

List of publications in 2025

Papers in peer review journals (only SCImago or zbMATH Open)

- A. Arós, C. Fernandes, and S. Roscani. “Asymptotic Analysis of Elastic Elliptic Membrane Shells in Frictional Contact: Exploring Wear Phenomena”. In: *Asymptotic Analysis* 142.1 (2025), pp. 1–30. DOI: 10.1177/09217134251317896. (SJR=0.707 Q1).
- D. Azevedo and L. Santos. “An evolutionary vector-valued variational inequality and Lagrange multiplier”. In: *J. Math. Anal. Appl.* 552.1, 1 (2025), 12p. DOI: 10.1016/j.jmaa.2025.129746. (SJR=0.855 Q1, Zbl 08071385).
- D. Azevedo and L. Santos. “Lagrange multipliers and characteristic functions”. In: *J. Differ. Equations* 438 (2025), 19p. DOI: 10.1016/j.jde.2025.113382. (SJR=2.034 Q1, Zbl 1568.35076).
- K. Azib, M.P. Machado Ramos, and C. Ribeiro. “A linear optimal control model of immunotherapy for recurrent autoimmune disease”. In: *Chaos, Solitons & Fractals* 198, 116483 (2025), pp. 1–16. DOI: 10.1016/j.chaos.2025.116483. (SJR=1.184 Q1).
- T. Baier, A.C. Ferreira, J. Hilgert, J.M. Mourão, and J.P. Nunes. “Fibering polarizations and Mabuchi rays on symmetric spaces of compact type”. In: *Analysis and Mathematical Physics* 15.1, 21 (2025), 37p. DOI: 10.1007/s13324-025-01012-6. (SJR=0.846 Q1, Zbl 1565.53071).
- A. Baraviera, P. Duarte, L. Shu, and M.J. Torres. “Isospectral reductions of non-negative matrices”. In: *Applied Mathematics and Computation* 499, 129402 (2025). DOI: 10.1016/j.amc.2025.129402. (SJR=0.89 Q1, Zbl 08067925).
- N. Bebiano, R. Lemos, and G. Soares. “Matrices with hyperbolic Krein space numerical range”. In: *Advances in Operator Theory* 10.1, 13 (2025), pp. 1–19. DOI: 10.1007/s43036-024-00399-6. (SJR=0.398 Q2).
- M. Bessa, J.L. Dias, P. Matias, and M.J. Torres. “Positive Topological Entropy for Semi-Riemannian Geodesic Flows”. In: *Proceedings of the American Mathematical Society* 153.9 (2025), pp. 3987–3998. DOI: 10.1090/proc/17337. (SJR=0.88 Q1, Zbl 08070141).

- I. Brito. "A multi-risk criteria assessment methodology applied to the analysis of nitrogen dioxide concentrations in European capital cities". In: *Environmental and Ecological Statistics* 32 (2025), pp. 827–854. DOI: 10.1007/s10651-025-00666-6. (SJR=0.532 Q2).
- J.L. Cardoso. "Latest advancements in quantum operators: a unified approach". In: *Journal of Mathematical Sciences* 290 (2025), pp. 373–389. DOI: 10.1007/s10958-025-07832-y. (SJR=0.280 Q3).
- C. Castro, M. Azevedo, V. Leiva, and L. Meira-Machado. "Total time on test-based goodness-of-fit statistics for the reciprocal property in fatigue-life models". In: *Lifetime Data Analysis* 31.2 (2025), pp. 422–441. DOI: 10.1007/s10985-025-09653-2. (SJR=0.66 Q2, Zbl 08056987).
- P. Catarino, A. Borges, P. Vasco, E. Spreafico, and E. Costa. "On the norms and Hadamard product of Toeplitz matrices involving Leonardo number". In: *Mathematica Moravica* 29.2 (2025), pp. 49–66. DOI: 10.5937/MatMor2502049C.
- S. Chaib, A.C. Ferreira, and A. Zeghib. "Isometries of 3-dimensional semi-Riemannian Lie groups". In: *Transformation Groups* (2025). DOI: 10.1007/s00031-025-09930-2. (SJR=0.720 Q2).
- S. Chaib, A.C. Ferreira, and A. Zeghib. "The completeness problem on the pseudo-homothetic Lie group". In: *Differential Geometry and its Applications* 101, 102288 (2025), 13p. DOI: 10.1016/j.difgeo.2025.102288. (SJR=0.504 Q2, Zbl 08133552).
- J. Chimpanzo, P. Catarino, and M.V. Otero-Espinar. "Bidimensional balancing, Lucas-balancing, cobalancing and Lucas-cobalancing numbers via the determinant of a tridiagonal matrix." In: *Indian Journal of Pure and Applied Mathematics* (2025), pp. 1–7. DOI: 10.1007/s13226-025-00771-z. (SJR=0.271 Q3).
- J. Chimpanzo, P. Catarino, and M.V. Otero-Espinar. "On tridimensional balancing numbers and some properties". In: *Annales Mathematicae et Informaticae* 62 (2025), pp. 28–45. DOI: 10.33039/ami.2025.04.001. (SJR=0.159 Q4).
- J. Chimpanzo, P. Catarino, M.V. Otero-Espinar, and E. Costa. "A study on tridimensional Lucas-cobalancing numbers". In: *J. Int. Math. Virtual Inst.* 15.1 (2025), pp. 179–194. DOI: 10.7251/JIMVI2501179C. (Zbl 08103354).
- S. Ciani and E. Henriques. "Harnack-type estimates and extinction in finite time for a class of anisotropic porous medium type equations". In: *Calc. Var. Partial Differ. Equ.* 64.4, 117 (2025), p. 35. DOI: 10.1007/s00526-025-02979-7. (SJR=2.405 Q1, Zbl 1562.35119).
- S. Ciani, E. Henriques, and I.I. Skrypnik. "Fine Boundary Continuity for Degenerate Double-Phase Diffusion". In: *Potential Analysis* 63 (2025). DOI: 10.1007/s11118-025-10198-0. (SJR=1.004 Q1, Zbl 08127311).

