

B. List of publications in 2021

B.1 Papers in peer review journal

1. Azevedo A., Rodrigues J.F., Santos L., Lagrange Multipliers for Evolution Problems With Constraints on the Derivatives, *St. Petersburg Mathematical Journal*, 32, 435 – 448, 2021
2. Azevedo, A., Azevedo, D., Bessa, M., Torres, M. J., The closing lemma and the planar general density theorem for sobolev maps, *Proceedings of the American Mathematical Society*, 149, 1687 – 1696, 2021
3. Belhaj S., Hcini F., Moakher M., Zhang Y., A fast algorithm for solving diagonally dominant symmetric quasi-pentadiagonal Toeplitz linear systems, *Journal of Mathematical Chemistry*, 59, 757 – 774, 2021
4. Bertoco J., Leiva R.T., Ferrás L.L., Afonso A.M., Castelo A., Development length of fluids modelled by the gptt constitutive differential equation, *Applied Sciences (Switzerland)*, 11, 2021
5. Bessa, Mário, Torres, M. J., Varandas, Paulo, Topological aspects of incompressible flows, *Journal of Differential Equations*, 293, 392 – 417, 2021
6. Bessa. M., Dias, J. L., Torres, M. J., Expansiveness and Hyperbolicity in Convex Billiards, *Regular and Chaotic Dynamics*, 26, 756 – 762, 2021
7. Bomfim, T., Torres, M. J., Varandas, P., Gluing orbit property and partial hyperbolicity, *Journal of Differential Equations*, 272, 203 – 221, 2021
8. Braga C., Batista J., Ferreira H., Sousa I., Gonçalves M.M., Ambivalence Resolution in Meaning Reconstruction Grief Therapy: An Exploratory Study, *Omega: Journal of Death and Dying*, 2021

9. Câmara M.C., Malheiro M.T., Partington J.R., Kernels of Unbounded Toeplitz Operators and Factorization of Symbols, *Results in Mathematics*, 76, 2021
10. Cardoso J.L., A β -Sturm-Liouville problem associated with the general quantum operator, *Journal of Difference Equations and Applications*, 27, 579 – 595, 2021
11. Cardoso J.L., Variations around a general quantum operator, *Ramanujan Journal*, 54, 555 – 569, 2021
12. Catarino P., De Almeida R., On a quaternionic sequence with viectoris? numbers, *Filomat*, 35, 1065 – 1086, 2021
13. Cohen D.C., Vandembroucq L., On the topological complexity of manifolds with abelian fundamental group, *Forum Mathematicum*, 33, 1403 – 1421, 2021
14. Costa J.C., Nogueira C., Teixeira M.L., The word problem for κ -terms over the pseudovariety of local groups, *Semigroup Forum*, 103, 439 – 468, 2021
15. Costa J.L., Mena F.C., Global solutions to the spherically symmetric Einstein-scalar field system with a positive cosmological constant in Bondi coordinates, *Journal of Hyperbolic Differential Equations*, 18, 311 – 341, 2021
16. da Costa N.M.C., Bicho E., Ferreira F., Vilhena E., Dias N.S., A multivariate randomized controlled experiment about the effects of mindfulness priming on eeg neurofeedback self-regulation serious games, *Applied Sciences (Switzerland)*, 11, 2021
17. dos Santos Manguiera M.C., Vieira R.P.M., Alves F.R.V., Catarino P.M.M.C., A generalized Perrin polynomial sequence and its two-dimensional recurrences, *Analele Stiintifice ale Universitatii Al I Cuza din Iasi - Matematica*, 67, 261 – 277, 2021
18. Espírito Santo J., Matthes R., Pinto L., A coinductive approach to proof search through typed lambda-calculi, *Annals of Pure and Applied Logic*, 172, 2021
19. Fernandes C., Ferreira F., Lopes R.L., Bicho E., Erlhagen W., Sousa N., Gago M.F., Discrimination of idiopathic Parkinson's disease and vascular parkinsonism based on gait time series and the levodopa effect, *Journal of Biomechanics*, 125, 2021
20. Ferrás L.L., Fernandes C., Semyonov D., Nóbrega J.M., Covas J.A., Dispersion of graphite nanoplates in polypropylene by melt mixing: The effects of hydrodynamic stresses and residence time, *Polymers*, 13, 1 – 17, 2021

