List of publications in 2024

Papers in peer review journals (only Scimago or MathSciNet)

C. Almeida, C. Castro, V. Leiva, A. Braga, and A. Freitas. "Optimizing Sentiment Analysis Models for Customer Support: Methodology and Case Study in the Portuguese Retail Sector". In: *Journal of Theoretical and Applied Electronic Commerce Research* 19.2 (2024). (SJR=0.89 Q1).

R. Almeida, E. Sousa, D. Machado, F. Pereira, S. Faria, and E. Freitas. "Analysis of the Interaction between Humans and Autonomous Vehicles Equipped with External Human–Machine Interfaces: The Effect of an Experimental Reward Mechanism on Pedestrian Crossing Behavior in a Virtual Environment". In: *Sustainability* 16.8 (2024), p. 3236. (SJR=0.67 Q1).

V. Ambalarajan, A. Mallela, V. Sivakumar, P. Dhandapani, V. Leiva, C. Martin-Barreiro, and C. Castro. "A six-compartment model for COVID-19 with transmission dynamics and public health strategies". In: *Scientific Reports* 14.1 (2024). (SJR=0.9 Q1).

A. Azevedo, J.F. Rodrigues, and L. Santos. "Nonlocal Lagrange multipliers and transport densities". In: *Bull. Math. Sci.* 14.2 (2024), p. 2350014. (SJR=0.56 Q2, MCQ=0.78).

M. Azevedo, L. Meira-Machado, F. Gude, and A. Araújo. "Pointwise Nonparametric Estimation of Odds Ratio Curves with R: Introducing the flexOR Package". In: *Applied Sciences* 14.9 (2024). (SJR=0.508 Q2).

L. Barón, S. Faria, E. Sousa, and E. Freitas. "Analysis of Pedestrians' Road Crossing Behavior, in Social Groups". In: *Transportation Research Record* 2678.3 (2024), pp. 387–409. (SJR=0.54 Q2).

N. Bebiano, R. Lemos, and G. Soares. "Algebraic curves associated with centrosymmetric matrices of orders up to 6". In: *Advances in Operator Theory* 3.9 (2024), article 56 page 1–22. (SJR=0.440 Q2, MCQ=0.5).

N. Bebiano, R. Lemos, and G. Soares. "J-selfadjoint matrix means and their indefinite inequalities". In: *Acta Scientiarum Mathematicarum* 3.90 (2024), pp. 513–525. (SJR=0.339 Q3).

M. Bessa, G. Del Magno, J.L. Dias, J.P. Gaivão, and M.J. Torres. "Billiards in generic convex bodies have positive topological entropy". In: *Advances in Mathematics* 442 (2024), p. 109592. (SJR=2.02 Q1, MCQ=1.72).

I. Brito, A.M. Gonçalves, and A. Pedra. "Risk assessment for the surface water quality evaluation of a hydrological basin". In: *Stochastic Environmental Research and Risk Assessment* 38.11 (2024), pp. 4527–4553. (SJR=0.88 Q1).

I. Cação, M.I. Falcão, H.R. Malonek, and G. Tomaz. "A Sturm-Liouville equation on the crossroads of continuous and discrete hypercomplex analysis". In: *Mathematical Methods in the Applied Sciences* 47.10 (2024), pp. 7962–7987. (SJR=0.61 Q2, MCQ=0.73).

J.L. Cardoso and E.M. Shehata. "Hermite-Hadamard inequalities for quantum integrals: A unified approach". In: *Applied Mathematics and Computation* 463 (2024), pp. 1–16. (SJR=1.03 Q1, MCQ=0.61).

H.A. Castillo-Sánchez, M.S.B. de Araújo, J. Bertoco, C. Fernandes, L.L. Ferrás, and A. Castelo. "Numerical Simulation of a Thixotropic-Viscoelastic Model in Contraction Geometries". In: *Physics of Fluids* 36.1 (2024), p. 013124. (SJR=1.05 Q1, MCQ=0.2).

C. Castro, V. Leiva, P. Cunha, and M. Akbar. "Predicting COVID-19 mortality using statistical, machine learning and fuzzy classification methods: insights from a Portuguese cohort study". In: *Signa Vitae* 20.12 (2024), pp. 10–27. (SJR=0.18 Q3).

C. Castro, V. Leiva, D. Garrido, G. Huerta, and V. Minatogawa. "Blockchain in clinical trials: Bibliometric and network studies of applications, challenges, and future prospects based on data analytics". In: *Computer Methods and Programs in Biomedicine* 255 (2024). (SJR=1.19 Q1).

