 6855.

### **Analysis of fractional magnetized force field flow in a unit sphere via Fermi-Walker fractional derivative**

Ogrenmis, M., Abbas, M., Ogrenmis, A. O., Vivas-Cortez, M. & Elzibar, O. A. I., 1 Jan 2026, In: Open Physics. 24, 1, 20250293.

### **Bifurcation analysis and investigations of optical soliton solutions to fractional generalized third-order nonlinear Schrödinger equation**

Inayat, M., Abbas, M., Yousaf, M. Z., Hamed, Y. S., Nazir, T. & Vivas-Cortez, M., 1 Jan 2026, In: Open Physics. 24, 1

### **Soliton, stability, multistability, and diverse tools for identifying chaos in a nonlinear model with two modified methods**

Usman, T., Alam, N., Ullah, M. S., Vivas-Cortez, M., Abbas, M. & Singh, S., 1 Jan 2026, In: Nonlinear Engineering. 15, 1, 20250180.

### **Estudio sobre la relación entre algunas características sociodemográficas de estudiantes universitarios de ingreso y la ansiedad hacia la matemática**

Vivas-Cortez, M., Jaramillo Villagómez, J. E. & Caseres, E., 2026, In: Revista de la Escuela de Ciencias de la Educación. 21, 1, p. 1 14 p.

### **Analysis of Maclaurin's inequality with applications in numerical analysis**

Vivas-Cortez, M., Asif, U., Javed, M. S., Awan, M. U., Meftah, B., Dragomir, S. S. & Noor, M. A., 24 Dec 2025, In: Journal of Mathematical Inequalities. 19, 4, p. 1349–1374 26 p.

### **Multiplicative tempered fractional Newton-type inequalities for twice \*differentiable multiplicatively inverse cosine convex functions with applications**

Samraiz, M., Bakar Ashraf, M. A., Naheed, S. & Vivas-Cortez, M., 19 Dec 2025, In: Journal of Inequalities and Applications. 2025, 1, p. 1-26 26 p., 156.

**Applications of newly defined diamond Pythagorean fuzzy CODAS method via multi-criteria decision-making problems**  
Khan, M. B., Cortez, M. V., Bin-Mohsin, B., Ciurdariu, L. & Zamri, N., 12 Dec 2025, In: PLoS ONE. 20, 12, e0325018.

**Analysis of inverse problem for pseudo-hyperbolic equation under periodic boundary condition**  
Bağlan, İ., Yernazar, A., Aslan, E., Budak, H. & Vivas-Cortez, M., Dec 2025, In: Scientific Reports. 15, 1, 41218.

**Existence and stability of a mild solution to an abstract sequential time-fractional diffusion equation of pantograph type**  
Melha, K. O., Thabet, S. T. M., Djaouti, A. M., Kedim, I., Aldwoah, K. & Vivas-Cortez, M., 14 Nov 2025, In: Journal of Mathematics and Computer Science. 41, 3, p. 421-436 16 p.

**Multi-objective optimization of hot water circulation pump using machine learning model and non-dominated sorting genetic algorithm**  
Sun, Y., Xi, C., Liu, D., Vivas-Cortez, M., Majeed, A. H. & Abbas, M., 1 Nov 2025, In: AIP Advances. 15, 11, 115301.

**A Laplace Transform Approach to the Biparametric V-Derivative with Applications in Generalized Calculus**  
Vivas-Cortez, M., Velasco Velasco, J., Harrin, H. D. & Ordoñez Moreno, F., Nov 2025, In: Applied Mathematics and Information Sciences. 19, 6, p. 1397-1409 14 p.

**A novel Legendre-wavelet operational matrix scheme with applications to regularized Prabhakar fractional differential problems**  
Bokhari, A., Belgacem, R., Melha, K. O., Thabet, S. T. M., Baleanu, D. & Vivas-Cortez, M., Nov 2025, In: Alexandria Engineering Journal.

**Nuevas Derivadas locales en el Cálculo Fraccional**  
Vivas-Cortez, M., Nov 2025, p. 138. 149 p.

**NEW APPLICATIONS OF THE CAPUTO FRACTIONAL DERIVATIVE TO OBTAIN NUMERICAL SOLUTION OF THE COUPLED FRACTIONAL KORTEWEG–DE VRIES MODEL USING QUINTIC B-SPLINE FUNCTIONS**  
Ghafoor, U., Vivas-Cortez, M., Abbas, M., Wong, P. J. Y., Alharthi, M. R., Hamed, Y. S. & Iqbal, M. K., 7 Oct 2025, In: Fractals. 2540254.

**New Ostrowski-Type Inequalities for Generalized Convex Functions via Conformable Fractional Derivatives**  
Vivas-Cortez, M., VELASCO VELASCO, J. & Harrin, H. D., 1 Sep 2025, In: Applied Mathematics and Information Sciences. 19, 5, p. 1141-1152 12 p.

**Advancements in Harmonic Convexity and Its Role in Modern Mathematical Analysis**  
Ali, S., Samraiz, M., Naheed, S. & Vivas-Cortez, M., Sep 2025, In: Journal of Mathematics. 2025, 1, 8847839.

**Uniqueness property of the generalized Laplace transform and computational visualization of electromagnetic waves in plasma via fractional operators**  
Mehmood, A., Samraiz, M., Liu, Z.-G. & Vivas-Cortez, M., 5 Aug 2025, In: Alexandria Engineering Journal. p. 852-866

**New extensions of Hermite-Hadamard and Fejér type inequalities using fuzzy fractional integral operators through different fuzzy convexities**  
Ali, R. S., Vivas-Cortez, M., Kashuri, A. & Talib, N., 29 Jul 2025, In: Journal of Mathematics and Computer Science. 40, 4, p. 456-480 25 p.

**EXPLORING NEW GENERALIZED INEQUALITIES OF FRACTAL-FRACTIONAL INTEGRAL OPERATORS BY MEANS OF GENERALIZED MITTAG-LEFFLER KERNELS AND APPLICATION**  
Rashid, S., Zia, Z., Iqbal, M. K. & Vivas-Cortez, M., 21 Jul 2025, In: Fractals. 33, 6, 2540118.

**A conformable fractional iterative fixed-point method for solving one-dimensional nonlinear equations**  
Vivas-Cortez, M., Angulo Sánchez, W. A. & Osorio López, J. C., 7 Jul 2025, In: Numerical Algorithms.

**Generalized Extended Confluent, Whittaker k-Functions and Their Properties**

Shah, S. A. H., Shah, M. H., Vivas-Cortez, M., Mubeen, S. & Rahman, G., Jul 2025, In: European Journal of Pure and Applied Mathematics. 18, 3, 6279.

**Hermite-Hadamard Inequalities via Riemann-Liouville Fractional Integrals with Generalized Convex Functions**

Samraiz, M., Atta, T., Naheed, S., Rahman, G. & Vivas-Cortez, M., Jul 2025, In: European Journal of Pure and Applied Mathematics. 18, 3, 6413.

**INSIGHTS INTO FRACTIONAL ION SOUND AND IANGMUIR WAVES UNVEILED BY ADVANCED ANALYTICAL TECHNIQUES**

Wu, Y., Sherif, E. S. M., Vivas-Cortez, M., Ahmad, S., Saleem, M. S. & Shahzad, M. U., 26 Jun 2025, In: Fractals. 33, 2540156.

**ABUNDANT SOLITONS SOLUTIONS OF THE (2+1)-DIMENSIONAL KADOMTSEVPETVIASHVILI-MODIFIED EQUAL WIDTH MODEL**

Shafique, T., Agarwal, R. P., Mohammed, P. O., Abbas, M., Vivas-Cortez, M., Nazir, T. & Djaouti, A. M., 19 Jun 2025, In: Fractals. 34, 4, 2540133.

**NEW APPLICATIONS OF THE FRACTIONAL DERIVATIVE TO EXTRACT ABUNDANT SOLITON SOLUTIONS OF THE TIME FRACTIONAL ZAKHAROV-KUZNETSOV-BENJAMIN-BONA-MAHONY EQUATION IN MATHEMATICAL PHYSICS**

Bibi, A., Lupas, A. A., Abbas, M., Iqbal, M. K., Hamed, Y. S. & Vivas-Cortez, M., 19 Jun 2025, In: Fractals. 33, 8, 2540091.

**Extended Grüss type inequalities for generalized  $(l, m)$ -fractional integrals with applications**

Yousaf, M., Iqbal, S., Samraiz, M. & Vivas-Cortez, M., 29 May 2025, In: Journal of Mathematics and Computer Science. 40, 1, p. 22-37 16 p.

**SOBRE UNA DERIVADA GENERALIZADA DE DOS PARÁMETROS**

Vivas-Cortez, M., 25 May 2025.

**A refined class of harmonically convex functions and Bullen- Mercer-type inequalities**

Ali, S., Samraiz, M., Naheed, S., Vivas-Cortez, M. & Elmasry, Y., 21 May 2025, In: Journal of Mathematics and Computer Science. 39, 4, p. 500-521 22 p.

**Some New Versions of Various Inequalities over Trapezoidal Fuzzy Codomain**

Khan, M. B., Wong, P. J. Y., Cortez, M. V., Zamri, N. & Ciurdariu, L., 14 Apr 2025, In: International Journal of Analysis and Applications. 23, 87.

**Exploring the solutions of tempered  $(\kappa, \omega)$ -Hilfer hybrid implicit boundary value problem**

Salim, A., Thabet, S. T. M., Rafeeq, A. S., Samei, M. E., Kedim, I. & Vivas-Cortez, M., Apr 2025, In: Alexandria Engineering Journal. 119, p. 138-148 11 p.

**New Extension of Inequalities through Extended Version of Fractional Operators for s-Convexity with Applications**

Vivas-Cortez, M., Ali, R. S., Talib, N., Kebaili, I., Boukhris, I. & Rahman, G., Apr 2025, In: European Journal of Pure and Applied Mathematics. 18, 2, 5997.

**Some Minkowski's inequalities involving linear differential operator with associated green function**

Vivas-Cortez, M., Iqbal, S., Samraiz, M. & Kashuri, A., Apr 2025, In: Rendiconti del Circolo Matematico di Palermo. 74, 3, 90.

**Analytical approach to parabolic flows along with inclined plate with uniform diffusion of mass**

Vivas-Cortez, M., Mani, G., Pushparaj, S., Rajamanickam, M. & Thabet, S. T. M., 22 Mar 2025, In: Journal of King Saud University - Science. 37, 1, 6 p.

**Common Fixed Point Techniques in Bipolar Orthogonal Metric Space With Applications to Economic Problem and Integral Equation**

Vivas-Cortez, M., Thabet, S. T. M., Mani, G., Janardhanan, G. & Kedim, I., 1 Mar 2025, In: International Journal of Analysis and Applications. 23, p. 23-52 21 p., 52.

**A comprehensive study of wave dynamics in the (4+1)-dimensional space-time fractional Fokas model arising in physical sciences**

Vivas-Cortez, M., Farooq, F. B., Raza, N., Alqahtani, N. A., Imran, M. & Nazir, T., Mar 2025, In: Alexandria Engineering Journal. 115, p. 238-251 14 p.