21. Ferreira F., Sousa E., Louro L., Bicho E., Erlhagen W., Wojtak, W., Rapid learning of complex sequences with time constraints: A dynamic neural field model, *IEEE Transactions on Cognitive and Developmental Systems*, 853 – 864, 2021
22. Ferreira G., Sucena A., Ferrás L.L., Pinho F.T., Afonso A.M., Hydrodynamic entrance length for laminar flow in microchannels with rectangular cross section, *Fluids*, 6, 2021
23. Ferreira, J., Meira-Machado, L., Oliveira, J., Ramos, J., Effect of crown-to-implant ratio and crown height space on marginal bone stress: a finite element analysis, *International Journal of Implant Dentistry*, 7, 1 – 15, 2021
24. Fişekci S., Vandembroucq L., On the LS-category and topological complexity of projective product spaces, *Journal of Homotopy and Related Structures*, 16, 769 – 780, 2021
25. Fonseca M.J., Moreira C., Santos A.C., Adiposity rebound and cardiometabolic health in childhood: Results from the Generation XXI birth cohort, *International Journal of Epidemiology*, 50, 1260 – 1271, 2021
26. Fornaro S., Henriques E., Vespri V., Regularity results for a class of doubly nonlinear very singular parabolic equations, *Nonlinear Analysis, Theory, Methods and Applications*, 205, 1122130 – 112214, 2021
27. Fornaro S., Henriques E., Vespri V., Stability to a class of doubly nonlinear very singular parabolic equations, *Manuscripta Mathematica*, 1 – 2, 2021
28. Gao Y., Chen J., Patrício P., Continuity of the core-EP inverse and its applications, *Linear and Multilinear Algebra*, 69, 557 – 571, 2021
29. Garcia-Agundez A., Ojo O., Hernández-Roig H.A., Baquero C., Frey D., Georgiou C., Goessens M., Lillo R.E., Menezes R., Nicolaou N., Ortega A., Stavrakis E., Fernandez Anta A., Estimating the COVID-19 Prevalence in Spain With Indirect Reporting via Open Surveys, *Frontiers in Public Health*, 9, 2021
30. Gonçalves M.M., Batista J., Braga C., Oliveira J.T., Fernández-Navarro P., Magalhães C., Ferreira H., Sousa I., Innovative moments in recovered cases treated with the unified protocol for transdiagnostic treatment of emotional disorders, *Psychotherapy Research*, 2021
31. Gonçalves, A.M., Simões C., Rodrigues J., Faria S., Gomes A.R., Work?family conflicts, cognitive appraisal, and burnout: Testing the mediation effect with structural equation modelling, *British Journal of Educational Psychology*, 1349 – 1368, 2021

32. Gonçalves, A.M., Varajão J., Fernandes G., Amaral A., Team Resilience Model: An Empirical Examination of Information Systems Projects, *Reliability Engineering and System Safety*, 206, 2021
33. Gulletta G., Silva E.C.e., Erhagen W., Meulenbroek R., Bicho E., Costa, M.F.P., A Human-like Upper-limb Motion Planner: Generating naturalistic movements for humanoid robots, *International Journal of Advanced Robotic Systems*, 18, 2021
34. Haccou P., Serra M.C., Establishment versus population growth in spatio-temporally varying environments, *Proceedings of the Royal Society B: Biological Sciences*, 288, 2021
35. Henriques E., The porous medium equation with variable exponent revisited, *Journal of Evolution Equations*, 21, 1495 – 1511, 2021
36. Kahl, T., Weak equivalence of higher-dimensional automata, *Discrete Mathematics and Theoretical Computer Science*, 1 – 31, 2021
37. Kürüz F., Da?deviren A., Catarino P., On leonardo pisano hybrinomials, *Mathematics*, 9, 2021
38. Malheiro M.T., Machado G.J., Clain S., An a posteriori strategy for adaptive schemes in time for one-dimensional advection-diffusion transport equations, *Computers and Mathematics with Applications*, 103, 65 – 81, 2021
39. Mary X., Patrício P., Characterizations of special clean elements and applications, *Filomat*, 34, 4847 – 4860, 2021
40. Moreira C., de Uña-Álvarez J., Braekers R., Nonparametric estimation of a distribution function from doubly truncated data under dependence: Double truncation under dependence, *Computational Statistics*, 36, 1693 – 1720, 2021
41. Morgado M.L., Rebelo M., Ferrás L.L., Stable and convergent finite difference schemes on nonuniformtime meshes for distributed-order diffusion equations, *Mathematics*, 9, 2021
42. Nora M. Villanueva, Marta Sestelo, Javier Roca-Pardiñas, Meira-Machado, L., clustcurv: An R Package for Determining Groups in Multiple Curves, *The R Journal*, 13, 164 – 183, 2021
43. Oliveira J.T., Sousa I., Ribeiro A.P., Gonçalves M.M., Premature termination of the unified protocol for the transdiagnostic treatment of emotional disorders: The role of ambivalence towards change, *Clinical Psychology and Psychotherapy*, 2021