- S. Ciani, E. Henriques, and I.I. Skrypnik. "On the continuity of solutions to anisotropic elliptic operators in the limiting case." In: *Bull. Lond. Math. Soc.* 57.5 (2025). DOI: 10.1112/blms.70047. (SJR=1.174 Q1, Zbl 1565.35170).
- S. Ciani, E. Henriques, and I.I. Skrypnik. "The weak Harnack inequality for unbounded minimizers of elliptic functionals with generalized Orlicz growth". In: *Advances in Calculus of Variations* 18.3 (2025). DOI: 10.1515/acv-2024-0032. (SJR=1.618 Q1, Zbl 08076063).
- C. Coelho, M.F.P. Costa, and L.L. Ferrás. "A Two-Stage Training Method for Modeling Constrained Systems With Neural Networks". In: *Journal of Forecasting* 44.5 (2025), pp. 1785–1805. DOI: 10.1002/for.3270. (SJR=0.701 Q1).
- C. Coelho, M.F.P. Costa, and L.L. Ferrás. "Neural Chronos ODE: Modelling bidirectional temporal patterns in time-series data". In: *Expert Systems With Applications* 273 (2025), 126784 (23 pages). DOI: 10.1016/j.eswa.2025.126784. (SJR=1.85 Q1).
- C. Coelho, M.F.P. Costa, and L.L. Ferrás. "Neural Fractional Differential Equations". In: *Applied Mathematical Modelling* 144 (2025), 116060 (23 pages). DOI: 10.1016/j.apm.2025.116060. (SJR=1.13 Q1).
- C. Coelho, M.F.P. Costa, O. Niggemann, and L.L. Ferrás. "Methodologies for improved optimisation of the derivative order and neural network parameters in Neural FDE models". In: *Fractal and Fractional* 9.7 (2025), 471 (27 pages). DOI: 10.3390/fractalfract9070471. (SJR=0.75 Q2).
- E.A. Costa, P. Catarino, and F.S. Carvalho. "On Tricomplex Ernst-type Sequence". In: *Journal of Mathematical Extension* 19.4, 2 (2025), pp. 1–28. DOI: 10.30495/JME.2025.3280.
- C. Cruz, M.I. Falcão, H.R. Malonek, and G. Tomaz. "On the Pascal simplex with hypercomplex entries". In: *Complex Analysis and Operator Theory* 19.7, 189 (2025), pp. 1–15. DOI: 10.1007/s11785-025-01820-5. (SJR=0.545 Q2, Zbl 08099580).
- C.C.Y. Dorea, R. Vila, C. Castro, V. Leiva, and F.S. Quintino. "Revisiting fatigue-life distributions of Birnbaum–Saunders type: Mathematical characterization, simulation study, and applications". In: *Applied Mathematical Modelling* 147 (2025), pp. 1830–1851. DOI: 10.1016/j.apm.2025.05.016. (SJR=1.126 Q1, Zbl 08118357).
- J. Espírito Santo and G. Ferreira. "How to avoid the commuting conversions of IPC". In: *Theoretical Computer Science* 1033 (2025), p. 115101. DOI: 10.1016/J.TCS.2025.115101. (SJR=0.494 Q2).
- C. Faustino, T. Kahl, and R. Lopes. "On the topology of concurrent systems". In: *Journal of Applied and Computational Topology* 9, 5 (2025). DOI: 10.1007/s41468-025-00201-3. (SJR=0.966 Q1, Zbl 1559.55024).
- C. Fernandes. "Scientific Machine Learning for Polymeric Materials". In: *Polymers* 17, 2222 (2025). DOI: 10.3390/polym17162222. (SJR=0.918 Q1).