P. Catarino and E. Spreafico. "A note on Bi-periodic Leonardo sequence". In: *Armenian Journal of Mathematics* 16.5 (2024), pp. 1–17. (SJR=0.18 Q4, MCQ=0.1).

H. Chaouk, E. Obeid, J. Halwani, W. Abdelbaki, H. Dib, O. Mouhtady, E.G. Hanna, C. Fernandes, and K. Younes. "Investigating the Physical and Operational Characteristics of Manufacturing Processes for MFI-Type Zeolite Membranes for Ethanol/Water Separation via Principal Component Analysis". In: *Processes* 12.6 (2024), p. 1145. (SJR=0.53 Q2).

J. Chimpanzo, P. Catarino, P. Vasco, and A. Borges. "Bidimensional extensions of Balancing and Lucas-Balancing numbers". In: *Journal of Discrete Mathematical Sciences & Cryptography* 27.1 (2024), pp. 95–115. (SJR=0.42 Q3, MCQ=0.03).

S. Ciani, E. Henriques, and I.I. Skrypnik. "The impact of intrinsic scaling on the rate of extinction for anisotropic non-Newtonian fast diffusion". In: *Nonlinear Analysis* 242 (2024), p. 113497. (SJR=1.347 Q1, MCQ=1.48).

S. Clain, D. Lopes, R.M.S. Pereira, and P. Pereira. "Very high-order finite difference method on arbitrary geometries with Cartesian grids for non-linear convection diffusion reaction equations". In: *Journal of Computational Physics* 498 (2024). (SJR=1.68 Q1, MCQ=1.84).

C. Coelho, M.F.P. Costa, and L.L. Ferrás. "Enhancing Continuous Time Series Modelling with a Latent ODE-LSTM Approach". In: *Applied Mathematics and Computation* 475 (2024), p. 128727. (SJR=1.03 Q1, MCQ=0.61).

C. Coelho, M.F.P. Costa, and L.L. Ferrás. "Fractional Calculus Meets Neural Networks For Computer Vision: A Survey". In: *AI* 5.3 (2024), pp. 1391–1426. (SJR=0.76 Q1).

C. Coelho, M.F.P. Costa, and L.L. Ferrás. "Neural Fractional Differential Equations: Optimising the Order of the Fractional Derivative". In: *Fractal and Fractional* 8.9 (2024), pp. 1–16. (SJR=0.66 Q2).

J.C. Costa, C. Nogueira, and M.L. Teixeira. "Asymptotic behavior of the overlap gap between infinite words". In: *Semigroup Forum* 109.1 (2024), pp. 76–86. (SJR=0.74 Q1, MCQ=0.59).

A. Elmwafy, J.J. Oliveira, and C.M. Silva. "Existence and exponential stability of a periodic solution of an infinite delay differential system with applications to Cohen–Grossberg neural networks". In: *Communications in Nonlinear Science and Numerical Simulation* 135 (2024), p. 108053. (SJR=0.92 Q1, MCQ=0.58).

A. Elshafei, A.C. Ferreira, M. Sánchez, and A. Zeghib. "Lie groups with all left-invariant semi-Riemannian metrics complete". In: *Transactions of the American Mathematical Society* 377 (2024), pp. 5837–5862. (SJR=1.581 Q1, MCQ=1.36).

J. Espírito Santo, D. Kesner, and L. Peyrot. "A faithful and quantitative notion of distant reduction for the lambda-calculus with generalized applications". In: *Logical Methods in Computer Science* 20.2 (2024). (SJR=0.57 Q2, MCQ=0.45).

H. Fahd, S. Belhaj, and Y. Zhang. "Efficient algorithms for perturbed symmetrical Toeplitz-plus-Hankel systems". In: *Journal of Computational and Applied Mathematics* 457.15 (2024), p. 116333. (SJR=0.858 Q2, MCQ=0.83).

S.A. Faroughi, N.M. Pawar, C. Fernandes, M. Raissi, S. Das, N.K. Kalantari, and S.K. Mahjour. "Physics-guided, physics-informed, and physics-encoded neural networks and operators in scientific computing: Fluid and solid mechanics". In: *Journal of Computing and Information Science in Engineering* 24.4 (2024), p. 040802. (SJR=0.77 Q1).