**Some problems of mesh R–L electrical circuits using fractional calculus**

Jadhav, C. P., Dale, T. B., Chinchane, V. L., Nale, A. B., Thabet, S. T. M., Kedim, I. & Vivas-Cortez, M., Mar 2025, In: Alexandria Engineering Journal. 115, p. 111-118 8 p.

**In situ deformation behavior of laser additive manufacturing Ti-6Al-4V alloy at room and high temperatures: A review**

Abbas, M., Hussain, W., Majeed, A. H., Jalili, B., Vivas-Cortez, M. & Kallel, I. A., 1 Feb 2025, In: AIP Advances. 15, 2, 020701.

**Exploring a Novel Approach to Deferred Nörlund Statistical Convergence**

Ibrahim, I. S., He, J.-H., Chorfi, N., Yousif, M. A., Mohammed, P. O. & Vivas-Cortez, M., Feb 2025, In: Symmetry. 17, 2, 192.

**Hyers–Ulam–Rassias Stability of Functional Equations with Integrals in B-Metric Frameworks**

Jakhar, J., Sharma, S., Jakhar, J., Yousif, M. A., Mohammed, P. O., Chorfi, N. & Vivas-Cortez, M., 23 Jan 2025, In: Symmetry. 17, 2, 168.

**Investigating the influence of square size vanes on heat transfer in porous media: An in-depth Nusselt distribution**

Jalili, B., Bahmani, M., Jalili, P., Liu, D., Alderremy, A. A., Ganji, D. D. & Vivas-Cortez, M., 1 Jan 2025, In: Journal of Computational Design and Engineering. 12, 1, p. 1-14 14 p.

**High-Accuracy Solutions to the Time-Fractional KdV–Burgers Equation Using Rational Non-Polynomial Splines**

Vivas-Cortez, M., Yousif, M. A., Mahmood, B. A., Mohammed, P. O., Chorfi, N. & Lupas, A. A., Jan 2025, In: Symmetry. 17, 1, 16.

**A NEW FORMULATION AND ANALYTICAL APPLICATIONS OF FRACTIONAL OPERATORS**

Mehmood, A., Samraiz, M., Liu, Z. G., Baleanu, D. & Vivas-Cortez, M., 2025, In: Fractals. 33, 3, 2450130.

**A New Generalized Local Derivative of Two Parameters**

Vivas-Cortez, M., VELASCO VELASCO, J. & Harrin, H. D., 2025, In: Applied Mathematics and Information Sciences. 19, 3, p. 713-723 11 p.

**A Numerical Study of the Caputo Fractional Nonlinear Rössler Attractor Model via Ultraspherical Wavelets Approach**

Rayal, A., Dogra, P., Thabet, S. T. M., Kedim, I. & Vivas-Cortez, M., 2025, In: CMES - Computer Modeling in Engineering and Sciences. 143, 2, p. 1895-1925 31 p.

**COMPARISON OF SOLITON BEHAVIOR OF LAKSHMANAN-PORSEZIAN-DANIEL MODEL FOR TWO KINDS OF FRACTIONAL DERIVATIVES**

Vivas-Cortez, M., Atta Ullah Khan, M., Akram, G., Sadaf, M., Abbas, M., Ahmad, H. & Alharthi, M. R., 2025, (Accepted/In press) In: Fractals. 2540277.

**Diverse wave solutions for the (2+1)-dimensional Zoomeron equation using the modified extended direct algebraic approach**

Waqar, M., Saad, K. M., Abbas, M., Vivas-Cortez, M. & Hamanah, W. M., 2025, In: AIMS Mathematics. 10, 6, p. 12868-12887 20 p.

**FRACTAL INTEGRAL INEQUALITIES FOR GENERALIZED HARMONICALLY CONVEX FUNCTIONS USING LOCAL FRACTIONAL INTEGRALS AND RAINA'S MAPPING WITH RELATED APPLICATIONS**

Chen, L., Radwan, T., Shah, A. F., Vivas-Cortez, M. & Saleem, M. S., 2025, In: Fractals. 33, 8, 2540150.

**Mathematical and Computational Systems: Theory, Methods, and Applications in Physics, Networking, and Intelligent Modeling**

Vivas-Cortez, M. (Guest editor), 2025, Pakistan: PSR Press. 315 p.

**NEW APPLICATIONS OF THE FRACTIONAL DERIVATIVES TO EXTRACT ABUNDANT SOLITON SOLUTIONS OF THE FRACTIONAL ESTEVEZ-MANSFIELD-CLARKSON EQUATION IN MATHEMATICAL PHYSICS**

Vivas-Cortez, M., Akram, G., Sadaf, M., Arshed, S., Abbas, M., Qurat-Ul-Ain & Hamed, Y. S., 2025, In: Fractals. 34, 2, 2540203.

**New common fixed point theorems for quartet mappings on orthogonal S-metric spaces with applications**

Samuel, B. W., Mani, G., Ganesh, P., Thabet, S. T. M., Kedim, I. & Vivas-Cortez, M., 2025, In: Journal of Mathematics and Computer Science. 38, 1, p. 80-97 18 p.

**New results on coupled Caputo-Hadamard fractional neutral differential equations supplemented by unbounded delays**

Mani, G., Lakshmi, S. R. A., Thabet, S. T. M., Kedim, I. & Vivas-Cortez, M., 2025, In: Journal of Mathematics and Computer Science. 39, 3, p. 361-375 15 p.

**Numerical approximation for solving time-fractional Benjamin-Bona-Mahony-Burger model via cubic B-spline functions**

Shaheen, M., Abbas, M., Vivas-Cortez, M., Alharthi, M. R. & Hamed, Y. S., 2025, In: AIMS Mathematics. 10, 6, p. 13855-13879 25 p.

**On Introduction to  $(q_1, q_2)$ -Linear Diophantine Fuzzy Sets and Their Applications**

Khan, M. B., Deaconu, A. M., Tayyebi, J., Bin-Mohsin, B., Ciurdariu, L., Cortez, M. V. & Zamri, N., 2025, In: International Journal of Mathematics and Mathematical Sciences. 2025, 1, 9965947.

**On the Generalized  $\theta(t)$ -Fibonacci sequences and its bifurcation analysis**

Pandurangan, R., Thabet, S. T. M., Kedim, I. & Vivas-Cortez, M., 2025, In: AIMS Mathematics. 10, 1, p. 972-987 16 p.

**Remarks On Inequalities With Parameter By Conformable Fractional Integrals**

Hezenci, F., Vivas-Cortez, M. & Budak, H., 2025, In: Fractals. 33, 3, 2450137.

**Some novel estimates of Hermite-Hadamard type inequality for post-quantum integrals involving coordinated convex functions and application**

Nawaz, T., Vivas-Cortez, M., Kashuri, A., Raees, M. & Shahzad, A., 2025, In: Journal of Mathematics and Computer Science. 40, 1, p. 101-123 23 p.

**Symmetric Conformable Derivative**

Vivas-Cortez, M., Velasco-Velasco, J. & Cedeño-Mendoza, S., 2025, In: Applied Mathematics and Information Sciences. 19, 2, p. 251-257 7 p.

**TRAVELING WAVE SOLUTIONS TO THE NONLINEAR SPACE-TIME FRACTIONAL KOLMOGOROV PETROVSKII-PISKUNOV EQUATION VIA EFFICIENT ANALYTICAL APPROACHES**

Vivas-Cortez, M., Nageen, M., Abbas, M., Ala, V. & Alharthi, M. R., 2025, (Accepted/In press) In: Fractals. 2540262.

**Hyperbolic Non-Polynomial Spline Approach for Time-Fractional Coupled KdV Equations: A Computational Investigation**

Vivas-Cortez, M., Yousif, M. A., Mohammed, P. O., Lupas, A. A., Ibrahim, I. S. & Chorfi, N., Dec 2024, In: Symmetry. 16, 12, 1610.

**Improved Fractional Differences with Kernels of Delta Mittag–Leffler and Exponential Functions**

Vivas-Cortez, M., Mohammed, P. O., Guirao, J. L. G., Yousif, M. A., Ibrahim, I. S. & Chorf, N., Dec 2024, In: Symmetry. 16, 12, 1562.

**New best proximity point results on orthogonal F-proximal contractions with applications**

Mani, G., Tirukalathi, R. T., Thabet, S. T. M. & Vivas-Cortez, M., Dec 2024, In: Journal of King Saud University - Science. 36, 11, 103562.

**New version of midpoint-type inequalities for co-ordinated convex functions via generalized conformable integrals**

Kiriş, M. E., Vivas-Cortez, M., Uzun, T. Y., Bayrak, G. & Budak, H., Dec 2024, In: Boundary Value Problems. 2024, 1, 65.

**Algunos resultados sobre derivadas fraccionarias y generalizadas**

Vivas-Cortez, M., 15 Nov 2024, p. 139. 140 p.

**Convolution Results with Subclasses of p-Valent Meromorphic Function Connected with q-Difference Operator**

Ali, E. E., El-Ashwah, R. M., Albalahi, A. M., Sidaoui, R., Ennaceur, M. & Vivas-Cortez, M., 13 Nov 2024, In: Mathematics. 12, 22, 3548.

**Extraction of Optical Solitons for Conformable Perturbed Gerdjikov–Ivanov Equation via Two Integrating Techniques**

Vivas-Cortez, M., Sadaf, M., Arshed, S., Rehan, K., Akram, G. & Saeed, K., Nov 2024, In: Advances in Mathematical Physics. 2024, 1, 5936389.

**Efficient results on fractional Langevin–Sturm–Liouville problem via generalized Caputo–Atangana–Baleanu derivatives**

Thabet, S. T. M., Boutiara, A., Samei, M. E., Kedim, I. & Vivas-Cortez, M., Oct 2024, In: PLoS ONE. 19, 10, e0311141.

**Efficient techniques on bipolar parametric v-metric space with application**

Mani, G., Chinnachamy, S., Palanisamy, S., Thabet, S. T. M., Kedim, I. & Vivas-Cortez, M., Oct 2024, In: Journal of King Saud University - Science. 36, 9, 103354.

**Global stability and modeling with a non-singular kernel for fractional order heroin epidemic model: Insights from different population studies**

Vivas-Cortez, M., Bakar, A., Alqarni, M. S., Raza, N., Nazir, T. & Farman, M., Oct 2024, In: Journal of King Saud University - Science. 36, 9, 103329.

**Advancements in Bullen-type inequalities via fractional integral operators and their applications**

Samraiz, M., Hassan, Z., Naheed, S., Vivas-Cortez, M., Ali, R. & Lamoudan, T., 15 Sep 2024, In: Heliyon. 10, 17, e37246.

**$\phi(x)$ -Tribonnaci polynomial, numbers, and its sum**

Pandurangan, R., Kannan, S., Thabet, S. T. M., Vivas-Cortez, M. & Kedim, I., 11 Sep 2024, In: Journal of Mathematics and Computer Science. 37, 1, p. 32-44 13 p.