- A. Ferraz, S. Faria, M. Jerónimo, and M.G. Pereira. "The Role of Parental Distress in Children's Health-Related Quality of Life in Pediatric Acute Lymphoblastic Leukemia". In: *Psycho-Oncology* 34.7 (2025). DOI: 10.1002/pon.70207. (SJR=1.213 Q1).
- J.J.D.R. Ferreira, L.F.M. Machado, M.P.L. Parente, and J.C.T. Ramos. "Reliability of the Implant Stability Measurement Performed at the Abutment Level. A Retrospective Clinical Trial and an In Vitro Research". In: *International Journal of Oral Maxillofacial Implants* 40.4 (2025), pp. 477–487. DOI: 10.11607/jomi.10977. (SJR=0.581 Q2).
- M. Ferreira. "On the dependence of a minimum autoregressive exponential-type process". In: *Communications in Statistics - Theory and Methods*.
- T. Freire, T. Pereira, S. Faria, A. Marinho, R. Alves, M. Banhidi, L. Zhou, G. Demirhan, S. Yıldırım, M. Maciel, and R. Uvinha. "Leisure in the era of COVID-19: insights from an international study". In: *World Leisure Journal* (2025). DOI: 10.1016/j.cstp.2024.101333. (SJR=0.532 Q1).
- F. Golse, V. Ricci, and A.J. Soares. "A model for slowing particles in random media". In: *Discrete and Continuous Dynamical Systems* 45.9 (2025), pp. 3084–3106. DOI: 10.3934/dcds.2025012. (SJR=1.065 Q1, Zbl 1565.35324).
- S. Hamoun, Y. Rami, and L. Vandembroucq. "An upper bound for the rational topological complexity of a family of elliptic spaces". In: *Proceedings of the American Mathematical Society* 153 (2025), pp. 1325–1333. DOI: 10.1090/proc/17068. (SJR=0.877 Q1, Zbl 1511.55003).
- S. Kamkar, H.A. Moghaddam, and W. Erlhagen. "Unsupervised Background Estimation Using a Neural Integrator". In: *Optical Memory and Neural Networks* 34 (2025), pp. 581–591. DOI: 10.3103/S1060992X25600156. (SJR=0.22 Q3).
- M. Lucas, R. Gonçalves, T. Kallio, S. Pakseresht, F. Obrezkov, S. Clain, M.T. Malheiro, S. Lanceros-Mendez, and C.M. Costa. "Room-Temperature Hybrid Solid Polymer Electrolytes Incorporating Poly(vinylidene fluoride-co-hexafluoropropylene), Ionic Liquids, and Ceramic Particles for Solid-State Batteries". In: *ACS Applied Energy Materials* 8.6 (2025), pp. 3904–3915. DOI: 10.1021/acsaem.5c00186. (SJR=1.378 Q1).
- C.S. Marques, E. Dufourq, S. Pereira, V.F. Santos, and E. Malafaia. "Enhancing the classification of isolated theropod teeth using machine learning: a comparative study". In: *PeerJ* (2025). DOI: 10.7717/peerj.19116.
- C.S. Marques, E. Malafaia, S. Pereira, V.F. Santos, and E. Dufourq. "A review of machine learning applications for identification and classification problems in paleontology". In: *Ecological Informatics* (2025). DOI: 10.1016/j.ecoinf.2025.103329.
- C.S. Marques, A. Mota, M. Belvedere, D. Castanera, I. Diaz-Martinez, E. Malafaia, S. Pereira, L.M. Rosalino, V.F. Santos, L. Sciscio, and E. Dufourq. "Deep tracks: Using deep learn-