44. Paciência I., Moreira A., Moreira C., Cavaleiro Rufo J., Sokhatska O., Rama T., Hoffmann E., Santos A.C., Barros H., Ribeiro A.I., Moreira, C., Neighbourhood green and blue spaces and allergic sensitization in children: A longitudinal study based on repeated measures from the Generation XXI cohort, *Science of the Total Environment*, 772, 2021
45. Pais R., Ruano L., Moreira C., Fraga S., Carvalho O.P., Barros H., Social support and cognitive impairment: Results from a portuguese 4-year prospective study, *International Journal of Environmental Research and Public Health*, 18, 2021
46. Paula Meireles, Miguel Rocha, Mikael Plankey, Henrique Barros, Transitions Between Preexposure Prophylaxis Eligibility States and HIV Infection in the Lisbon Cohort of HIV-Negative Men Who Have Sex With Men: A Multistate Model Analysis, *American Journal of Epidemiology*, 2021
47. Ribau A.M., Ferrás L.L., Morgado M.L., Rebelo M., Alves M.A., Pinho F.T., Afonso A.M., A study on mixed electro-osmotic/pressure-driven microchannel flows of a generalised Phan-Thien-Tanner fluid, *Journal of Engineering Mathematics*, 127, 2021
48. Ribau Â.M., Gonçalves N.D., Ferrás L.L., Afonso A.M., Flow structures identification through proper orthogonal decomposition: The flow around two distinct cylinders, *Fluids*, 6, 2021
49. Ribeiro C., Soares A.J., Costa, M.F.P., Ramos, M.P.M., Optimal control model of immunotherapy for autoimmune diseases, *Mathematical Methods in the Applied Sciences*, 44, 8883 – 8902, 2021
50. Santo J.E., Ferreira G., Espírito Santo, J., The Russell-Prawitz embedding and the atomization of universal instantiation, *Logic Journal of the IGPL*, 29, 823 – 858, 2021
51. Soutinho, G., Meira-Machado, L., Methods for checking the Markov condition in multi-state survival data, *Computational Statistics*, 2021
52. Teixeira R., Queiroga A.C., Freitas A.I., Lorthe E., Santos A.C., Moreira C., Barros H., Moreira, C., Completeness of Retention Data and Determinants of Attrition in Birth Cohorts of Very Preterm Infants: A Systematic Review, *Frontiers in Pediatrics*, 9, 2021
53. Vieira R., Alves F.R., Catarino P., (s_1, s_2) -Padovan matrix sequence and the case of generalization, *Analele Stiintifice ale Universitatii Al I Cuza din Iasi - Matematica*, 67, 155 – 169, 2021

54. Wojtak W., Coombes S., Avitabile D., Bicho E., Erhagen W., Wojtak, W., A dynamic neural field model of continuous input integration, *Biological Cybernetics*, 115, 451 – 471, 2021
55. Zhu H., Wu L., Peng F., Patrício P., Characterizations and representations of left and right hybrid (b,c)-inverses in rings, *Revista de la Real Academia de Ciencias Exactas, Fisicas y Naturales - Serie A: Matematicas*, 115, 2021

B.2 Book chapters

1. Gonçalves, A.M., Costa C., Costa M., Lopes S.O., Pereira R., Temperature Time Series Forecasting in the Optimal Challenges in Irrigation (TO CHAIR), *Computational Methods in Applied Sciences*, 55, 423 – 435, 2021
2. Lopes S.O., Pereira R.M.S., Malheiro M.T., Fontes F.A.C.C., Costa M.F.P., Irrigation Planning with Fine Meshes, *Computational Methods in Applied Sciences*, 55, 393–407, 2021
3. Spolaôr, N., Fonseca-Pinto, R., Mendes, A.I., Ensina, L.A., Takaki, W.S.R., Parmezan, A.R.S., Nogueira, C.V., Coy, C.S.R., Wu, F.C., Lee, H.D., Evaluating Intelligent Methods for Decision Making Support in Dermoscopy Based on Information Gain and Ensemble, *Studies in Computational Intelligence* 953, 111-127, 2021