**Construction of bilinear Bäcklund transformation and complexitons for a newer form of Boussinesq equation describing shallow water waves**

Javed, F., Vivas-Cortez, M., Zil-E-Huma, Raza, N. & Alqarni, M. S., Sep 2024, In: Results in Physics. 64, 107903.

**$\phi(x)$ -Tribonnaci polynomial, numbers, and its sum**

Vivas-Cortez, M., Thabet, S. T. M., Pandurangana, R., Kannan, S. & Kedim, I., Sep 2024, In: Journal of Mathematics and Computer Science. 37, 1, p. 32-44 13 p.

**Bifurcation study, phase portraits and optical solitons of dual-mode resonant nonlinear Schrodinger dynamical equation with Kerr law non-linearity**

Wu, Y., Vivas-Cortez, M., Rehman, H. U., Sherif, E.-S. M. & Rashid, A., 15 Aug 2024, In: Heliyon. 10, 15

**Investigation of Analytical Soliton Solutions to the Non-Linear Klein–Gordon Model Using Efficient Techniques**  
Vivas-Cortez, M., Nageen, M., Abbas, M. & Alosaimi, M., Aug 2024, In: Symmetry. 16, 8, 1085.

**A study of time-fractional model for atmospheric internal waves with Caputo-Fabrizio derivative**  
Vivas-Cortez, M., Ghaffari, A. (Editor), Sadaf, M., Perveen, Z., Akram, G. & Fatima, S., 31 Jul 2024, In: PLoS ONE. 19, 7 July, e0302743.

**A study of neutrosophic controlled pentagonal metric space with applications**  
Mani, G., Michael, E. A. R., Ganesh, P., Thabet, S. T. M., Kedim, I. & Vivas-Cortez, M., 22 Jul 2024, In: Results in Nonlinear Analysis. 7, 3, p. 130-162 33 p.

**Generalized Fuzzy-Valued Convexity with Ostrowski's, and Hermite-Hadamard Type Inequalities over Inclusion Relations and Their Applications**  
Cortez, M. V., Althobaiti, A., Aljohani, A. F. & Althobaiti, S., 12 Jul 2024, In: Axioms.

**Fractional Hermite–Hadamard–Mercer-Type Inequalities for Interval-Valued Convex Stochastic Processes with Center-Radius Order and Their Related Applications in Entropy and Information Theory**  
Shah, A. F., Özcan, S., Vivas-Cortez, M., Saleem, M. S. & Kashuri, A., 11 Jul 2024, In: Fractal and Fractional. 8, 7, 408.

**Fuzzy Differential Subordination for Classes of Admissible Functions Defined by a Class of Operators**  
Ali, E. E., Vivas-Cortez, M. & El-Ashwah, R. M., 11 Jul 2024, In: Fractal and Fractional. 8, 7, 405.

**Abundant Soliton Solutions to the Generalized Reaction Duffing Model and Their Applications**  
Vivas-Cortez, M., Aftab, M., Abbas, M. & Alosaimi, M., 4 Jul 2024, In: Symmetry. 16, 7, 847.

**The New Fractal Derivative, Some results**  
Vivas-Cortez, M., 3 Jul 2024, *The New Fractal Derivative, Some results*.

**The New Fractal derivative, some results integro-differential equations and applications**  
Vivas-Cortez, M., 2 Jul 2024, *The New Fractal derivative, some results, integro-differential equations and applications*. Universidad Tecnologica de Bolivar, p. 42-42 1 p.

**Topology degree results on a G-ABC implicit fractional differential equation under three-point boundary conditions**  
Rezapour, S., Thabet, S. T. M., Rafeeq, A. S., Kedim, I., Vivas-Cortez, M. & Aghazadeh, N., Jul 2024, In: PLoS ONE. 19, 7 July, e0300590.

**Unfolding some numerical solutions for the magnetohydrodynamics Casson-Williamson nanofluid flow over a stretching surface**  
Khan, K. A., Vivas-Cortez, M., Ahammad, N. A., Bushra, H., Gamaoun, F., Javed, M. F. & Raza, N., 1 Jun 2024, In: Journal of Computational Design and Engineering. 11, 3

**Bullen-Mercer type inequalities with applications in numerical analysis**  
Vivas-Cortez, M., Javed, M. Z., Awan, M. U., Noor, M. A. & Dragomir, S. S., Jun 2024, In: Alexandria Engineering Journal. 96, p. 15-33 19 p.

**Fuzzy Subordination Results for Meromorphic Functions Connected with a Linear Operator**  
Ali, E. E., Vivas-Cortez, M., El-Ashwah, R. M. & Albalahi, A. M., Jun 2024, In: Fractal and Fractional. 8, 6, 308.

**Lump, Breather, Ma-Breather, Kuznetsov–Ma-Breather, Periodic Cross-Kink and Multi-Waves Soliton Solutions for Benney–Luke Equation**  
Vivas-Cortez, M., Baloch, S. A., Abbas, M., Alosaimi, M. & Wei, G., Jun 2024, In: Symmetry. 16, 6, 747.

**On new common fixed point theorems via bipolar fuzzy b-metric space with their applications: see text]-metric space with their applications**

Uma Maheswari, J., Dillibabu, K., Mani, G., Thabet, S. T. M., Kedim, I. & Vivas-Cortez, M., Jun 2024, In: PLoS ONE. 19, 6, p. e0305316 e0305316.

**The Estimation of Different Kinds of Integral Inequalities for a Generalized Class of Convex Mapping and a Harmonic Set via Fuzzy Inclusion Relations and Their Applications in Quadrature Theory**

Althobaiti, A., Althobaiti, S. & Cortez, M. V., 22 May 2024, In: Axioms.

**Analysis of perturbed Boussinesq equation via novel integrating schemes**

Vivas-Cortez, M., Arshed, S., Perveen, Z., Sadaf, M., Akram, G., Rehan, K. & Saeed, K., 17 May 2024, In: PLoS ONE. 19, 5 May, e0302784.

**Exploring the numerical simulation of Maxwell nanofluid flow over a stretching sheet with the influence of chemical reactions and thermal radiation**

Khan, K. A., Vivas-Cortez, M., Ishfaq, K., Javed, M. F., Raza, N., Nisar, K. S. & Abdel-Aty, A. H., May 2024, In: Results in Physics. 60, 107635.

**Extraction of new solitary wave solutions in a generalized nonlinear Schrödinger equation comprising weak nonlocality**

Vivas-Cortez, M., Basendwah, G. A., Rani, B., Raza, N. & Alaoui, M. K., May 2024, In: PLoS ONE. 19, 5 May, e0297898.

**Visualizing fractional inequalities through 2D and 3D graphs with applications**

Samraiz, M., Ghaffar, M. T., Naheed, S., Rahman, G., Vivas-Cortez, M. & Ahmed, S. B., May 2024, In: Ain Shams Engineering Journal. 15, 5, 102649.

**Application of an Extended Cubic B-Spline to Find the Numerical Solution of the Generalized Nonlinear Time-Fractional Klein–Gordon Equation in Mathematical Physics**

Vivas-Cortez, M., Huntul, M. J., Khalid, M., Shafiq, M., Abbas, M. & Iqbal, M. K., 11 Apr 2024, In: Computation. 12, 4, 80.

**An exploration of the (3+1)-dimensional negative order KdV-CBS model: Wave solutions, Bäcklund transformation, and complexiton dynamics**

Vivas-Cortez, M., Rani, B., Raza, N., Basendwah, G. A. & Imran, M., Apr 2024, In: PLoS ONE. 19, 4 April, e0296978.

**pq-Simpson's Type Inequalities Involving Generalized Convexity and Raina's Function**

Vivas-Cortez, M., Baig, G. M., Awan, M. U. & Brahim, K., Apr 2024, In: Symmetry. 16, 4, 457.

**Fractional integral inequalities and error estimates of generalized mean differences**

Samraiz, M., Ghaffar, M. T., Naheed, S. & Vivas-Cortez, M., 26 Mar 2024, In: Alexandria Engineering Journal. 94, p. 172-192 21 p.

**On Hermite-Hadamard type inequalities for co-ordinated convex function via conformable fractional integrals**

Kiriş, M. E., Vivas-Cortez, M., Bayrak, G., Çınar, T. & Budak, H., 14 Mar 2024, In: AIMS Mathematics. 9, 4, p. 10267-10288 22 p.

**Properties and Applications of Symmetric Quantum Calculus**

Vivas-Cortez, M., Javed, M. Z., Awan, M. U., Dragomir, S. S. & Zidan, A. M., 12 Feb 2024, In: Fractal and Fractional. 8, 2, 107.

**On a new structure of multi-term Hilfer fractional impulsive neutral Levin-Nohel integrodifferential system with variable time delay**

Abdeljawad, T., Thabet, S. T. M., Kedim, I. & Vivas-Cortez, M., 30 Jan 2024, In: AIMS Mathematics. 9, 3, p. 7372-7395 24 p.

**New results about fuzzy  $\gamma$ -convex functions connected with the q-analogue multiplier-Noor integral operator**

Ali, E. E., Vivas-Cortez, M. & El-Ashwah, R. M., 29 Jan 2024, In: AIMS Mathematics. 9, 3, p. 5451-5465 15 p.

**Efficient results on unbounded solutions of fractional Bagley-Torvik system on the half-line**

Thabet, S. T. M., Kedim, I. & Vivas-Cortez, M., 24 Jan 2024, In: AIMS Mathematics. 9, 2, p. 5071-5087 17 p.

**A STUDY of FRACTIONAL HERMITE-HADAMARD-MERCER INEQUALITIES for DIFFERENTIABLE FUNCTIONS**

Sitthiwiratham, T., Vivas-Cortez, M., Ali, M. A., Budak, H. & Avci, I., 18 Jan 2024, In: Fractals. 32, 2, 2440016.

**ANALYSIS SEQUENTIAL FRACTIONAL DIFFERENCES AND RELATED MONOTONICITY RESULTS**

Mohammed, P. O., Lizama, C., Al-Sairairah, E., Guirao, J. L. G., Chorfi, N. & Vivas-Cortez, M., 2024, In: Fractals. 32, 7-8, 2440037.

**A new approach to error inequalities: From Euler-Maclaurin bounds to cubically convergent algorithm**

Vivas-Cortez, M., Asif, U., Javed, M. Z., Awan, M. U., Almalki, Y. & Alsalam, O. M., 2024, In: AIMS Mathematics. 9, 12, p. 35885-35909 25 p.

**A New Generalized Derivative and Related Properties**

Guzmán, P. M., Valdés, J. E. N. & Vivas-Cortez, M., 2024, In: Applied Mathematics and Information Sciences. 18, 5, p. 923-932 10 p.

**Harmonic conformable refinements of Hermite-Hadamard Mercer inequalities by support line and related applications**

Butt, S. I., Vivas-Cortez, M. & Inam, H., 2024, In: Mathematical and Computer Modelling of Dynamical Systems. 30, 1, p. 385-416 32 p.

**New fixed point theorems in extended orthogonal S-metric spaces of type  $(\mu, \sigma)$  with applications to fractional integral equations**

Samuel, B. W., Mani, G., Thabet, S. T. M., Kedim, I. & Vivas-Cortez, M., 2024, In: Results in Nonlinear Analysis. 7, 4, p. 146-162 17 p.