- ing and procedurally simulated data for automated vertebrate footprints classification". In: *Ecological Informatics* (2025). DOI: 10.1016/j.ecoinf.2025.103523.
- G. Martalò, A.J. Soares, and R. Travaglini. "A BGK-Type Model for Multi-component Gas Mixtures Undergoing a Bimolecular Chemical Reaction". In: *Journal of Statistical Physics* 192, 3 (2025), pp. 1–29. DOI: 10.1007/s10955-024-03389-3. (SJR=0.665 Q2, Zbl 1563.82022).
- G.S.S. Martins, M.F.P. Costa, and F. Alves. "Automated and Optimized Scheduling for CNC Machines". In: *Mathematics* 13.16 (2025), 2621 (20 pages). DOI: 10.3390/math13162621. (SJR=0.5 Q2).
- E. Moreira and M. Ferreira. "Finding the tail of a distribution: analysis of a method based on the coefficient of variation". In: *Journal of Applied Statistics*.
- F.A.S. Moura, S. Pereira, and G.L. Silva. "A Beta–Beta Prime Model for Rates and their Precision for Small Area Estimation: An Application to Brazilian Food Insecurity Index". In: *Journal of Survey Statistics and Methodology* (2025). DOI: 10.1093/jssam/smaf002.
- L. Novais and S. Faria. "Robust order selection of mixtures of regression models with random effects". In: *Computational Statistics* 40 (2025), pp. 3205–3228. DOI: 10.1007/s00180-021-01177-1. (SJR=0.75 Q2, Zbl 08067986).
- J.J. Oliveira and A.S. Teixeira. "Global attractivity criteria for a discrete-time Hopfield neural network model with unbounded delays via singular M-matrices". In: *Neurocomputing* 654, 131311 (2025). DOI: 10.1016/j.neucom.2025.131311. (SJR=1.471 Q1).
- F.C. Pereira, M. Costa, and A.M. Gonçalves. "Improving parameter estimation and forecast accuracy in state-space models through outlier handling". In: *Communications for Statistical Applications and Methods* 32.4 (2025), pp. 475–507. DOI: 10.29220/CSAM.2025.32.4.475. (SJR=0.23 Q3).
- M.G. Pereira, M. Vilaça, S. Pedras, A. Carvalho, K. Vedhara, M.J. Dantas, A. Lopes, and S. Faria. "Effectiveness of Relaxation and Hypnosis Interventions in Distressed Patients With Chronic Diabetic Foot Ulcers: A Longitudinal Pilot Randomised Controlled Trial." In: *Stress Health* 41.2 (2025). DOI: 10.1002/smi.70029. (SJR=1.412 Q1).
- T. Pereira, T. Freire, and S. Faria. "Positive youth development as a pathway to climate engagement: testing a conceptual model". In: *Current Psychology* 44 (2025), pp. 10548–10560. DOI: 10.1007/s12144-025-07846-4. (SJR=1.024 Q1).
- A. Pleskalt, S. Farias, T. Vicedo, J.M. Álvarez-Martínez, J.V. Roces-Díaz, C. Meloro, S. Pereira, A. Cruz, J. García, P. Gómez, M.A. Lamillar, E. Marsella, M.J. Varas, E. Álvarez, and F. Dalerum. "Biomass distribution of sympatric mammals in a European temperate forest". In: *Royal Society Open Science* (2025). DOI: 10.1098/rsos.250472.

- I.C. Santos, A.S. Moura, M. Ferraz, C. Moreira, P. Meireles, and M.G. Braga. “Mutations associated with viral resistance to integrase in individuals initiating dolutegravir-containing antiretroviral therapy: retrospective cohort, Brazil 2017–2019”. In: *AIDS Care* (2025), pp. 1602–1612. DOI: 10.1080/09540121.2025.2474672. (SJR=0.617 Q2).
- D. Silva, R. Menezes, G. Araújo, R. Rosa, A. Moreno, A. Silva, and G. Garrido. “Joint model for zero-inflated data combining fishery-dependent and fishery-independent sources”. In: *Spatial Statistics* 70, 100930 (2025). DOI: 10.1016/j.spasta.2025.100930. (SJR=0.874 Q1).
- J. Siqueira, M.J. Torres, and P. Varandas. “Abundance of periodic orbits for typical impulsive semiflows”. In: *Journal of Differential Equations* 448, 113703 (2025). DOI: 10.1016/j.jde.2025.113703. (SJR=2.034 Q1, Zbl 08109772).
- G. Soutinho and L. Meira-Machado. “Pre-Smoothing Methods for Transition Probabilities in Complex Non-Markovian Multistate Models”. In: *International Statistical Review* (2025). DOI: 10.1111/insr.70002. (SJR=0.922 Q1).
- E.V.P. Spreafico, E.A. Costa, and P. Catarino. “A Note on the Fuzzy Leonardo Numbers”. In: *Transactions on Fuzzy Sets and Systems (TFSS)* 4.1 (2025), pp. 181–194. DOI: 10.71602/tfss.2025.1186791. (SJR=0.160 Q4).
- N. Takagi, R. Menezes, J. Varajão, and S. Faria. “Harnessing information processing theory: key organizational initiatives for digital transformation projects success”. In: *International Journal of Managing Projects in Business* 18.2 (2025), pp. 410–433. DOI: 10.1108/IJMPB-10-2024-0251. (SJR=0.68 Q2).
- R. Vila, H. Saulo, C. Marchant, V. Leiva, and C. Castro. “Bivariate extended skew-elliptical Heckman models: mathematical characterization and an application in economic sciences”. In: *Computational and Applied Mathematics* 44, 236 (2025). DOI: 10.1007/s40314-025-03169-z. (SJR=0.631 Q2, Zbl 08065024).