C. Faustino and T. Kahl. "The homology digraph of a preordered space". In: *Journal of Homotopy and Related Structures* 19 (2024), pp. 525–540. (SJR=0.656 Q2, MCQ=0.55).

H. Ferreira, M. Ferreira, and L.A. Alexandre. "A crossinggram for random fields on lattices". In: *Indagationes Mathematicae* 35.1 (2024), pp. 131–142. (SJR=0.45 Q2).

M. Ferreira. "Clustering of extreme values: estimation and application". In: *AStA Adv. Stat. Anal.* 108.1 (2024), pp. 101–125. (SJR=0.48 Q2).

M. Ferreira. "Extremal index: estimation and resampling". In: *Comput. Statist.* 39.5 (2024), pp. 2703–2720. (SJR=0.57 Q2).

J.M. Garcia-Calcines and L. Vandembroucq. "A study of the Ganea conjecture for topological complexity by using weak topological complexity". In: *Mathematical Proceedings of the Cambridge Philosophical Society* 177.2 (2024), pp. 241–261. (SJR=0.93 Q1, MCQ=0.82).

A. Ghaffar, M. Rahman, V. Leiva, and C. Castro. "Optimized design and analysis of cable-based parallel manipulators for enhanced subsea operations". In: *Ocean Engineering* 297 (2024). (SJR=1.21 Q1).

A. Ghaffar, M. Rahman, V. Leiva, C. Martin-Barreiro, A. Imran, X. Cabezas, and C. Castro. "Efficiency, optimality, and selection in a rigid actuation system with matching capabilities for an assistive robotic exoskeleton". In: *Engineering Science and Technology, an International Journal* 51 (2024). (SJR=0.97 Q1).

P. Guimarães, F. Ferreira, W. Wojtak, P. Barbosa, S. Monteiro, E. Bicho, and W. Erlhagen. "A Dynamic Neural Field Approach for Intelligent Cockpits: Online Learning and Prediction of Traveling Routines". In: *IEEE Transactions on Intelligent Transportation Systems* 25.12 (2024), pp. 20240–20255. (SJR=2.58 Q1).

L. Henriques, C. Castro, F. Prata, V. Leiva, and R. Venegas. "Modeling Residential Energy Consumption Patterns with Machine Learning Methods Based on a Case Study in Brazil". In: *Mathematics* 12.13 (2024). (SJR=0.48 Q2).

L. Henriques, F. Lima, and C. Castro. "Combining Advanced Feature-Selection Methods to Uncover Atypical Energy-Consumption Patterns". In: *Future Internet* 16.7 (2024). (SJR=0.81 Q2).

C. Johnson, Y. Zhang, F. Qiu, and C. Ferreira. "Inseparable Gershgorin discs and the existence of conjugate complex eigenvalues of real matrices". In: *Linear and Multilinear Algebra* 72.9 (2024), pp. 1375–1384. (SJR=0.654 Q2, MCQ=0.68).

K. Kalaichelvan, S. Ramalingam, P. Dhandapani, V. Leiva, and C. Castro. "Optimizing the Economic Order Quantity Using Fuzzy Theory and Machine Learning Applied to a Pharmaceutical Framework". In: *Mathematics* 12.6 (2024). (SJR=0.48 Q2).

M. Kchaou, C. Castro, R. Abbassi, V. Leiva, and H. Jerbi. "Security Control for a Fuzzy System under Dynamic Protocols and Cyber-Attacks with Engineering Applications ". In: *Mathematics* 12.13 (2024). (SJR=0.48 Q2).

V. Kuppusamy, M. Shanmugasundaram, P. Dhandapani, C. Martin-Barreiro, X. Cabezas, V. Leiva, and C. Castro. "Addressing a decision problem through a bipolar Pythagorean fuzzy approach: A novel methodology with application in digital marketing". In: *Heliyon* 10.3 (2024). (SJR=0.62 Q1).

V. Leiva, C. Castro, R. Vila, and S. Helton. "Unveiling patterns and trends in research on cumulative damage models for statistical and reliability analyses: Bibliometric and thematic explorations with data analytics". In: *Chilean Journal of Statistics* 15.1 (2024). (SJR=0.33 Q3, MCQ=0.02).

V. Leiva, J. corzo, M. Vergara, R. Ospina, and C. Castro. "A Statistical Methodology for Evaluating Asymmetry after Normalization with Application to Genomic Data ". In: *Stats* 7.3 (2024). (SJR=0.21 Q4).