**On Family of Totally Ordered Interval Valued Convex Mappings and Applications**

Vivas-Cortez, M., Awan, M. U., Javed, M. Z., Meftah, B., Zidan, A. M. & Kashuri, A., 2024

**On solutions of fractional differential equations for the mechanical oscillations by using the Laplace transform**

Jadhav, C. P., Dale, T. B., Chinchane, V. L., Nale, A. B., Thabet, S. T. M., Kedim, I. & Vivas-Cortez, M., 2024, In: AIMS Mathematics. 9, 11, p. 32629-32645 17 p.

**On the nonlocal hybrid  $(k, \phi)$ -Hilfer inverse problem with delay and anticipation**

Salim, A., Thabet, S. T. M., Kedim, I. & Vivas-Cortez, M., 2024, In: AIMS Mathematics. 9, 8, p. 22859-22882 24 p.

Some new fractional corrected Euler-Maclaurin type inequalities for function whose second derivatives are s-convex function

Munir, A., Vivas-Cortez, M., Qayyum, A., Budak, H., Faiz, I. & Supadi, S. S., 2024, In: Mathematical and Computer Modelling of Dynamical Systems. 30, 1, p. 543-566 24 p.

**Some Results Related with n—variables Non Conformable Fractional Derivatives**

Vivas-Cortez, M., Velasco Velasco, J. & Hernández Hernández, J. E., 2024, *Industrial and Applied Mathematics*. Springer, p. 1-14 14 p. (Industrial and Applied Mathematics; vol. Part F2573).

**On Caputo-Hadamard fractional pantograph problem of two different orders with Dirichlet boundary conditions**

Rafeeq, A. S., Thabet, S. T. M., Mohammed, M. O., Kedim, I. & Vivas-Cortez, M., 6 Dec 2023, In: Alexandria Engineering Journal. 86, p. 386-398 13 p.

**A novel investigation of dynamical behavior to describe nonlinear wave motion in  $(3+1)$ -dimensions**

Vivas-Cortez, M., Raza, N., Kazmi, S. S., Chahlaoui, Y. & Basendwah, G. A., Dec 2023, In: Results in Physics. 55, 107131.

**On Fractional Ostrowski-Mercer-Type Inequalities and Applications**

Ramzan, S., Awan, M. U., Vivas-Cortez, M. & Budak, H., 31 Oct 2023, In: Symmetry. 15, 11, 2003.

**Some Fractional Integral Inequalities by Way of Raina Fractional Integrals**

Vivas-Cortez, M., Latif, A. & Hussain, R., 19 Oct 2023, In: Symmetry. 15, 10, 1935.

**A Novel Quintic B-Spline Technique for Numerical Solutions of the Fourth-Order Singular Singularly-Perturbed Problems**

Yousaf, M. Z., Srivastava, H. M., Abbas, M., Nazir, T., Mohammed, P. O., Vivas-Cortez, M. & Chorfi, N., Oct 2023, In: Symmetry. 15, 10, 1929.

**INNOVATIVE INTERPOLATING POLYNOMIAL APPROACH TO FRACTIONAL INTEGRAL INEQUALITIES AND REAL-WORLD IMPLEMENTATIONS**

VIVAS CORTEZ, M. J., 26 Sep 2023, In: REVISTA.

**Certain Results on Fuzzy  $p$ -Valent Functions Involving the Linear Operator**

Ali, E. E., Vivas-Cortez, M., Ali Shah, S. & Albalahi, A. M., 19 Sep 2023, In: Mathematics. 11, 18, 3968.

**On the Generalization of Ostrowski-Type Integral Inequalities via Fractional Integral Operators with Application to Error Bounds**

Rahman, G., Vivas-Cortez, M., Yildiz, Ç., Samraiz, M., Mubeen, S. & Yassen, M. F., 14 Sep 2023, In: Fractal and Fractional. 7, 9, 683.

**Advances in Ostrowski-Mercer Like Inequalities within Fractal Space**

Vivas-Cortez, M., Awan, M. U., Asif, U., Javed, M. Z. & Budak, H., Sep 2023, In: Fractal and Fractional. 7, 9, 689.

**A Family of Holomorphic and  $m$ -Fold Symmetric Bi-Univalent Functions Endowed with Coefficient Estimate Problems**

Sabir, P. O., Srivastava, H. M., Atshan, W. G., Mohammed, P. O., Chorfi, N. & Vivas-Cortez, M., Sep 2023, In: Mathematics. 11, 18, 3970.

**Analytical study of the dynamics in the double-chain model of DNA**

Shi, D., Rehman, H. U., Iqbal, I., Vivas-Cortez, M., Saleem, M. S. & Zhang, X., Sep 2023, In: Results in Physics. 52, 106787.

**Solvability of a  $q$ -Hilfer Fractional Snap Dynamic System on Unbounded Domains**

Thabet, S. T. M., Vivas-Cortez, M., Kedim, I., Samei, M. E. & Ayari, M. I., 7 Aug 2023, In: Fractal and Fractional. 7, 8, 607.

**Certain Novel Fractional Integral Inequalities via Fuzzy Interval Valued Functions**

Vivas-Cortez, M., Ali, R. S., Saif, H., Jeelani, M. B., Rahman, G. & Elmasry, Y., Aug 2023, In: Fractal and Fractional. 7, 8, 580.

**Analytical study of ABC-fractional pantograph implicit differential equation with respect to another function**

Thabet, S. T. M., Vivas-Cortez, M. & Kedim, I., 31 Jul 2023, In: AIMS Mathematics. 8, 10, p. 23635-23654 20 p.

**Raina's Function-Based Formulations of Right-Sided Simpson's and Newton's Inequalities for Generalized Coordinated Convex Functions**

Vivas-Cortez, M., Murtaza, G., Baig, G. M. & Awan, M. U., 18 Jul 2023, In: Symmetry. 15, 7, 1441.

**NEW QUANTUM INTEGRAL INEQUALITIES VIA  $m$ -CONVEX FUNCTIONS OVER FINITE INTERVAL**

Vivas-Cortez, M., Kashuri, A., Raees, M. & Anwar, M., 15 Jul 2023, In: Journal of Mathematical Inequalities. 17, 2, p. 683-706 24 p.

**I.V-CR- $\gamma$ -Convex Functions and Their Application in Fractional Hermite–Hadamard Inequalities**

Vivas-Cortez, M., Ramzan, S., Awan, M. U., Javed, M. Z., Khan, A. G. & Noor, M. A., 12 Jul 2023, In: Symmetry. 15, 7, 1405.

**Numerical Analysis of New Hybrid Algorithms for Solving Nonlinear Equations**

Vivas-Cortez, M., Ali, N. Z., Khan, A. G. & Awan, M. U., 12 Jul 2023, In: Axioms. 12, 7, 684.

**On a Generalized Fractional Integral and Related Methodological Remarks**

Vivas-Cortez, M., Valdés, J. E. N., Jain, S. & Agarwal, P., 1 Jul 2023, In: Applied Mathematics and Information Sciences. 17, 4, p. 615-623 9 p.

**Exploration of Hermite–Hadamard-Type Integral Inequalities for Twice Differentiable  $h$ -Convex Functions**

Vivas-Cortez, M., Samraiz, M., Ghaffar, M. T., Naheed, S., Rahman, G. & Elmasry, Y., Jul 2023, In: Fractal and Fractional. 7, 7, 532.

**On Generalized Harmonically  $\Psi$ -MT-Convex Functions via Local Fractional Integrals and some Applications**

Vivas-Cortez, M., Saleem, M. S., Shah, A. F., Nazeer, W. & Hernandez, J. E. H., 1 May 2023, In: Applied Mathematics and Information Sciences. 17, 3, p. 417-429 13 p.

**On Fractional Integral Inequalities of Riemann Type for Composite Convex Functions and Applications**

Vivas-Cortez, M., Mukhtar, M., Shabbir, I., Samraiz, M. & Yaqoob, M., 22 Apr 2023, In: Fractal and Fractional. 7, 5, 345.

**On coupled snap system with integral boundary conditions in the G-Caputo sense**

Thabet, S. T. M., Matar, M. M., Salman, M. A., Samei, M. E., Vivas-Cortez, M. & Kedim, I., 28 Mar 2023, In: AIMS Mathematics. 8, 6, p. 12576-12605 30 p.

**Traveling wave behavior of new (2+1)-dimensional combined KdV–mKdV equation**

Vivas-Cortez, M., Akram, G., Sadaf, M., Arshed, S., Rehan, K. & Farooq, K., 6 Feb 2023, In: Results in Physics. 45, 106244.

**Numerical simulations of the soliton dynamics for a nonlinear biological model: Modulation instability analysis**

Vivas-Cortez, M., Arshed, S., Sadaf, M., Perveen, Z. & Akram, G., Feb 2023, In: PLoS ONE. 18, 2 February, e0281318.

DETECCIÓN DE SITUACIONES DE EMERGENCIAS USANDO EL MODELO NAIVE- BAYES DE MACHINE LEARNING  
VIVAS CORTEZ, M. J., 1 Jan 2023, In: MUNDO FESC.

**On local fractional integral inequalities via generalized ( $h_1, h_2$ )-preinvexity involving local fractional integral operators with Mittag-Leffler kernel**

Vivas-Cortez, M., Bibi, M., Muddassar, M. & Al-Sa'Di, S., 1 Jan 2023, In: Demonstratio Mathematica. 56, 1, 20220216.

**On some conformable boundary value problems in the setting of a new generalized conformable fractional derivative**

Vivas-Cortez, M., Árciga, M. P., Najera, J. C. & Hernández, J. E., 1 Jan 2023, In: Demonstratio Mathematica. 56, 1, 0212.

**Ostrowski Type Inequalities for Conformable Fractional Calculus via a Parameter**

Vivas-Cortez, M., Kermausuor, S. & Nápoles Valdés, J. E., 1 Jan 2023, *Advanced Mathematical Analysis and its Applications*. Debnath, P. (ed.). Taylor & Francis Group LLC, p. 237-250 14 p.

**A computational method for investigating a quantum integrodifferential inclusion with simulations and heatmaps**

Rezapour, S., Thabet, S. T. M., Kedim, I., Vivas-Cortez, M. & Ghaderi, M., 2023, In: AIMS Mathematics. 8, 11, p. 27241-27267 27 p.

**A modified class of Ostrowski-type inequalities and error bounds of Hermite–Hadamard inequalities**

Vivas-Cortez, M., Samraiz, M., Ullah, A., Iqbal, S. & Mukhtar, M., 2023, In: Journal of Inequalities and Applications. 2023, 1, 130.

**Certain integral inequalities associated with the strongly harmonic h-convex functions**

Vivas-Cortez, M., Agarwal, P., Hernández, J. E. & Momani, S., 2023, In: Applied Mathematics and Information Sciences. 17, 4, p. 639-648 10 p.

**Concerning the Inequality of Hermite-Hadamard Generalized**

Vivas-Cortez, M., Valdés, J. E. N., Agarwal, P. & Hernández, J. E., 2023, In: Applied Mathematics and Information Sciences. 17, 4, p. 649-656 8 p.