Book chapters

- L. Boudjellal and C. Silva. “Analysis of the impact of time delay incorporation in mathematical models of cellular population dynamics”. In: *Mathematical Modeling in Bioscience: Theory and Applications*. Ed. by Hemen Dutta. Advanced Studies in Complex Systems, Mathematical Modeling in Bioscience, Academic Press, 2025, pp. 1–17.

Proceedings in meetings with referee

- P. Barbosa, F. Ferreira, E. Bicho, and W. Erlhagen. “Biologically-Plausible Classification via a Dynamic Neural Field Self-Organising Map.” In: *Proceedings of the 2025 7th International Applied Mathematics, Modelling and Simulation Conference (AMMS'25)*. ACM Conference Proceedings. Association for Computing Machinery (ACM), 2025, pp. 33–37.
- J. Barrios, B. Araújo, M. Gago, W. Erlhagen, E. Bicho, and F. Ferreira. “Neurological Disease Classification Based on Gait Analysis Through Transformation-Based Multiple Linear Regression Normalization”. In: *26th Congress of the Portuguese Statistical Society, SPE 2023*. Springer Proceedings in Mathematics and Statistics 469. Springer, 2025, pp. 381–392.
- J. Barrios, M. Carvalho, W. Erlhagen, M. Gago, E. Bicho, and F. Ferreira. “Evaluating the Impact of Dataset Size on Classical and Topological Feature Extraction for Gait Classification”. In: *Proceedings of the 2025 7th International Applied Mathematics, Modelling and Simulation Conference (AMMS'25)*. ACM Conference Proceedings. Association for Computing Machinery (ACM), 2025, pp. 1–6.
- Â. Bastos, B. Silva, D. Arruda, R. Silva, P. Araújo, S. Faria, and F. Ferreira. “Comparing LSTM, GRU, and CNN for Forecasting the Density of Mobile Network Users and Flows”. In: *ICNAAM 2023*. AIP Conference Proceedings 3315. American Institute of Physics, 2025, 270003.
- I. Brito, J.M. Azevedo, and A.I. Azevedo. “Green Exchange-Traded Fund Performance Evaluation Using the EU–EV Risk Model”. In: *New Frontiers in Statistics and Data Science. SPE 2021*. International Conference on Congress of the Portuguese Statistical Society 469. Springer, 2025, pp. 55–67.
- G. Carrascal, J. Barrios, F. Ferreira, and J. Plaza. “Solar Radiation Forecasting: A Study Case in the Colombian Caribbean Region”. In: *International Conference on Congress of the Portuguese Statistical Society*. Springer Proceedings in Mathematics and Statistics 469. Springer, 2025, pp. 199–210.
- L. Cocato, W. Erlhagen, E. Bicho, P. Vicente, and F. Ferreira. “Factors Influencing Trust in Human-Robot Interaction: A Case Study”. In: *Workshops of the International Conference on Computational Science and Its Applications, ICCSA 2025*. Lecture Notes in Computer Science 15887 LNCS. Springer, 2025, pp. 411–424.
- C. Coelho, M.F.P. Costa, and L.L. Ferrás. “A Filter-Based Neural ODE Approach for Modelling Natural Systems with Prior Knowledge Constraints”. In: *Machine Learning and Principles and Practice of Knowledge Discovery in Databases*. Ed. by R. Meo and F. Silvestri. Springer, Cham, 2025, pp. 349–360.