J.F. Lima, F.C. Pereira, A.M. Gonçalves, and M. Costa. "Bootstrapping State-Space Models: Distribution-Free Estimation in View of Prediction and Forecasting". In: *Forecasting* 6.1 (2024), pp. 36–54. (SJR=0.53 Q1).

Z.Y. Liu, X.F. Xu, Y. Zhou, C. Ferreira, and Y. Zhang. "On relaxed acceleration of the ADI iteration". In: *Computational and Applied Mathematics* 43.32 (2024), p. 22. (SJR=0.646 Q2, MCQ=0.47).

Z.Y. Liu, J. Yang, X.F. Xu, M.Z. Lin, and Y. Zhang. "The weighted GS-PIA algorithm for cubic B-spline curve interpolations and convergence analysis". In: *Computational and Applied Mathematics* 44.1 (2024), p. 14. (SJR=0.646 Q2, MCQ=0.47).

G. Martínez-Flórez, R. Tovar-Falón, V. Leiva, and C. Castro. "Skew-Normal Inflated Models: Mathematical Characterization and Applications to Medical Data with Excess of Zeros and Ones". In: *Mathematics* 12.16 (2024). (SJR=0.48 Q2).

S. Mendes-Gonçalves and R.P. Sullivan. "Maximal subsemigroups of infinite symmetric groups". In: *Bulletin of the Australian Mathematical Society* 110.2 (2024), pp. 324–337. (SJR=0.392 Q2, MCQ=0.46).

A. Mesquita, R. Costa, P. Dikmen-Yildiz, S. Faria, V. Mateus, C.A. Wilson, E. Felice, I. Soares, and S. Ayers. "Changes to women's childbirth plans during the COVID-19 pandemic and posttraumatic stress symptoms: a cross-national study". In: *Archives of Women's Mental Health* 27.3 (2024), pp. 393–403. (SJR=1.44 Q1).

J. Oliveira, M.P. Ramos, C. Ribeiro, and A.J. Soares. "Equilibrium of a kinetic model of oscillating patterns for chronic autoimmune diseases". In: *Kinetic and Related Models* 17.6 (2024), pp. 971–992. (SJR=0.71 Q2, MCQ=1.03).

J. Oliveira, A.J. Soares, and R. Travaglini. "Kinetic models leading to pattern formation in the response of the immune system". In: *Rivista di Matematica della Università di Parma* 15.1 (2024). (SJR=0.31 Q3, MCQ=0.35).

R. Ospina, P. espinheira, L. Arias, C. Xavier, V. Leiva, and C. Castro. "New Statistical Residuals for Regression Models in the Exponential Family: Characterization, Simulation, Computation, and Applications". In: *Mathematics* 12.20 (2024). (SJR=0.48 Q2).

R. Ospina, C. Xavier, G. Esteves, P. Espinheira, C. Castro, and V. Leiva. "Symmetry and Complexity in Gene Association Networks Using the Generalized Correlation Coefficient". In: *Symmetry* 16.11 (2024). (SJR=0.49 Q2, MCQ=0.04).

R. Pereira, F. Oliveira, N. Romanyshyn, I. Estevez, J. Borges, S. Clain, and M. Vasilevskiy. "Classification of Real-World Objects Using Supervised ML-Assisted Polarimetry: Cost/Benefit Analysis". In: *Applied Sciences* 14.23 (2024). (SJR=0.508 Q2).

M.Z.U. Rahman, M.A. Akbar, V. Leiva, C. Martin-Barreiro, M. Imran, M.T. Riaz, and C. Castro. "An IoT-fuzzy intelligent approach for holistic management of COVID-19 patients". In: *Heliyon* 10.1 (2024). (SJR=0.62 Q1).

A. Rehman, I. Kyrchei, M. Rahman, V. Leiva, and C. Castro. "Solvability and algorithm for Sylvester-type quaternion matrix equations with potential applications". In: *AIMS Mathematics* 9.8 (2024). (SJR=0.46 Q2, MCQ=0.28).

A. Rehman, M. Rahman, A. Ghaffar, C. Martin-Barreiro, C. Castro, V. Leiva, and X. Cabezas. "Systems of quaternionic linear matrix equations: solution, computation, algorithm, and applications". In: *AIMS Mathematics* 9.10 (2024). (SJR=0.46 Q2, MCQ=0.28).

C. Santos, J. Varajão, N. Takagi, and A.M. Gonçalves. "Model of driving factors for success in public health project management using structural equation modeling". In: *Scientific Reports* 14.1 (2024). (SJR=0.9 Q1).