**FUNCIONES DE VARIACIÓN ACOTADA GENERALIZADA EN EL PLANO COMPLEJO**

Vivas-Cortez, M., 2023, *FUNCIONES DE VARIACIÓN ACOTADA GENERALIZADA EN EL PLANO COMPLEJO*. 2 ed. Universidad Antonio Nariño, Vol. 10.

**On some inequalities of Hermite-Hadamard type for MT- $\eta$ -convex functions and applications**

Vivas-Cortez, M., Saleem, M. S., Shah, A. F. & Nazeer, W., 2023

**Symmetry analysis and conservation laws of time fractional Airy type and other KdV type equations**

Vivas-Cortez, M., Masood, Y., Haq, A. U., Baloch, I. A., Kara, A. H. & Zaman, F. D., 2023, In: AIMS Mathematics. 8, 12, p. 29569-29576 8 p.

**Generalized fractional Hermite-Hadamard type inclusions for co-ordinated convex interval-valued functions**

Vivas-Cortez, M. J., Kara, H., Budak, H., Ali, M. A. & Chasreechai, S., 31 Dec 2022, In: Central European Journal of Mathematics. 20, 1, p. 1887-1903 17 p.

**Tempered Fractional Trapezium Inequalities**

Vivas-Cortez, M., Awan, M. U., Ullah, M. U., Talib, S., Noor, M. A. & Noor, K. I., 8 Nov 2022, In: Axioms. 11, 11, 624.

**A Multi-Index Generalized Derivative; Some Introductory Notes**

Vivas-Cortez, M., Lugo, L. M., Valdés, J. E. N. & Samei, M. E., 1 Nov 2022, In: Applied Mathematics and Information Sciences. 16, 6, p. 883-890 8 p.

**Fractional version of Hermite-Hadamard-Mercer inequalities for convex stochastic processes via  $\Psi_k$ -Riemann-Liouville fractional integrals and its applications**

Vivas-Cortez, M., Saleem, M. S. & Sajid, S., Sep 2022, In: Applied Mathematics and Information Sciences. 16, 5, p. 695-709 15 p.

**CONFORMABLE FRACTIONAL DERIVATIVES AND APPLICATIONS TO NEWTONIAN DYNAMIC AND COOLING BODY LAW**

VIVAS CORTEZ, M. J., 27 Jul 2022, In: SELECCIONES MATEMATICAS.

**KHALIL CONFORMABLE FRACTIONAL DERIVATIVE AND ITS APPLICATIONS TO POPULATION GROWTH AND BODY COOLING MODELS**

VIVAS CORTEZ, M. J., 27 Jul 2022, In: SELECCIONES MATEMATICAS.

**Montgomery Identity and Ostrowski-Type Inequalities for Generalized Quantum Calculus through Convexity and Their Applications**

Kalsoom, H., Vivas-Cortez, M., Abidin, M. Z., Marwan, M. & Khan, Z. A., 15 Jul 2022, In: Symmetry. 14, 7, 1449.

**Some Fractional Inequalities of Ostrowski-Type and related Applications**

Vivas-Cortez, M., Saleem, M. S. & Sajid, S., 1 Jul 2022, In: Applied Mathematics and Information Sciences. 16, 4, p. 479-489 11 p.

**Some fractional integral inequalities via h-Godunova-Levin preinvex function**

Ali, S., Ali, R. S., Vivas-Cortez, M., Mubeen, S., Rahman, G. & Nisar, K. S., 23 May 2022, In: AIMS Mathematics. 7, 8, p. 13832-13844 13 p.

**Some novel inequalities involving Atangana-Baleanu fractional integral operators and applications**

Vivas-Cortez, M., Awan, M. U., Rafique, S., Javed, M. Z. & Kashuri, A., 22 Apr 2022, In: AIMS Mathematics. 7, 7, p. 12203-12226 24 p.

**Generalized  $(p, q)$ -analogues of Dragomir-Agarwal's inequalities involving Raina's function and applications**

Vivas-Cortez, M., Javed, M. Z., Awan, M. U., Kashuri, A. & Noor, M. A., 13 Apr 2022, In: AIMS Mathematics. 7, 6, p. 11464-11486 23 p.

**$q_1, q_2$ -Ostrowski-Type Integral Inequalities Involving Property of Generalized Higher-Order Strongly  $n$ -Polynomial Preinvexity**

Kalsoom, H. & Vivas-Cortez, M., Apr 2022, In: Symmetry. 14, 4, 717.

**Fractional identities involving exponential kernel and associated fractional trapezium like inequalities**

Vivas-Cortez, M., Awan, M. U., Talib, S., Ye, G. & Noor, M. A., 22 Mar 2022, In: AIMS Mathematics. 7, 6, p. 10195-10214 20 p.

**On some generalized Raina-type fractional-order integral operators and related Chebyshev inequalities**

Vivas-Cortez, M., Mohammed, P. O., Hamed, Y. S., Kashuri, A., Hernández, J. E. & Macías-Díaz, J. E., 22 Mar 2022, In: AIMS Mathematics. 7, 6, p. 10256-10275 20 p.

**Multi-Parameter Quantum Integral Identity Involving Raina's Function and Corresponding  $q$ -Integral Inequalities with Applications**

Vivas-Cortez, M., Awan, M. U., Talib, S., Kashuri, A. & Noor, M. A., 18 Mar 2022, In: Symmetry. 14, 3, 606.

**New Simpson's Type Estimates for Two Newly Defined Quantum Integrals**

Raees, M., Anwar, M., Vivas-Cortez, M., Kashuri, A., Samraiz, M. & Rahman, G., 8 Mar 2022, In: Symmetry. 14, 3, 548.

**On the Generalized Laplace's Equation**

Lugo, L. M., Valdes, J. E. N. & Vivas-Cortez, M., 1 Mar 2022, In: Applied Mathematics and Information Sciences. 16, 2, p. 169-176 8 p.

**Hermite-Hadamard Fractional Integral Inequalities via Abel-Gontscharoff Green's Function**

Li, Y., Samraiz, M., Gul, A., Vivas-Cortez, M. & Rahman, G., 23 Feb 2022, In: Fractal and Fractional. 6, 3, 126.

**Post-quantum Ostrowski type integral inequalities for functions of two variables**

Vivas-Cortez, M., Ali, M. A., Budak, H. & Sial, I. B., 23 Feb 2022, In: AIMS Mathematics. 7, 5, p. 8035-8063 29 p.

**TRAPEZIUM-LIKE INEQUALITIES INVOLVING  $K$ -TH ORDER DIFFERENTIABLE  $RF$ -CONVEX FUNCTIONS AND APPLICATIONS**

Vivas-Cortez, M., Awan, M. U., Talib, S., Noor, M. A. & Noor, K. I., 23 Feb 2022, In: Symmetry. 14, 3, 448.

**Hermite-Hadamard and Ostrowski type inequalities in  $h$ -calculus with applications**

Vivas-Cortez, M., Ali, M. A., Murtaza, G. & Sial, I. B., 8 Feb 2022, In: AIMS Mathematics. 7, 4, p. 7056-7068 13 p.

**On Generalization of Different Integral Inequalities for Harmonically Convex Functions**

Reunsumrit, J., Vivas-Cortez, M. J., Ali, M. A. & Sitthiwirattam, T., 2 Feb 2022, In: Symmetry. 14, 2, 302.

**On Opial-type inequality for a generalized fractional integral operator**

Vivas-Cortez, M., Martínez, F., Nápoles Valdes, J. E. & Hernández, J. E., 1 Jan 2022, In: Demonstratio Mathematica. 55, 1, p. 695-709 15 p.

Hadamard-Fejér type inequalities related to  $j_m$ -convex function

Vivas-Cortez, M., Saleem, M. S. & Rehman, R. U., 2022, In: Applied Mathematics and Information Sciences. 16, 6, p. 1009-1016 8 p.

**Hermite-Hadamard Type Inequalities for Coordinated Quasi-Convex Functions via Generalized Fractional Integrals**

Vivas-Cortez, M., Kermausuor, S. & Nápoles Valdés, J. E., 2022, *Forum for Interdisciplinary Mathematics*. Springer, p. 275-296 22 p. (Forum for Interdisciplinary Mathematics).

**New ostrowski type inequalities for generalized  $s$ -convex functions with applications to some special means of real numbers and to midpoint formula**

Agarwal, P., Vivas-Cortez, M., Rangel-Oliveros, Y. & Ali, M. A., 2022, In: AIMS Mathematics. 7, 1, p. 1429-1444 16 p.

**SOBRE LA EXISTENCIA DE SOLUCIONES DE UNA ECUACIÓN DIFERENCIAL GENERALIZADA USANDO LA DERIVADA GENERALIZADA NO CONFORME**

Vivas-Cortez, M., Nápoles Valdés, J. E. & Larreal B., O. J., 2022, *SOBRE LA EXISTENCIA DE SOLUCIONES DE UNA ECUACIÓN DIFERENCIAL GENERALIZADA USANDO LA DERIVADA GENERALIZADA NO CONFORME*. Universidad Antonio Nariño, p. 54

**Some Hermite-Hadamard Weighted Integral Inequalities for  $(h, m)$ -Convex Modified Functions**

Vivas-Cortez, M., Valdés, J. E. N. & Guerrero, J. A., 2022, In: Applied Mathematics and Information Sciences. 16, 1, p. 25-33 9 p.

**Some new Hermite-Hadamard type inequalities for  $p$ -convex functions with generalized fractional integral operators**

Vivas-Cortez, M., Hussain, S. & Latif, M. A., 2022, In: International Journal of Nonlinear Analysis and Applications.

**Trapezium-type AB-fractional Integral Inequalities Using Generalized Convex and Quasi  $\Phi$ -Convex Functions**

Vivas-Cortez, M., Kashuri, A. & Hernández, J. E. H., 2022, In: Progress in Fractional Differentiation and Applications. 8, 1, p. 107-122 16 p.

**FRACTIONAL CALCULUS: HISTORICAL NOTES**

Vivas-Cortez, M., Guzman, P. M., Luciano M., L. M. B. & Juan E., N. V., 31 Dec 2021, In: MATUA. 8, 2, p. 35-45 11 p.

**Some new hermite-hadamard-fejér fractional type inequalities for  $h$ -convex and harmonically  $h$ -convex interval-valued functions**

Kalsoom, H., Latif, M. A., Khan, Z. A. & Vivas-Cortez, M., 26 Dec 2021, In: Mathematics. 10, 1, 74.

**Some Parameterized Quantum Simpson's and Quantum Newton's Integral Inequalities via Quantum Differentiable Convex Mappings**

You, X. X., Ali, M. A., Budak, H., Vivas-Cortez, M. & Qaisar, S., 26 Dec 2021, In: Mathematical Problems in Engineering. 2021, 5526726.

**On some new simpson's formula type inequalities for convex functions in post-quantum calculus**

Vivas-Cortez, M. J., Ali, M. A., Qaisar, S., Sial, I. B., Jansem, S. & Mateen, A., 14 Dec 2021, In: Symmetry. 13, 12, 2419.