- C. Coelho, M.F.P. Costa, and L.L. Ferrás. "A Study on Adaptive Penalty Functions in Neural ODEs for Real Systems Modeling". In: *International Conference of Numerical Analysis and Applied Mathematics: ICNAAM2023*. AIP Conference Proceedings: ICNAAM2023 3315. AIP Publishing, 2025, pp. 270001-1–270001-4.
- E.A. Costa, E.V.P. Spreafico, and P. Catarino. "On the Bi-periodic Edouard and the Bi-periodic Edouard–Lucas Numbers". In: *ICMASE 2024. Springer Proceedings in Mathematics & Statistics*. International Conference on Mathematics and its Applications in Science and Engineering 490. Springer, Cham., 2025, pp. 65–75.
- E. Cruz, P. Catarino, and M. Nascimento. "Numerical Methods: Artifacts in Teaching in a Mathematics Degree". In: *ICMASE 2024. International Conference on Mathematics and its Applications in Science and Engineering 490*. Springer, Cham., 2025, pp. 391–401.
- R. De Almeida and P. Catarino. "On Dual Biquaternionic Sequence Involving Vietoris' Numbers". In: *5th International Conference on Mathematics and its Applications in Science and Engineering, ICMASE 2024*. Springer Proceedings in Mathematics and Statistics 490. Springer, 2025, pp. 121–132.
- S. Dias and M. Ferreira. "Tail (In)dependence: A Comparative Analysis of Estimation Methods". In: *SPE 2023*.
- T. Dieguez, M.T. Malheiro, N. Leal, and J. Machado. "Systematic Literature Review on Manufacturing Execution Systems in the Era of Industry 4.0: A Bibliometric Analysis". In: *ICIE - International Conference Innovation in Engineering 2025*. Lecture Notes in Engineering. Springer Verlag, 2025, pp. 298–310.
- J.C. Domingues. "O cálculo infinitesimal em Portugal no século XVIII". In: *Actas/Anais do 9.º Encontro Luso-Brasileiro de História da Matemática*. Sociedade Portuguesa de Matemática, 2025, pp. 3–26.
- J. Espírito Santo and A.C. Sousa. "Proof Search in Classical Propositional Logic with Partial Proof Terms". In: *Logic, Language, Information, and Computation - 31st International Workshop, WoLLIC 2025*. Lecture Notes in Computer Science 15942. Springer, 2025, pp. 293–308.
- A. Fakhari and C. Fernandes. "Simulating single-bubble rising in elastoviscoplastic fluids: A geometric volume of fluid approach". In: *AIP Conference Proceedings 3315*. 2025, 270002.
- M.A. Forjaz, M.J. Almeida, and C. Almeida-Aguiar. "O papel dos jogos na comunicação de ciência - das cartas aos jogos de computador". In: *SciComPt 2025 - Congresso comunicação de Ciência*. SciCom Editors, 2025, pp. 131–135.
- V. Klitnoi, A. Gaydamaka, Y. Lukashov, A. Ruzmetov, and M.T. Malheiro. "Modeling of Vibration Isolation System Using Quasi-Zero Stiffness with Adaptive Piezoceramic Elements".

- In: *International Conference Innovation in Engineering 2025*. Lecture Notes in Mechanical Engineering. Springer Verlag, 2025, pp. 171–181.
- O. Krol, V. Sokolov, I. Adashevska, and A.M. Gonçalves. “Development of a 3D Project for a Vertical Spindle Head with a Modernized Bevel Gear Drive”. In: *Innovations in Industrial Engineering IV*. Ed. by J. Machado, J. Trojanowska, K. Antosz, C.P. Leão, L. Knapcikova, and A. Sover. Springer, Cham., 2025, pp. 81–92.
- C.P. Leão, A.M. Gonçalves, and M.T. Malheiro. “Decoding Engineering Uncertainty: The Uncovered Potential of Statistical Thinking”. In: *ICIE - International Conference Innovation in Engineering 2025*. Lecture Notes in Mechanical Engineering. Springer Verlag, 2025, pp. 171–181.
- F. Maciala, C. Mendes Araújo, and P. Patrício. “Characterization of the Drazin Index for Double Star Digraph Matrices”. In: *AMMS '25: Proceedings of the 2025 7th International Applied Mathematics, Modelling and Simulation Conference*. ACM International Conference Proceedings Series. ACM Digital Library, 2025, pp. 17–21.
- D. Masarin, A. Castelo, and C. Fernandes. “Numerical Simulation of Non-Newtonian Multiphase Flow in Porous Media Using a Generalized Newtonian Model in OpenFOAM”. In: *XLVI Ibero-Latin American Congress on Computational Methods in Engineering*. 2025.
- R. Menezes, F. Gonçalves, D. Silva, I. Dias, and A. Silva. “Geostatistical Models for Identifying Juvenile Fish Hotspots in Marine Conservation”. In: *New Frontiers in Statistics and Data Science (Proceedings do Congresso da Sociedade Portuguesa de Estatística – SPE 2023)*. Springer Proceedings in Mathematics & Statistics. Springer Nature (Cham, Switzerland), 2025, pp. 324–337.
- A. Pedra, A.M. Gonçalves, and I. Brito. “Clustering and Risk Analysis for Evaluating the Water Quality of a Hydrological Basin”. In: *New Frontiers in Statistics and Data Science. SPE 2021*. International Conference on Congress of the Portuguese Statistical Society 469. Springer, 2025, pp. 43–53.
- D. Rodrigues, E. Silva, G. Gulletta, P. Ribeiro, I. Costa, W. Erlhagen, and E. Bicho. “A Study on the Effects of Model Simplifications for Generating Human-Like Robot Movements in Refill Tasks”. In: *International Conference on Computational Science and Its Applications, ICCSA 2025*. Lecture Notes in Computer Science 15888 LNCS. Springer, 2025, pp. 225–240.
- D. Silva and R. Menezes. “A Simulation Comparison of Spatial Models for Preferential Sampling”. In: *New Frontiers in Statistics and Data Science (Proceedings do Congresso da Sociedade Portuguesa de Estatística – SPE 2023)*. Springer Proceedings in Mathematics & Statistics. Springer Nature (Cham, Switzerland), 2025, pp. 240–252.