M. Sestelo, L. Meira-Machado, N.M. Villanueva, and J. Roca-Pardiñas. "A method for determining groups in cumulative incidence curves in competing risk data". In: *Biometrical Journal* 66.4 (2024). (SJR=0.996 Q1).

D. Silva, R. Menezes, A. Moreno, A. Teles-Machado, and S. Garrido. "Environmental effects on the spatiotemporal variability of sardine distribution along the Portuguese continental coast". In: *Journal of Agricultural, Biological, and Environmental Statistics* 29.3 (2024), pp. 553–575. (SJR=0.526 Q2).

A.J. Soares and G. Tosato. "An urban system mathematical approach with human factor: the case of pedestrianization in a consolidated area". In: *Ecological Modelling* 489.110619 (2024), pp. 1–7. (SJR=0.82 Q1).

F. Soares, F. Pereira, S. Faria, E. Sousa, R. Almeida, and E.F. Freitas. "Pedestrian Behavior in Static and Dynamic Virtual Road Crossing Experiments". In: *Applied System Innovation* 7.5 (2024), p. 94. (SJR=0.79 Q1).

N. Spolaôr, H.D. Lee, A.I. Mendes, C.V. Nogueira, A.R.S. Parmezan, W.S.R. Takaki, C.S.R. Coy, F.C. Wu, and R. Fonseca-Pinto. "Fine-tuning pre-trained neural networks for medical image classification in small clinical datasets". In: *Multimedia Tools and Applications* 83.9 (2024), pp. 27305–27329. (SJR=0.8 Q1).

E. Spreafico and P. Catarino. "A note on hybrid hyper Leonardo numbers". In: *Turkish Journal of Mathematics* 48.3 (2024), pp. 557–566. (SJR=0.41 Q2, MCQ=0.34).

E. Spreafico, M. Rachidi, and P. Catarino. "On model of ([k]; p, s)-generalized Padovan-Perrin and Fibonacci fundamental system". In: *Integers* 24.2 (2024), #A49. (SJR=0.41 Q3, MCQ=0.3).

H. Zhu, D. Xu, P. Patrício, and D. Mosic. "The (B, C)-core inverse of rectangular matrices". In: *Quaestiones Mathematicae* 47.12 (2024), pp. 2429–2446. (SJR=0.384 Q3, MCQ=0.39).

Book chapters

J.C. Domingues. "What mathematics for Portuguese military engineers? From the Class on Fortification to the Military Academy of Lisbon". In: *Beyond the Learned Academy: The Practice of Mathematics, 1600–1850*. Ed. by Philip Beeley and Christopher D. Hollings. Oxford University Press, 2024, pp. 112–135.

Â. Macedo. "The Quadratic Decomposition of the Normalized Derivatives of the Classical Orthogonal Polynomials". In: *Orthogonal Polynomials and Special Functions*. Ed. by K. K. Castillo and A.J. Durán. Coimbra Mathematical Texts, vol 3. Springer, Cham, 2024, pp. 112–135.

L. Vandembroucq. "Computing with the TC-canonical class". In: *Topology and AI*. Ed. by M. Farber and J. González. EMS Press, 2024, pp. 187–210.

Proceedings in meetings with referee

I. Brito. "Matemática e Música — sistemas de afinação no século XVIII". In: *Estudos de História da Matemática, da Música e Militar*. 2024, pp. 160–169.

I. Brito and G.J. Machado. "K-Means Clustering Approach for Stock Risk Assessment and Portfolio Construction: A Case Study Based on the EU-EV Risk Model". In: *20th International Probabilistic Workshop. IPW 2024*. Lecture Notes in Civil Engineering, vol 494. Springer, Cham., 2024, pp. 187–196.

I. Cação, M.I. Falcão, H.R. Malonek, F. Miranda, and G. Tomaz. "On Appell-Vietoris Polynomials". In: *24th International Conference on Computational Science and Its Applications, ICCSA 2024, Hanoi*. 14815. Lecture Notes in Computer Science, Springer Nature, 2024, pp. 302–316.

I. Cação, H.R. Malonek, M.I. Falcão, and G. Tomaz. "Relating Certain Coefficients of Special Hyperholomorphic Polynomials with a Horadam Sequence". In: *International Conference of Numerical Analysis and Applied Mathematics 2022, ICNAAM 2022*. 3094(1). AIP Conference Proceedings, 2024, p. 090009.