**Hermite-jensen-mercer-type inequalities via caputo-fabrizio fractional integral for  $h$ -convex function**

Vivas-Cortez, M., Saleem, M. S., Sajid, S., Zahoor, M. S. & Kashuri, A., 10 Dec 2021, In: Fractal and Fractional. 5, 4, 269.

**A Study of Uniform Harmonic  $\chi$ -Convex Functions with respect to Hermite-Hadamard's Inequality and Its Caputo-Fabrizio Fractional Analogue and Applications**

Vivas-Cortez, M., Awan, M. U., Javed, M. Z., Noor, M. A. & Noor, K. I., 3 Dec 2021, In: Journal of Function Spaces. 2021, 7819882.

**Weighted midpoint hermite-hadamard-fejér type inequalities in fractional calculus for harmonically convex functions**

Kalsoom, H., Vivas-Cortez, M., Latif, M. A. & Ahmad, H., 2 Dec 2021, In: Fractal and Fractional. 5, 4, 252.

**Some new generalized  $k$ -fractional hermite–hadamard–mercer type integral inequalities and their applications**

Vivas-Cortez, M., Awan, M. U., Javed, M. Z., Kashuri, A., Noor, M. A. & Noor, K. I., 26 Nov 2021, In: AIMS Mathematics. 7, 2, p. 3203-3220 18 p.

**New parameterized inequalities for  $\eta$ -quasiconvex functions via  $(P, q)$ -calculus**

Kalsoom, H., Vivas-Cortez, M., Idrees, M. & Agarwal, P., 16 Nov 2021, In: Entropy. 23, 11, 1523.

**Some new post-quantum integral inequalities involving twice  $(P, q)$ -differentiable  $\psi$ -preinvex functions and applications**

Vivas-Cortez, M., Awan, M. U., Talib, S., Kashuri, A. & Noor, M. A., 29 Oct 2021, In: Axioms. 10, 4, 283.

**Trapezoidal-type inequalities for strongly convex and quasi-convex functions via post-quantum calculus**

Kalsoom, H., Vivas-Cortez, M. & Latif, M. A., 22 Sep 2021, In: Entropy. 23, 10, 1238.

**On a Generalized Laplace Transform**

Miguel, V. C., Luciano M., L. M. B. & Juan E., N. V., Sep 2021, In: Applied Mathematics and Information Sciences. 15, 5, p. 667-675 9 p.

**SOBRE LYAPUNOV Y LA TEORÍA DE LA ESTABILIDAD**

VIVAS CORTEZ, M. J., 19 Aug 2021, In: MATUA.

**DESIGUALDADES DEL TIPO MINKOWSKI Y HÖLDER CON UNA NUEVA INTEGRAL FRACCIONARIAA GENERALIZADA**

VIVAS CORTEZ, M. J., 17 Aug 2021, In: MATUA.

**On Non Conformable Fractional Laplace Transform**

Vivas-Cortez, M., Valdes, J. E. N., Herndndez, J. E. H., Velasco, J. V. & Larreal, O., 1 Jul 2021, In: Applied Mathematics and Information Sciences. 15, 4, p. 403-409 7 p.

**Some new hermite–hadamard and related inequalities for convex functions via  $(P, q)$ -integral**

Vivas-Cortez, M., Ali, M. A., Budak, H., Kalsoom, H. & Agarwal, P., Jul 2021, In: Entropy. 23, 7, 828.

**Generalizations of fractional hermite–hadamard–mercer like inequalities for convex functions**

Vivas-Cortez, M., Ali, M. A., Kashuri, A. & Budak, H., 23 Jun 2021, In: AIMS Mathematics. 6, 9, p. 9397-9421 25 p.

**Newton's law of cooling with generalized conformable derivatives**

Vivas-Cortez, M., Fleitas, A., Guzmán, P. M., Nápoles, J. E. & Rosales, J. J., 21 Jun 2021, In: Symmetry. 13, 6, 1093.

**Some generalized Hermite–Hadamard–Fejér inequality for convex functions**

Vivas-Cortez, M., Kórus, P. & Nápoles Valdés, J. E., 8 Apr 2021, In: Advances in Difference Equations. 2021, 1, 199.

**On the oscillatory behaviour of some forced nonlinear generalized differential equation**

Lugo, L. M., Nápoles Valdés, J. E. & Vivas-Cortez, M., 29 Mar 2021, In: Investigacion Operacional. 42, 2, p. 267-278 12 p.

**Exponential Type  $p$ -Convex Function with Some Related Inequalities and their Applications**

Vivas-Cortez, M., Kashuri, A., Butt, S. I., Tariq, M. & Nasir, J., 11 Mar 2021, In: Applied Mathematics and Information Sciences. 15, 3, p. 253-261 9 p.

**Extremal solution to generalized differential equations under integral boundary condition**

Vivas-Cortez, M., Larreal B., O. J. & Nápoles Valdés, J. E., 11 Feb 2021, In: Journal of Mathematical Control Science and Applications. 7, 1, p. 57-67 11 p.

**The Minkowski Inequality for Generalized Fractional Integrals**

Delgado, J. G., Valdés, J. E. N., Reyes, E. P. & Vivas-Cortez, M., 1 Jan 2021, In: Applied Mathematics and Information Sciences. 15, 1, p. 1-7 7 p.

**Some mean square integral inequalities for preinvexity involving the beta function**

Saleem, M. S., Vivas-Cortez, M. & Sajid, S., 2021, In: International Journal of Nonlinear Analysis and Applications. 12, Special Issue, p. 617-632 16 p.

**NUEVAS DESIGUALDADES TIPO JENSEN PARA FUNCIONES  $\phi$ -CONVEXAS**

RANGEL OLIVEROS, Y. C. & VIVAS CORTEZ, M. J., 30 Dec 2020, In: MATUA.

**NUEVOS RESULTADOS SOBRE LA DERIVADA FRACCIONARIA CONFORMABLE DE KHALIL**

VIVAS CORTEZ, M. J., 30 Dec 2020, In: MATUA.

**On  $\phi$ -Convex Stochastic Processes and Integral Inequalities Related**

Vivas-Cortez, M. J., Kashuri, A. & Hernández, J. E. H., Nov 2020, In: Applied Mathematics and Information Sciences. 14, 6, p. 947-956 10 p.

**Trapezium-type inequalities for an extension of riemann–liouville fractional integrals using raina’s special function and generalized coordinate convex functions**

Vivas-Cortez, M., Kashuri, A., Liko, R. & Hernández, J. E. H., 15 Oct 2020, In: Axioms. 9, 4, p. 1-17 17 p., 117.

**Integral inequalities of Hermite–Hadamard type for quasi-convex functions with applications**

Mohammed, P. O., Vivas-Cortez, M., Abdeljawad, T. & Rangel-Oliveros, Y., 18 Sep 2020, In: AIMS Mathematics. 5, 6, p. 7316-7331 16 p.

**Some new newton's type integral inequalities for co-ordinated convex functions in quantum calculus**

Vivas-Cortez, M., Ali, M. A., Kashuri, A., Sial, I. B. & Zhang, Z., 8 Sep 2020, In: Symmetry. 12, 9, 1476.

**Some modifications in conformable fractional integral inequalities**

Baleanu, D., Mohammed, P. O., Vivas-Cortez, M. & Rangel-Oliveros, Y., 22 Jul 2020, In: Advances in Difference Equations. 2020, 1, 374.

**Ostrowski and Jensen-type inequalities via  $(s, m)$ -convex functions in the second sense: Ostrowski and Jensen-type inequalities and generalized convexity**

Vivas-Cortez, M. J. & Hernández Hernández, J. E., 1 Jul 2020, In: Boletín de la Sociedad Matemática Mexicana. 26, 2, p. 287-302 16 p.

**Simpson's Integral Inequalities for Twice Differentiable Convex Functions**

Vivas-Cortez, M., Abdeljawad, T., Mohammed, P. O. & Rangel-Oliveros, Y., 27 Jun 2020, In: Mathematical Problems in Engineering. 2020, 1936461.

**On a new generalized integral operator and certain operating properties**

Guzman, P. M., Lugo, L. M., Nápoles Valdés, J. E. & Vivas-Cortez, M., 20 Jun 2020, In: Axioms. 9, 2, p. 1-14 14 p., 69.

**Trapezium-type inequalities for raina’s fractional integrals operator using generalized convex functions**

Vivas-Cortez, M., Kashuri, A. & Hernández Hernández, J. E., 20 Jun 2020, In: Symmetry. 12, 6, p. 1-17 17 p., 1034.

**Some inequalities for reciprocally  $(s,m)$ -convex in the second sense functions and applications to special means**

Bracamonte, M. R., Medina-Viloria, J. & Vivas-Cortez, M., 1 Jun 2020, In: Journal of Mathematical Inequalities. 14, 2, p. 483-500 18 p.

**ON EXPONENTIALLY  $(H_1, H_2)$ -CONVEX FUNCTIONS AND FRACTIONAL INTEGRAL INEQUALITIES RELATED**

VIVAS CORTEZ, M. J., 21 May 2020, In: MATHEMATICA MORAVICA.

**Hermite-hadamard type mean square integral inequalities for stochastic processes whose twice mean square derivative are generalized  $\eta$ -convex.**

Vivas-Cortez, M., Kashuri, A., García, C. & Hernández, J. E. H., 1 May 2020, In: Applied Mathematics and Information Sciences. 14, 3, p. 493-502 10 p.

**Some new q-integral inequalities using generalized quantum montgomery identity via preinvex functions**

Vivas-Cortez, M., Kashuri, A., Liko, R. & Hernández, J. E. H., 4 Apr 2020, In: Symmetry. 12, 4, 553.

**Quantum trapezium-type inequalities using generalized  $\phi$ -convex functions**

Vivas-Cortez, M. J., Kashuri, A., Liko, R. & Hernández, J. E., 1 Mar 2020, In: Axioms. 9, 1, 12.

**An inequality related to s- $\phi$ -convex functions**

RANGEL OLIVEROS, Y. C. & VIVAS CORTEZ, M. J., 1 Jan 2020, In: Applied Mathematics and Information Sciences. 14, 1, p. 151-154 4 p.

**Quantum estimates of ostrowski inequalities for generalized  $\phi$ -convex functions**

Vivas-Cortez, M. J., Kashuri, A., Liko, R. & Hernández, J. E. H., 1 Dec 2019, In: Symmetry. 11, 12, 1513.

**New Quantum estimates of Trapezium-type inequalities for generalized  $\phi$ -Convex functions**

Vivas-Cortez, M. J., Liko, R., Kashuri, A. & Hernández Hernández, J. E., 1 Nov 2019, In: Mathematics. 7, 11, 1047.

**Some inequalities using generalized convex functions in quantum analysis**

Vivas-Cortez, M. J., Kashuri, A., Liko, R. & Hernández, J. E. H., 1 Nov 2019, In: Symmetry. 11, 11, 1402.

**NEW OSTROWSKI TYPE INEQUALITIES FOR COORDINATED (S,M)-CONVEX FUNCTIONS IN THE SECOND SENSE**

VIVAS CORTEZ, M. J., 1 Sep 2019, In: Applied Mathematics and Information Sciences.