B.3 Proceedings in meetings with referee

1. Ana Maria A.C. Rocha, Costa, M.F.P., Edite M.G. P. Fernandes, A Simple Clustering Algorithm Based on Weighted Expected Distance, *Communications in Computer and Information Science*, 1488, 086 – 101, 2021
2. Branco M.J.J., Costa J.C., On ω -Identities over Finite Aperiodic Semigroups with Commuting Idempotents, *Springer Proceedings in Mathematics and Statistics*, 345, 169 – 178, 2021
3. Catarino, P., Revisiting some research work in a particular semigroup of transformations, *Mathematics for Social Sciences and Arts - Algebraic Modeling*, 2021

4. Coelho C. , Costa, M.F.P., Ferrás, L.L., Soares, A.J., Development of a machine learning model and a user interface to detect illegal swimming pools, Proceedings of SYMCOMP 2021, 0445 – 0454, 2021
5. Coelho C., Costa, M.F.P., Ferrás, L.L., Soares, A.J., Object Detection with RetinaNet on Aerial Imagery: the Algarve Landscape, Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics), 12950, 0501 – 0516, 2021
6. Costa M., Pereira F.C., Gonçalves A.M., Improving Short-Term Forecasts of Daily Maximum Temperature with the Kalman Filter with GMM Estimation, Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics), 12952, 552 – 562, 2021
7. Costa M.F.P., Ramos M.P.M., Ribeiro C., Soares A.J., Ramos, M.P.M., Costa, M.F.P., Recent Developments on the Modelling of Cell Interactions in Autoimmune Diseases, Springer Proceedings in Mathematics and Statistics, 352, 149 – 168, 2021
8. Costa, M.F.P., Ana Maria A.C. Rocha, Edite M.G.P. Fernandes, A Clustering Algorithm Based on Fitness Probability Scores for Cluster Centers Optimization, Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics), 12953, 382 – 396, 2021
9. Costa, M.F.P., Coelho C., Ferrás, L.L., Optimisation Approach for Parameter Estimation of the Generalised PTT Viscoelastic Model, Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics), 12952, 481 – 494, 2021
10. Falcão M.I., Miranda F., Severino R., Soares M.J., Mathematica Tools for Coquaternions, Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics), 12952, 449 – 464, 2021
11. Ferrás L.L., Morgado M.L., Rebelo M., A Numerical Method for the Transient Couette Flow of a Distributed-Order Viscoelastic Fluid, Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics), 12952, 411 – 421, 2021
12. Ferrás, L.L., M.L. Morgado, M. Rebelo, A Distributed Order Viscoelastic Model for small Deformations, Proceedings of the 5th International Conference on Numerical and Symbolic Computation: Developments and Applications, 2021, 179 – 197, 2021

13. Ferreira F., Wojtak W., Fernandes C., Guimarães P., Monteiro S., Bicho E., Erlhagen W., Dynamic Identification of Stop Locations from GPS Trajectories Based on Their Temporal and Spatial Characteristics, Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics), 12894, 347 – 359, 2021
14. Gonçalves A.M., Silva V.H., Time Series Forecasting: A Study on Local Urban Waste Management in a Portuguese City, Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics), 12952, 527 – 538, 2021
15. Lima, P. M., Erlhagen, W., Kulikov, G. Y., Kulikova, M. V. , Erlhagen, W., Mathematical Modeling of Working Memory in the Presence of Random Disturbance using Neural Field Equations, Proceedings of the V International Conference on Modeling of Nonlinear Processes and Systems, 248, 2021
16. Malonek H.R., Falcão, M.I., A Pascal-Like Triangle with Quaternionic Entries, Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics), 12952, 439 – 448, 2021
17. Patel, A. R., Ferreira, F., Monteiro, S., Silva, A. C., Erlhagen, W., Bicho, E, Erlhagen, W., Ferreira, F., Prediction of attitudes towards human-centred cognitive vehicles aware of their users' routines and preferences, Proceedings of the 2021 IEEE 6th International Forum on Research and Technology for Society and Industry (RTSI), 194 – 199, 2021
18. Campos, Helena, Catarino, P., From Fibonacci Sequence to More Recent Generalisations, 54 – 56, 2021
19. Ramadas G.C.V., Fernandes E.M.G.P., Rocha A.M.A.C., Costa, M.F.P., Optimal Control by Multiple Shooting and Weighted Tchebycheff Penalty-Based Scalarization, Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics), 12953, 333 – 349, 2021
20. Santo J.E., Matthes R., Pinto L., Coinductive proof search for polarized logic with applications to full intuitionistic propositional logic, Leibniz International Proceedings in Informatics, LIPIcs, 188, 2021
21. Santos M.C., Borges A.N.A.I., Carneiro D.R., Ferreira F.J., Synthetic dataset to study breaks in the consumer's water consumption patterns, ACM International Conference Proceeding Series, 59 – 65, 2021