C. Castro, L. Henriques, and F. Prata. "Bayesian Hierarchical Modeling for Parameter Estimation in Normal Distribution with Aggregated Data". In: *Lecture Notes in Civil Engineering*. Springer, Cham., 2024.

C. Castro, L. Henriques, and F. Prata. "Comparative Analysis of Normality Tests: Integrating Classical and Contemporary Approaches". In: *Lecture Notes in Civil Engineering*. Springer, 2024.

J. Chimpanzo, P. Catarino, and M.V. Otero-Espinar. "Some Identities for Balancing and Lucas-Balancing Numbers in Bidimensional Version". In: *Mathematical methods for engineering applications*. Ed. by Víctor Gayoso Martínez, Fatih Yilmaz, Araceli Queiruga-Dios, Deolinda M.L.D. Rasteiro, Jesús Martín-Vaquero, and Ion Mierluş-Mazilu. Vol. 439. Springer Nature, pp. 31–41.

C. Coelho, M. Costa, and L. Ferrás. "Optimal Control of a Coastal Ecosystem Through Neural Ordinary Differential Equations". In: *Proceedings of the 1st ECAI Workshop on Machine Learning Meets Differential Equations: From Theory to Applications*. 255. PMLR, 2024, pp. 1–9.

C. Coelho, M. Costa, and L. Ferrás. "The Influence of Neural Networks on Hydropower Plant Management in Agriculture: Addressing Challenges and Exploring Untapped Opportunities". In: *IFIP Advances in Information and Communication Technology*. Ed. by Eunika Mercier-Laurent, Gülgün Kayakutlu, Mieczyslaw Lech Owoc, Abdul Wahid, and Karl Mason. Vol. 693. Springer, Cham., 2024, pp. 150–160.

C. Coelho, M.F.P. Costa, and L.L. Ferrás. "An Adaptive Hydropower Management Approach for Downstream Ecosystem Preservation". In: *ICLR2024 Workshop: Tackling Climate Change with Machine Learning*. 2024, pp. 1–5.

C. Coelho, M.F.P. Costa, and L.L. Ferrás. " Consistency Matters: Neural ODE Para- meters are Dependent on the Training Numerical Method". In: *ICLR 2024 Workshop on AI4DifferentialEquations In Science*. 2024, pp. 1–5.

C. Coelho, M.F.P. Costa, and L.L. Ferrás. "The role of adaptive activation functions in Fractional Physics-Informed Neural Networks". In: *AIP Conference Proceedings*. Vol. 3094. 1. AIP Publishing, 2024, pp. 350001-1–350001-4.

C. Coelho, M.F.P. Costa, and L.L. Ferrás. "Tracing footprints: neural networks meet non-integer order differential equations for modelling systems with memory". In: *The Second*

Tiny Papers Track at ICLR 2024, Tiny Papers @ ICLR -International Conference on Learning Representations. 2024, pp. 1–5.

G.C. Cossa, M. Costa, and A.M. Gonçalves. "Time Series Clustering of Air Quality Monitoring Stations – the Study Case of the Beijing Municipality". In: *AIP Conference Proceedings*. Vol. 3094. 1. AIP Publishing, 2024, pp. 470001-1 - 470001–4.

E. Costa e Silva and F. Ferreira. "Individualized monitoring and forecasting of water consumption: A preliminary study". In: *International Conference of Numerical Analysis and Applied Mathematics 2022, ICNAAM 2022*. 3094(1). AIP Conference Proceedings, 2024, p. 450002.

T. Cunha, E. Costa e Silva, and F. Ferreira. "Individual Water Consumption Forecasting: Evaluating SARIMA and TBATS Methods". In: *Proceedings of the 2024 7th International Conference on Mathematics and Statistics*. 2024, pp. 57–62.

R. De Almeida and P. Catarino. "Elliptic Biquaternionic Sequence with Vietoris' Numbers as Its Components". In: *Mathematical Methods for Engineering Applications. ICMASE 2023*. Springer Proceedings in Mathematics & Statistics, vol 439. Springer, Cham., 2024, pp. 125–146.

P. Dias, F. Ferreira, P. Guimarães, W. Wojtak, W. Erlhagen, S. Monteiro, and E. Bicho. "A Machine Learning Approach for Points of Interest Extraction and Event Classification". In: *IFIP International Conference on Artificial Intelligence Applications and Innovations*. Springer, 2024, pp. 69–82.