**Ostrowski-Type Inequalities for Functions Whose Derivative Modulus is Relatively (m,h1,h2)-Convex.**

Miguel, V. C., Carlos, G. & Jorge, E. H., 1 May 2019, In: Applied Mathematics and Information Sciences. 13, 3, p. 369-378 10 p.

**HERMITE-HADAMARD INEQUALITIES TYPE FOR RAINA'S FRACTIONAL INTEGRAL OPERATOR USING N-CONVEX**

VIVAS CORTEZ, M. J., 18 Feb 2019, In: REVISTA DE MATEMATICAS: TEORIA Y APLICACIONES.

**Ostrowski-type inequalities for functions whose derivative modulus is relatively convex**

Cortez, M. V., García, C. & Hernández, H. J. E., 1 Jan 2019, In: Applied Mathematics and Information Sciences. 13, 1, p. 121-127 7 p.

**New ostrowski type inequalities for coordinated (s,m)-convex functions in the second sense**

Vivas-cortez, M. J., García, C., Kashuri, A. & Hernández, J. E. H., 2019, In: Applied Mathematics and Information Sciences. 13, 5, p. 821-829 9 p.

**HUTCHINSON'S EQUATION WITH FINITE DELAY AND PRIME NUMBERS THEOREM**

VIVAS CORTEZ, M. J., 30 Dec 2018, In: REVISTA.

**ON SOME HERMITE-HADAMARD TYPE INEQUALITIES FOR FUNCTIONS WHOSE SECOND DERIVATIVE ARE CONVEX GENERALIZED**

RANGEL OLIVEROS, Y. C. & VIVAS CORTEZ, M. J., 30 Dec 2018, In: REVISTA.

**Ostrowski type inequalities for functions whose second derivatives are convex generalized**

Rangel-Oliveros, Y. & Vivas-Cortez, M., 1 Nov 2018, In: Applied Mathematics and Information Sciences. 12, 6, p. 1117-1126 10 p.

**CONSTRUCCIÓN DE M-ONDÍCULAS EN R CON SOPORTE COMPACTO PARTE I**

RANGEL OLIVEROS, Y. C. & VIVAS CORTEZ, M. J., 1 Oct 2018, In: REVISTA.

**TEOREMA DEL PUNTO FIJO DE BROUWER**

VIVAS CORTEZ, M. J., 1 Oct 2018, In: REVISTA.

**Jensen's inequality for convex functions on n-coordinates**

Viloria, J. M. & Vivas-Cortez, M., 1 Sep 2018, In: Applied Mathematics and Information Sciences. 12, 5, p. 931-935 5 p.

**HERMITE-HADAMARD TYPE INEQUALITIES FOR HARMONICALLY CONVEX FUNCTIONS ON N-COORDINATES**

VIVAS CORTEZ, M. J., 1 May 2018, In: REVISTA.

**Some inequalities via strongly p-harmonic log-convex Stochastic Processes**

Cortez, M. V. & Hernández, H. J. E., 1 May 2018, In: Applied Mathematics and Information Sciences. 12, 3, p. 593-600 8 p.

**LAS MATEMÁTICAS, ALGUNAS APLICACIONES Y SU IMPORTANCIA**

VIVAS CORTEZ, M. J., 1 Apr 2018, In: REVISTA.

**On  $(m, h_1, h_2)$ -Convex stochastic processes using fractional integral operator**

Cortez, M. V. & Hernández, H. J. E., 1 Jan 2018, In: Applied Mathematics and Information Sciences. 12, 1, p. 45-53 9 p.

**On a Hardy's inequality for a fractional integral operator**

Hernández, J. E. H. & Cortez, M. J. V., 2018, In: Annals of the University of Craiova, Mathematics and Computer Science Series. 45, 2, p. 232-242 11 p.

**SOBRE LA EXISTENCIA Y UNICIDAD DE SOLUCIONES PARA UN SISTEMA DE ECUACIONES NO LINEAL**

VIVAS CORTEZ, M. J. & OSORIO LÓPEZ, J. C., 1 Dec 2017, In: REVISTA.

**UNA VARIANTE DE LA DESIGUALDAD DE JENSEN-MERCER PARA FUNCIONES h-CONVEXAS Y FUNCIONES DE OPERADORES h-CONVEXAS**

VIVAS CORTEZ, M. J., 1 Dec 2017, In: REVISTA.

**On relative m-semi logarithmically convexity functions**

Cortez, M. V. & Hernández, J. E., 1 Nov 2017, In: Applied Mathematics and Information Sciences. 11, 6, p. 1565-1574 10 p.

**Refinements for Hermite-Hadamard type inequalities for operator h-convex function**

Cortez, M. V. & Hernández, H. J. E., 1 Sep 2017, In: Applied Mathematics and Information Sciences. 11, 5, p. 1299-1307 9 p.

**On some new generalized Hermite-Hadamard-Fejér inequalities for product of two operator h-convex functions.**

Cortez, M. V. & Hernández, J. E., 1 Jul 2017, In: Applied Mathematics and Information Sciences. 11, 4, p. 983-992 10 p.

**On  $(h_1, h_2, m)$ -GA-convex stochastic processes**

Vivas-Cortez, M. J. & Hernández, J. E. H., 1 May 2017, In: Applied Mathematics and Information Sciences. 11, 3, p. 649-657 9 p.

**A sandwich theorem and stability result of Hyers-Ulam type for Harmonically convex functions**

Vivas Cortez, M. J., Bracamonte, M. & Medina-Viloria, J., May 2017, In: Lecturas Matemáticas.

**El origen del método deductivo y algunos aportes de los griegos a la matemática de nuestros días**

Vivas Cortez, M. J., Apr 2017, In: Revista Matemática, ESPOL. 15, 1

**Ostrowski type inequalities for functions whose derivatives are  $(m, h_1, h_2)$ -convex**

Vivas-Cortez, M. & García, C., 2017, In: Applied Mathematics and Information Sciences. 11, 1, p. 79-86 8 p.

**Some new generalized Jensen and Hermite-Hadamard inequalities for operator  $h$ -convex functions**

Cortez, M. V., Hernández, H. J. E. & Azócar, L. A., 2017, In: Applied Mathematics and Information Sciences. 11, 2, p. 383-392 10 p.

**Fejér type inequalities for  $m$ -convex functions**

Vivas Cortez, M. J., May 2016, In: Publicaciones en Ciencia y Tecnología..

**Relative Strongly  $h$ -Convex Functions and Integral Inequalities**

Vivas Cortez, M. J., May 2016, In: Applied Mathematics and Information Sciences, Letters.

**Féjér type inequalities for  $(s, m)$ -Convex functions in second sense**

Cortez, M. V., 2016, In: Applied Mathematics and Information Sciences. 10, 5, p. 1689-1696 8 p.

**Hermite-hadamard-fejér type inequalities for strongly  $(s, m)$ -convex functions with modulus  $c$ , in second sense**

Bracamonte, M., Giménez, J. & Vivas-Cortez, M., 2016, In: Applied Mathematics and Information Sciences. 10, 6, p. 2045-2053 9 p.

**New hermite-Hadamard and Jensen type inequalities for  $h$ -convex functions on fractal sets**

Vivas, M., Hernández, J. & Merentes, N., 2016, In: Revista Colombiana de Matematicas. 50, 2, p. 145-164 20 p.

**Fractales y la derivada Fractal, a la caza de la dimensión oculta**

Vivas-Cortez, M., 28 Feb 2015, p. 54-56.

**STUDENT ATTITUDES TOWARD THE USE OF EDUCATIONAL TECHNOLOGIES FOR LEARNING MATHEMATICS: A VIEW FROM ENGINEERING STUDENTS OF THE LISANDRO ALVARADO UNIVERSITY**

Bullones Garcia, M. C., Vivas Cortez, M. J. & Caseres, E., 2015, In: Revista Educacion en Ingenieria.

**FUNCIONES DE VARIACIÓN ACOTADA GENERALIZADA SOBRE SUBCONJUNTOS DEL PLANO COMPLEJO**

Vivas Cortez, M. J., Oct 2014

**Functions of bounded variations on compact subsets of  $\mathbb{C}$**

Vivas Cortez, M. J., 30 Jun 2014, In: Commentationes Mathematicae.

**$k$ -Variacion de funciones vectoriales definidas sobre subconjuntos compactos de  $\mathbb{R}$**

Vivas Cortez, M. J., Jun 2014, In: Boletín de la Asociación Matemática de Venezuela..

**Nociones de Cálculo Diferencial**

Vivas Cortez, M. J., May 2014

**Praxis gerencial en la investigación universitaria larense**

Vivas Cortez, M. J., May 2014, In: Gestión y Gerencia.

## **Matemáticas Previas al Cálculo, una iniciación a la vida universitaria.**

Vivas Cortez, M. J., Aug 2013

## **Efectos de un curso de matemáticas previas al cálculo en el rendimiento académico en la asignatura matemática I en una ingeniería del decanato de ciencias de la UCLA**

Vivas Cortez, M. J., Jul 2013, *Efectos de un curso de matemáticas previas al cálculo en el rendimiento académico en la asignatura matemática I en una ingeniería del decanato de ciencias de la UCLA*.

Extinction in a two dimensional Lotka-Volterra system with infinite delay

Montes de Oca, F. & Vivas, M., Dec 2006, In: Nonlinear Analysis: Real World Applications. 7, 5, p. 1042-1047 6 p.

## **Press/Media**

### **Findings from Pontifical Catholic University of Ecuador in Mathematics Reported (Investigation of Analytical Soliton Solutions to the Non-Linear Klein-Gordon Model Using Efficient Techniques)**

Vivas-Cortez, M.

10/09/24

1 item of Media coverage

### **Findings from Pontifical Catholic University Yields New Findings on Mathematics (On a New Structure of Multi-term Hilfer Fractional Impulsive Neutral Levin-nohel Integrodifferential System With Variable Time Delay)**

Vivas Cortez, M. J.

9/04/24

1 item of Media coverage

### **Hassiba Benbouali University of Chlef Researchers Reveal New Findings on Engineering [Exploring the solutions of tempered (k,p)-Hilfer hybrid implicit boundary value problem]**

Vivas-Cortez, M.

7/04/25

1 item of Media coverage

### **New Computer Science Study Results Reported from Pontifical Catholic University of Ecuador (Application of an Extended Cubic B-Spline to Find the Numerical Solution of the Generalized Nonlinear Time-Fractional Klein-Gordon Equation in ...)**

Vivas-Cortez, M.

15/05/24

1 item of Media coverage

### **New Findings in Mathematics Described from Pontifical Catholic University of Ecuador (Lump, Breather, Ma-Breather, Kuznetsov-Ma-Breather, Periodic Cross-Kink and Multi-Waves Soliton Solutions for Benney-Luke Equation)**

Vivas-Cortez, M.

9/07/24

1 item of Media coverage

### **New Findings on Mathematics from Pontifical Catholic University Summarized (On Opial-type Inequality for a Generalized Fractional Integral Operator)**

Vivas Cortez, M. J.