- E.V.M. da Silva, L.F.M. Machado, and G.D. da Costa Coelho Soutinho. “Survapp: A Shiny Application for Survival Data Analysis”. In: *New Frontiers in Statistics and Data Science*. Springer Proceedings in Mathematics and Statistics. Springer, 2025, pp. 113–125.
- L. Silva, F. Oliveira, I. Gomes, C.M. Araújo, and J. Oliveira. “A BiLSTM Approach to Outfit Compatibility and Image Similarity”. In: *Enterprise Information Systems. ICEIS 2024. Lecture Notes in Business Information Processing, vol 567*. Ed. by S. Hammoudi, A. Brodsky, J. Filipe, and M. (eds) Śmiałek. Springer, Cham, 2026, pp. 260–276.
- B. Zimmering, C. Coelho, V. Gupta, M. Maleshkova, and O. Niggemann. “Breaking Free: Decoupling Forced Systems with Laplace Neural Networks”. In: *Machine Learning and Knowledge Discovery in Databases. Research Track*. Ed. by Rita P. Ribeiro, Bernhard Pfahringer, Nathalie Japkowicz, Pedro Larrañaga, Alípio M. Jorge, Carlos Soares, Pedro H. Abreu, and João Gama. Springer, 2025, pp. 252–269.

Other publications

- F.R.V. Alves, P. Catarino, and R.P.M. Vieira. “Interpretação Combinatória dos termos de algumas Sequências Recorrentes via Tabuleiro e Ladrilamentos”. In: *PMO- Professor de Matemática online, Revista Eletrônica da Sociedade Brasileira de Matemática* 13.2 (2025), pp. 274–294. DOI: 10.21711/2319023x2025/pmo1319.
- H.M.B. Campos and P. Catarino. “A importância de um A: a Literatura infantil e a Matemática, promovendo competências que são basilares no desenvolvimento do raciocínio matemático”. In: *Matemática com Vida: Diferentes olhares sobre a Cultura*. Ed. by Vanda Santos Teresa B. Neto Isabel Cabrita Margarida M. Pinheiro J. Bernardino Lopes (orgs.) 2025, pp. 65–71.
- P. Catarino and E.A. Costa. “Uma peculiar ligação entre sucessões numéricas e matrizes”. In: *Gazeta de Matemática* 207 (2025), pp. 24–29.
- J. Chimpanzo, P. Catarino, and M.V. Otero-Espinar. “On tridimensional Lucas-balancing numbers and some properties”. In: *Notes on Number Theory and Discrete Mathematics* 31.1 (2025), pp. 41–53. DOI: 10.7546/nntdm.2025.31.1.41-53.
- E.A. Costa and P. Catarino. “The first study of Mersenne–Leonardo sequence”. In: *Commun. Adv. Math. Sci.* 8.1 (2025), pp. 11–23. DOI: 10.33434/cams.1598817.
- E.A. Costa, D.C. Santos, and P. Catarino. “Some Tridiagonal Matrices of the Repunit Sequence”. In: *Latin American Journal of Mathematics* 4.1 (2025), pp. 1–12. DOI: 10.14244/lajm.v4i1.33.