J.C. Domingues. "Geometria e análise no cálculo fluxionário de Anastácio da Cunha". In: *Estudos de História da Matemática, da Música e Militar*. 2024, pp. 54–71.

J. Espírito Santo and F. Mendes. "The logical essence of call-by-name CPS translations". In: *26th International Symposium on Principles and Practice of Declarative Programming*. ACM, 2024.

J. Espírito Santo and A.C. Sousa. "Partial proof terms in the study of idealized proof search". In: *17th International Conference on Intelligent Computer Mathematics*. Lecture Notes in Computer Science, vol 14960. Springer, 2024, pp. 279–297.

M.I. Falcão, F. Miranda, and R. Severino. "The Zeros of Quadratic Coquaternionic Polynomials Revisited". In: *24th International Conference on Computational Science and Its Applications, ICCSA 2024, Hanoi*. 14815. Lecture Notes in Computer Science, Springer Nature, 2024, pp. 268–284.

M. Ferreira. "Assessing Asymptotic Tail Independence: A Simulation Study". In: *Eng. Proc.*

M.A. Forjaz, M. Almeida, F. Teixeira, I.G. Almeida, I.A.P. Mina, I.C. Neves, J. Pamplona, J. Tovar, M.R. Rosa, and R.F. Duarte. "Construção de uma coleção digital multidisciplinar - do cuneiforme ao bit!" In: *SciComPt - Rede de Comunicação de Ciência e Tecnologia de Portugal. (2024). SciComPt2024 - Linguagens e Vozes para uma Ciência Acessível.*

SciComPt - Rede de Comunicação de Ciência e Tecnologia de Portugal. SciComPt - Rede de Comunicação de Ciência e Tecnologia de Portugal., 2024, p. 5.

L. Freitas, T. Malheiro, A.M. Gonçalves, J. Vicente, F. Pereira, F. Morais, J. Bessa, and J. Machado. "Vision Inspection Design for Systematic Production of Needle Beds: An Industrial Application". In: *Flexible Automation and Intelligent Manufacturing: Establishing Bridges for More Sustainable Manufacturing Systems*. Ed. by Francisco J. G. Silva, António B. Pereira, and Raul D. S. G. Campilho. Springer, Cham., 2024, pp. 444–452.

L. Meira-Machado and G. Soutinho. "Presmoothed Estimators of the State Occupation Probabilities in Multi-state Survival Data". In: *AIP Conference Proceedings*. Vol. 3094. 1. AIP Publishing, 2024.

J. Morais, R. Sousa, and S. Faria. "Perturbation Methods: An Application to a Real Dataset". In: *Studies in Theoretical and Applied Statistics, Selected Papers of the Statistical Societies*. Ed. by Maurizio Vichi. Springer, 2024, pp. 241–257.

M. Oliveira, A.M. Gonçalves, F. Gonçalves, and L. Maranhão. "Dynamic Mortality Tables for an Insurance Company in Portugal". In: *AIP Conference Proceedings*. Vol. 3094. 1. AIP Publishing, 2024, pp. 470002-1 - 470002–4.

R. Severino, A.M. Leitão, and M.J. Alves. "On the Dynamics of a Family of 2D Finite Cellular Automata". In: *24th International Conference on Computational Science and Its Applications, ICCSA 2024, Hanoi*. 14825. Lecture Notes in Computer Science, Springer Nature, 2024, pp. 263–273.

L. Silva, I. Gomes, C. Mendes Araújo, T. Cepeda, F. Oliveira, and J. Oliveira. "A Regression Deep Learning Approach for Fashion Compatibility". In: *Proceedings of the 26th International Conference on Enterprise Information Systems*. Volume 1. Science and Technology Publications, Lda, 2024, pp. 141–148.

C. Sousa, A.M. Gonçalves, and A.C. Freitas. "Categories's Churn: A Machine Learning Approach in Retail". In: *Computational Science and Its Applications – ICCSA 2024 Workshops*. Ed. by Osvaldo Gervasi, Beniamino Murgante, Chiara Garau, David Taniar, Ana Maria A. C. Rocha, and Maria Noelia Faginas Lago. Springer, Cham., 2024, pp. 319–336.

G. Soutinho and L. Meira-Machado. "Estimation of the Transition Probabilities Conditional on Covariates with Repeated Measures: a Joint Modeling Approach". In: *AIP Conference Proceedings*. Vol. 3094. 1. AIP Publishing, 2024.