8/11/22

1 item of Media coverage

### **New Mathematics Study Findings Have Been Reported from Government College University (A New Approach To Error Inequalities: From Euler-maclaurin Bounds To Cubically Convergent Algorithm)**

Vivas-Cortez, M.

22/01/25

1 item of Media coverage

**Pontificia Universidad Catolica del Ecuador Researchers Detail Research in Mathematics (Raina's Function-Based Formulations of Right-Sided Simpson's and Newton's Inequalities for Generalized Coordinated Convex Functions)**

Vivas Cortez, M. J.

15/08/23

1 item of Media coverage

**Pontificia Universidad Catolica del Ecuador Researchers Provide New Insights into Inequalities and Applications (A modified class of Ostrowski-type inequalities and error bounds of Hermite-Hadamard inequalities)**

Vivas Cortez, M. J.

27/10/23

1 item of Media coverage

**Researchers at Anhui Xinhua University Target Science and Technology (Bifurcation study, phase portraits and optical solitons of dual-mode resonant nonlinear Schrodinger dynamical equation with Kerr law non-linearity)**

Vivas-Cortez, M.

14/08/24

1 item of Media coverage

**Researchers at Hashemite University Have Reported New Data on Mathematics [On Local Fractional Integral Inequalities Via Generalized ((Sic)1, (Sic) 2) -preinvexity Involving Local Fractional Integral Operators With Mittag-leffler Kernel]**

Vivas Cortez, M. J.

4/07/23

1 item of Media coverage

**Researchers at Pontifical Catholic University of Ecuador Report Research in Mathematics (Hyperbolic Non-Polynomial Spline Approach for Time-Fractional Coupled KdV Equations: A Computational Investigation)**

Vivas-Cortez, M.

9/01/25

1 item of Media coverage

**Researchers from COMSATS University Islamabad Detail Research in Mathematical and Computer Modelling (Harmonic conformable refinements of Hermite-Hadamard Mercer inequalities by support line and related applications)**

Vivas-Cortez, M.

9/12/24

1 item of Media coverage

**Research from Pontifical Catholic University of Ecuador in the Area of Mathematics Published (Abundant Soliton Solutions to the Generalized Reaction Duffing Model and Their Applications)**

Vivas-Cortez, M.

19/07/24

1 item of Media coverage

**Research from Pontificia Universidad Catolica del Ecuador in Mathematics Provides New Insights [On local fractional integral inequalities via generalized  $(h_1, h_2)$ -preinvexity involving local fractional ...]**

Vivas-Cortez, M.

21/06/23

1 item of Media coverage

**Research from University of Sargodha Provides New Data on Science and Technology (Advancements in Bullen-type inequalities via fractional integral operators and their applications)**

Vivas-Cortez, M.

23/09/24

1 item of Media coverage

**Studies from Pontifical Catholic University of Ecuador Yield New Data on Mathematics (Improved Fractional Differences with Kernels of Delta Mittag-Leffler and Exponential Functions)**

Vivas-Cortez, M.  
13/01/25  
1 item of Media coverage

**Studies from Pontifical Catholic University Update Current Data on Mathematics (New Results About Fuzzy G-convex Functions Connected With the Q-analogue Multiplier-nor Integral Operator)**

Vivas Cortez, M. J.  
1/03/24  
1 item of Media coverage

**Study Findings from Faculty of Exact and Natural Sciences Advance Knowledge in Engineering (Bullen-Mercer type Inequalities with applications in numerical analysis)**

Vivas-Cortez, M.  
6/06/24  
1 item of Media coverage

**Study Findings on Axioms Are Outlined in Reports from Pontificia Universidad Catolica del Ecuador (Generalized Fuzzy-Valued Convexity with Ostrowski's, and Hermite-Hadamard Type Inequalities over Inclusion Relations and Their Applications)**

Vivas-Cortez, M.  
12/08/24  
1 item of Media coverage

**Study Findings on Engineering Described by Researchers at East China Normal University (Uniqueness property of the generalized Laplace transform and computational visualization of electromagnetic waves in plasma via fractional operators)**

Vivas-Cortez, M.  
5/09/25  
1 item of Media coverage

**Study Findings on Information and Data Theories Reported by Researchers at University of Okara (Fractional Hermite-Hadamard-Mercer-Type Inequalities for Interval-Valued Convex Stochastic Processes with Center-Radius Order and Their Related ...)**

Vivas-Cortez, M.  
13/08/24  
1 item of Media coverage

**University of Sargodha Researchers Highlight Research in Engineering (Fractional integral inequalities and error estimates of generalized mean differences)**

Vivas-Cortez, M.  
7/05/24  
1 item of Media coverage

**University of Sargodha Researchers Provide New Insights into Engineering (Visualizing fractional inequalities through 2D and 3D graphs with applications)**

Vivas-Cortez, M.  
6/05/24  
1 item of Media coverage

## **Student theses**

**FUNCIONES DE VARIACIÓN ACOTADA GENERALIZADA SOBRE SUBCONJUNTOS DEL PLANO COMPLEJO**

Vivas Cortez, M. J. (Author), Giménez, J. (Supervisor), 9 Oct 2014

**Extinción en Sistemas del tipo Lotka-Volterra con Retardo**

Vivas-Cortez, M. (Author), Montes de Oca, F. (Supervisor), 2007

## Qualifications

Master, Master in Mathematics: Pure Mathematics Mention, Universidad Centroccidental Lisandro Alvarado, Universidad Centroccidental Lisandro Alvarado  
1997 → 2002

PhD, Doctor of Sciences, Mention in Mathematics., Universidad Central de Venezuela

Bachelor of Mathematical Sciences (Mathematician), Universidad Centroccidental Lisandro Alvarado, Universidad Centroccidental Lisandro Alvarado

## Activities

### Simposio MEM 2025

Vivas Cortez, M. J. (Speaker)

19 Feb 2025 → 22 Feb 2025

### A New Generalized Local Derivative of Two Parameters

Vivas Cortez, M. J. (Speaker)

2025

### a Two-Parameter Local Operators: A New Tool for Differential Analysis

Vivas Cortez, M. J. (Speaker)

2025

### Algunos resultados sobre derivadas fraccionarias y generalizadas

Vivas Cortez, M. J. (Speaker)

13 Nov 2024 → 15 Nov 2024

### Some results on a new generalized local derivative of two parameters.

Vivas Cortez, M. J. (Speaker)

Nov 2024

### Fractales y la derivada Fractal, a la caza de la dimensión oculta

Vivas Cortez, M. J. (Speaker)

Feb 2024

### Fractal Derivative, Some results

Vivas Cortez, M. J. (Speaker)

2024

### XX Encuentro Internacional de Matemáticas

Vivas Cortez, M. J. (Speaker)

2024

### Derivadas generalizadas, Nuevas tendencias y resultados recientes

Vivas Cortez, M. J. (Speaker)

8 Nov 2023 → 10 Nov 2023

### Derivada Fractal Exponencial

Vivas Cortez, M. J. (Speaker)

24 Oct 2023 → 27 Oct 2023

### La derivada fractal, algunos resultados

Vivas Cortez, M. J. (Speaker)

21 Sep 2023 → 24 Sep 2023

**Sobre la derivada Fractal, algunos resultados recientes"**

Vivas Cortez, M. J. (Speaker)

5 Jul 2023 → 9 Jul 2023

**Algunos resultados sobre una nueva derivada fractal**

Vivas Cortez, M. J. (Speaker)

11 May 2023 → 12 May 2023

**¿Las matemáticas recientemente creadas son pertinentes para ser introducidas en el reciente curriculum educativo?**

Vivas Cortez, M. J. (Speaker)

16 Feb 2023 → 18 Feb 2023

**NEW RESULTS ON THE FRACTAL DERIVATIVE AND PERSPECTIVES**

Vivas Cortez, M. J. (Speaker)

26 Oct 2022 → 28 Oct 2022

**SEXTA CONVENCION CIENTIFICA INTERNACIONAL DE LA UTM**

Vivas Cortez, M. J. (Assistant)

20 Oct 2022

**Funciones Convexas Generalizadas**

Vivas Cortez, M. J. (Speaker)

18 Oct 2022 → 21 Oct 2022

**ACTITUD DE LOS ESTUDIANTES FRENTE AL USO DE TECNOLOGÍAS EDUCATIVAS PARA EL APRENDIZAJE DE LA MATEMÁTICA: UNA EXPERIENCIA DESDE LOS ESTUDIANTES DE ECONOMÍA DE PONTIFICIA UNIVERSIDAD CATÓLICA DEL ECUADOR**

Vivas Cortez, M. J. (Speaker)

8 Jul 2022

**Conferencia del Grupo de trabajo "Discusión y Resolución de Problemas"**

Vivas Cortez, M. J. (Speaker)

12 May 2022 → 13 May 2022

**Convexidad Generalizada, Ideas Históricas y problemas abiertos**

Vivas Cortez, M. J. (Speaker)

2016

**Projects****ALGUNAS DESIGUALDADES DE FUNCIONES CONVEXAS GENERALIZADAS**

Vivas Cortez, M. J. (Director)

3/04/18 → 14/02/20

**ALGUNAS DESIGUALDADES INTEGRALES PARA FUNCIONES CONVEXAS GENERALIZADAS Y APLICACIONES**

RANGEL OLIVEROS, Y. C. (Principal Investigator) & Vivas Cortez, M. J. (Director)

1/03/20 → 2/03/22

**ALGUNAS GENERALIZACIONES DE DESIGUALDADES INTEGRALES**

Vivas Cortez, M. J. (Principal Investigator) & RANGEL OLIVEROS, Y. C. (Director)

17/02/20 → 31/07/22

**Contemporary Theoretical Challenges and Practical Advances in Fractional and Generalized Calculus**

Vivas Cortez, M. J. (Director), Guerrero, J. A. (External Researcher), Juan E., N. V. (External Researcher) & Velasco Velasco, J. (Principal Investigator)

30/07/25 → 1/08/27

**FUNCIONES CONVEXAS GENERALIZADAS EN PROCESOS ESTOCÁSTICOS Y OTRAS DESIGUALDADES CLÁSICAS**

Vivas Cortez, M. J. (Director)

3/04/18 → 14/02/20

**LA DERIVADA FRACCIONAL GENERALIZADA, NUEVOS RESULTADOS Y APLICACIONES EN DESIGUALDADES INTEGRALES**

Vivas Cortez, M. J. (Director), Jaramillo Villagómez, J. E. (Principal Investigator), VELASCO VELASCO, J. (External Researcher), Thabet, S. T. M. (External Researcher) & BRAVO QUEZADA, W. G. (Principal Investigator)

10/08/24 → 11/08/26

**RESULTADOS CUALITATIVOS DE ECUACIONES DIFERENCIALES FRACCIONARIAS LOCALES Y DESIGUALDADES INTEGRALES**

Delgado Noboa, A. C. (Principal Investigator), RANGEL OLIVEROS, Y. C. (Principal Investigator), NÁPOLES VALDÉS, J. (External Researcher), VELASCO VELASCO, J. (External Researcher) & Vivas Cortez, M. J. (Director)

15/03/22 → 16/03/24