22. Soutinho, G., Meira-Machado, L., Estimation of the Transition Probabilities condition on repeated measures in Multi-state models, Proceedings of the 35th International Workshop on Statistical Modelling, 2021
23. Wojtak W., Ferreira F., Guimarães P., Barbosa P., Monteiro S., Erlhagen W., Bicho E., Towards Endowing Intelligent Cars with the Ability to Learn the Routines of Multiple Drivers: A Dynamic Neural Field Model, Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics), 12952, 337 – 349, 2021

B.4 Other publications

1. Assumma V., Bottero H., Angelis E., Lourenço J. M., Monaco R., Soares A.J., A decision support system for territorial resilience assessment and planning: An application to the Douro Valley (Portugal), Science of The Total Environment, 756, 2021
2. Barros, F., Viriato, N., Veiga Rodrigues, C., Ferrás, L.L., Vaz, M.A.P. Afonso, A.M., Numerical study of hydrodynamic resistance on a sportive sprint hull, Semina: Exact and Technological Sciences, 42, 131–144, 2021.
3. Manguiera, M.C. dos S., Vieira, R.P.M., Alves, F.R.V., Catarino, P M.M.C., As generalizações das formas matriciais e dos quatérnios da sequência de Mersenne. Revista de Matemática de Ouro Preto, 1, pp. 1-17, 2021.
4. Manguiera, M.C. dos S., Vieira, R.P.M., Alves, F.R.V., Catarino, P.M.M.C., The Oresme sequence: The generalization of its matrix form and its hybridization process, Notes on Number Theory and Discrete Mathematics, 27(1), 101-111, 2021.
5. Matias, J., Cerveira, A., Santos, C., Marta-Costa, A.A., The influence of labour costs on the sustainability of douro wine farms: An application of ABM, Revista de Economia e Sociologia Rural, 59(1), 1–13, 2021.
6. Moura A., Ferreira F., Bicho E., Braga J., Erlhagen W., Azevedo O., Gago M., The association between potential risk factors and cerebral white matter lesions in Fabry Disease patients, Journal of Statistics on Health Decision, 3, 15–17, 2021
7. Vieira, R.P.M., Manguiera, M.C. dos S., Alves, F.R.V., Catarino, P.M.M.C. (2021). Os números hiperbólicos de Leonardo. Cadernos do IME - Série Matemática, Rio de Janeiro, 17, 113-124.

8. Vieira, R.P.M., Manguiera, M.C. dos S., Alves, F.R.V., Catarino, P.M.M.C., Padovan and Perrin Hybrid Number Identities, *Communications in Advanced Mathematical*, Vol. IV, No. 4, 190-197, 2021.
9. Vieira, R.P.M., Alves, F.R.V., Catarino, P.M.M.C., A sequência (s,t) -Narayana. *Cadernos do IME - Série Matemática*, Rio de Janeiro, 17, 125-132, 2021.
10. Vieira, R.P.M., Alves, F.R.V., Catarino, P.M.M.C., A generalização dos octônios de Narayana. *Cadernos do IME - Série Matemática*, Rio de Janeiro, 17, 133-143, 2021.
11. Vieira, R.P.M., Manguiera, M.C. dos S., Alves, F.R.V., Catarino, P. M.M.C., Perrin n -dimensional relations, *FUJMA-Fundamental Journal of Mathematics and Applications*, 4(2), 100-109, 2021.
12. Vieira, R., Manguiera, M., Alves, F., Catarino, P., Perrin's bivariate and complex polynomials, *Notes on Number Theory and Discrete Mathematics*, 27(2), 70-78, 2021.
13. Vilhena, E., Castro, C., Keating, J., Depression, Anxiety and Stress During Covid-19 in Portugal, *Book of Abstracts of 7th International Conference on Public Health 2021(ICOPH 2021)*, pg. 70, ISBN 978-624-5746-01-9