- E.A. Costa, E.V.P. Spreafico, and P. Catarino. "A Note on the Generalized Bi-periodic Lucas-balancing numbers". In: *Brazilian Electronic Journal of Mathematics* 6, e75273 (2025), pp. 2–15. DOI: 10.14393/BEJOM-v6-2025-75273.
- J.C. Domingues. "Construções dos números reais no ensino liceal, c. 1900". In: *Suplemento do Boletim da SPM 82 (35.º Encontro do Seminário Nacional de História da Matemática)*. 2025, pp. 33–36.
- J.C. Domingues. "Portuguese texts on the calculus in the 18th century". In: *CIM Bulletin* 46 (2025), pp. 17–24.
- S.A. Faroughi and C. Fernandes. *Scientific Machine Learning for Polymeric Materials*. MDPI Books, 2025.
- M. Ferreira and L. Monteiro. "An Estimation of Risk Measures: Analysis of a Method". In: *Computer Sciences & Mathematics Forum*.
- M.A. Forjaz, I.M.C.A. Mina, I.C. Neves, M. Almeida, and J. Pamplona. *Vis(i)tas com Ciência - Uma abordagem multidisciplinar*. Coleção Educação I Ciências, Engenharia e Tecnologia. UMinho Editora, 2025.
- L. Henriques-Rodrigues, R. Menezes, L.M. Machado, S. Faria, and M. de Carvalho. "Preface". In: *New Frontiers in Statistics and Data Science*. Springer Proceedings in Mathematics and Statistics. Springer, 2025.
- A. Joaquim, P. Catarino, M. Nascimento, and A.P. Aires. "Pedagogical content knowledge for teaching numbers and operations: a study with prospective teachers". In: *Millenium -Journal of Education, Technologies, and Health* 2.27 (2025), e40933. DOI: 10.29352/mil10227.40933. (SJR=0.121 Q4).
- A. Joaquim, A. Morais, P. Catarino, and A.P. Aires. "Mathematical knowledge for teaching of future primary school teachers in numbers and operations: a systematic review". In: *International Journal of Mathematical Education in Science and Technology* 56.8 (2025), pp. 1438–1456. DOI: 10.1080/0020739X.2025.2493957. (SJR=0.826 Q1).
- S. Lima, L. Silva, A.M. Gonçalves, M.T. Malheiro, M. Pinhão, J. Machado, J. Meireles, and A.J. Pontes. "Statistical methodologies for determining critical parameters in a pick-and-place process on a surface mount device line". In: *Research in Statistics* 3.1, 2482648 (2025). DOI: 10.1080/27684520.2025.2482648.
- E.G.C. Mesquita, E.A. Costa, P. Catarino, and F.R.V. Alves. "Jacobsthal-Mulatu Numbers". In: *Latin American Journal of Mathematics* 4.1 (2025), pp. 23–45. DOI: 10.14244/la.jm.v4i1.39.
- L. Morin, A. De Cezaro, D.C. Mistro, and L.A. Díaz Rodrigues. "Discrete-time SIR model; Population coupling interactions; Stability analysis". In: *Ciência e Natura* (2025). DOI: 10.5902/2179460X.

- C.A. Sassupe, A.A. Soares, M.J.C.S. Reis, and P. Catarino. "Abordagem prática para a utilização do software octave: transferência de calor por condução unidimensional em regime transiente". In: *Revista Angolana de Ciências - RAC* 7.2, e070201 (2025). DOI: 10.54580/R0702.01.
- C.A. Sassupe, A.A. Soares, M.J.C.S. Reis, and P. Catarino. "Reflections on the development of computational thinking in teaching heat transfer by conduction in solid bodies: a perspective of the theory of didactic situations". In: *Revista FOCO* 18.12, e11025 (2025), pp. 1–22. DOI: 10.54751/revistafoco.v18n12-157.
- E.V.P. Spreafico, E.A. Costa, and P. Catarino. "A Note on Hybrid Numbers with Generalized Hybrid k-Pell Numbers as Coefficients". In: *Commun. Adv. Math. Sci.* 8.3 (2025), pp. 125–135. DOI: 10.33434/cams.1655752.
- R.P.M. Vieira, F.R.V. Alves, and P. Catarino. "A Teoria das Situações Didáticas e a Sequência de Perrin: um estudo das formas matriciais para a História da Matemática". In: *Estratégias interativas em uma abordagem interdisciplinar no ensino de Ciências e Matemática*. Ed. by Francisco Cleuton de Araújo Lindauro Costa Pereira Maria Goretti de Vasconcelos Silva Carlos Alberto Santos de Almeida Ana Paula Albuquerque de Sousa. Imprensa Universitária – Universidade Federal do Ceará Av. da Universidade, 2932 - Benfica, Fortaleza-Ceará, Brasil, 2025, pp. 53–70.
- R.P.M. Vieira, F.R.V. Alves, and P. Catarino. "Exploring Padovan's identity with Manipulable Resources: An Experience in Initial Teacher Training through Didactic Engineering". In: *Revista Electrónica de Investigación en Educación en Ciencias – REIEC* 20.1 (2025), pp. 50–60. DOI: 10.54343/reiec.v20i1.399.
- R.P.M. Vieira, F.R.V. Alves, and P. Catarino. "Using GeoGebra as a tool for teaching the Padovan board and tiling". In: *Revista Internacional de Pesquisa em Educação Matemática* 15.1 (2025), pp. 1–15. DOI: 10.37001/ripem.v15i1.3995.