E. Spreafico and P. Catarino. "On Leonardo numbers and Fibonacci Fundamental System". In: *Mathematical methods for engineering applications*. Ed. by Víctor Gayoso Martínez, Fatih Yilmaz, Araceli Queiruga-Dios, Deolinda M.L.D. Rasteiro, Jesús Martín-Vaquero, and Ion Mierluş-Mazilu. Vol. 439. Springer Nature, 2024, pp. 67–80.

M. Stepanov, P. Litovchenko, T. Tretyak, L. Ivanova, M. Ivanova, and A.M. Gonçalves. "Determination of the Grinding Headstock Surface Temperature, Which Varies Depending on the Process Fluids Thermal State". In: *Innovations in Mechanical Engineering III*. Ed. by Jose Machado, Filomena Soares, Justyna Trojanowska, Erika Ottaviano, Petr Valášek, Mallikarjuna Reddy D., Eduardo André Perondi, and Yevheniia Basova. Springer, Cham., 2024, pp. 223–234.

A. Teixeira and R. De Almeida. "Exploring the Role of OR/MS in Cancer Research". In: *Communications in Computer and Information Science*. Springer, Cham, 2024.

B. Teixeira, G. Pinto, V. Filipe, and A. Teixeira. "Enhancing Medical Imaging Through Data Augmentation: A Review." In: *International Conference on Computational Science and Its Applications*.

B. Zimmering, C. Coelho, and O. Niggemann. "Optimising Neural Fractional Differential Equations for Performance and Efficiency". In: *Proceedings of the 1st ECAI Workshop on Machine Learning Meets Differential Equations: From Theory to Applications*. 255. Proceedings of Machine Learning Research, 2024, pp. 1–22.

Other publications

J. Chimpamzo, P. Catarino, and M.V. Otero-Espinar. "Tridimensional extension of balancing numbers". In: *International Conference on Mathematics, Engineering, Natural & Medical Sciences*.

J. Chimpanzo, P. Catarino, and M.V. Otero-Espinar. "On generating matrices of bidimensional balancing, Lucas-balancing, Lucas-cobalancing and cobalancing numbers". In: *Journal of Mathematical Extension* 18.4 (2024), pp. 1–20.

C.H. Chivai, A.A. Soares, and P. Catarino. "Promotion of spatial visualization with GeoGebra and Qubism 3D software". In: *Educação e Pesquisa* 50 (2024), e275201. (SJR=0.19 Q4).

C.H. Chivai, A.A. Soares, and P. Catarino. "Qubism 3D Modeling e GeoGebra: softwares adequados para promover a visualização 3D nos temas de projeção ortogonal e secção de cilindros". In: *Texto Livre* 17 (2024), e49117. (SJR=0.19 Q4).

J. Cresson and L. Boudjellal. "Induced potential in stochastic newtonian dynamics". In: *Monografías Matemáticas García de Galdeano* 43 (2024), pp. 97–106.

P. Dhandapani, K. Kalaichelvan, V. Leiva, C. Castro, and R. Soundaria. "A Hybrid Fuzzy Mathematical Programming Approach for Manufacturing Inventory Models with Partial Trade Credit Policy and Reliability". In: *Axioms* 13.11 (2024).

M. Mangueira, F. Alves, and P. Catarino. "Quaternions de Leonardo: uma abordagem para o ensino via Engenharia Didática e Teoria das Situações Didáticas". In: *Revista Cocar - UEPA* 21.39 (2024), pp. 1–19.

M. Mangueira, F. Alves, and P. Catarino. "Sequência Hexa-Leonardo: uma extensão da sequência de Leonardo". In: *Revista de Matemática da UFOP* 1.1 (2024), pp. 1–13.

J. Polewczak, A.W. Silva, and A.J. Soares. "Transport coefficients for the simple reacting spheres kinetic model II: thermal conductivity, diffusion, thermal-diffusion ratio". In: *La Matematica (zbMATH and accepted for Scopus indexing)* 3 (2024), pp. 234–261.

E. Spreafico, E. Costa, and P. Catarino. "Hybrid numbers with hybrid Leonardo number coefficients". In: *Journal of Mathematical Extension* 18.2 (2024), pp. 1–17.

R. Vieira, E. Spreafico, F. Alves, and P. Catarino. "A note of the combinatorial interpretation of the Perrin and Tetrarrin sequence". In: *Journal of Universal Mathematics* 7.1 (2024), pp. 1–11.