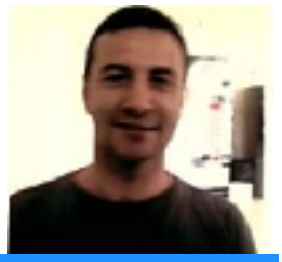
Sérgio Manuel Moço Nunes Mendes

Professor Associado
Department of Mathematics (ISTA)



Contacts

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Academic Qualifications

University/Institution	Type	Degree	Period
University of Manchester	PhD	Matemática Pura	2006
Instituto Superior Técnico - UTL	M.Sc.	Matemática Aplicada	2002
Faculdade de Ciências - UL	Licenciate	Matemática	1999

Teaching Activities

Teaching Year	Sem.	Course Name	Degree(s)	Coord.

2026/2027	1º	Linear Algebra	Bachelor Degree in Computer Engineering (PL); Bachelor Degree in Computer Engineering;	Yes
2026/2027	1º	Calculus I	Bachelor Degree in Computer Engineering (PL); Bachelor Degree in Telecommunications and Computer Engineering;	Yes
2025/2026	1º	Linear Algebra	Bachelor Degree in Computer Engineering (PL); Bachelor Degree in Computer Engineering;	No
2025/2026	1º	Calculus I	Bachelor Degree in Computer Engineering (PL); Bachelor Degree in Computer Engineering;	No
2024/2025	1º	Linear Algebra	Bachelor Degree in Computer Engineering (PL);	No
2024/2025	1º	Calculus I	Bachelor Degree in Computer Engineering (PL);	Yes
2023/2024	1º	Linear Algebra	Bachelor Degree in Computer Engineering (PL);	No
2023/2024	1º	Calculus I	Bachelor Degree in Computer Engineering (PL);	Yes
2023/2024	1º	Algebra	Bachelor Degree in Computer Science and Business Management;	Yes
2022/2023	1º	Linear Algebra	Bachelor Degree in Computer Engineering (PL);	No
2022/2023	1º	Calculus I	Bachelor Degree in Computer Engineering (PL);	Yes
2022/2023	1º	Algebra	Bachelor Degree in Computer Science and Business Management;	Yes
2021/2022	1º	Linear Algebra Fundamentals	Bachelor Degree in Data Science (PL); Bachelor Degree in Data Science;	Yes
2021/2022	1º	Calculus I	Bachelor Degree in Telecommunications and Computer Engineering;	Yes
2021/2022	1º	Topics of Real Analysis		Yes
2020/2021	1º	Linear Algebra Fundamentals	Bachelor Degree in Data Science;	Yes
2020/2021	1º	Calculus I	Bachelor Degree in Computer Engineering (PL);	Yes
2020/2021	1º	Topics of Real Analysis		Yes
2019/2020	2º	Geometry and Trigonometry		Yes
2019/2020	2º	Logic, Sequences, Combinatory and Probability		Yes
2019/2020	2º	Topics of Elementary Mathematics II		Yes

2019/2020	1º	Geometry and Trigonometry		Yes
2019/2020	1º	Logic, Sequences, Combinatory and Probability		Yes
2019/2020	1º	Linear Algebra Fundamentals	Bachelor Degree in Data Science (PL); Bachelor Degree in Data Science;	Yes
2019/2020	1º	Topics of Elementary Mathematics II		Yes
2019/2020	1º	Algebra	Bachelor Degree in Computer Science and Business Management (PL);	Yes
2019/2020	1º	Linear Algebra, Analytic Geometry and Vector Analysis		Yes
2019/2020	1º	Mathematics		No
2019/2020	1º	Topics of Real Analysis		Yes
2018/2019	2º	Geometry and Trigonometry		Yes
2018/2019	2º	Logic, Sequences, Combinatory and Probability		Yes

Total Citations

Web of Science®	44
Scopus	54

Publications

- **Scientific Journals**

- Scientific journal paper

1	Bettencourt, G. & Mendes, S. (2026). Semigroup real characters generated by quasicharacters. The Georgian Mathematical Journal. 33 (2), 221-231
2	Bettencourt, G. & Mendes, S. (2025). Ações de grupos finitos no toro n-dimensional: O exemplo do quociente estendido. Gazeta de Matemática. 206, 16-24
3	Carvalho, L., Diogo, C., Mendes, S. & Soares, H. (2025). Quaternionic essential numerical range of complex operators. Linear and Multilinear Algebra. 73 (7), 1332-1345

4	Carvalho, L., Diogo, C., Mendes, S. & Soares, H. (2024). A note on the essential numerical range of block diagonal operators. Forum Mathematicum. 36 (5), 1147-1157 - Times Cited Web of Science®: 1 - Times Cited Scopus: 1 - Times Cited Google Scholar: 2
5	Carvalho, L., Diogo, C., Mendes, S. & Soares, H. (2024). On the relation between S-spectrum and right spectrum. Complex Analysis and Operator Theory. 19 (1) - Times Cited Google Scholar: 2
6	Carvalho, L., Diogo, C., Mendes, S. & Soares, H. (2024). On the convexity of the quaternionic essential numerical range. Proceedings of the Edinburgh Mathematical Society. 67 (3), 838-851 - Times Cited Web of Science®: 2 - Times Cited Scopus: 2 - Times Cited Google Scholar: 3
7	Mendes, S. & Bettencourt, G. H. (2023). Numerical representation of topological real algebras. Revista Colombiana de Matemáticas. 57 (1), 103-113
8	Bettencourt, G. & Mendes, S. (2023). Metric functionals for the Hästö metric. Australian Journal of Mathematical Analysis and Applications. 20 (1)
9	Carvalho, L., Diogo, C. & Mendes, S. (2023). S-spectrum and numerical range of a quaternionic operator. Journal of Mathematical Analysis and Applications. 519 (2) - Times Cited Web of Science®: 4 - Times Cited Scopus: 4
10	Carvalho, L., Diogo, C. & Mendes, S. (2022). A new perspective on the quaternionic numerical range of normal matrices. Linear and Multilinear Algebra. 70 (20), 5068-5074 - Times Cited Scopus: 4
11	Bettencourt, G. H. & Mendes, S. (2021). On the stability of a quadratic functional equation over non-Archimedean spaces. Filomat. 35 (8), 2693-2704 - Times Cited Web of Science®: 4 - Times Cited Scopus: 3
12	Mendes, S., Soares, H. & Miró-Roig, M. (2021). Vector bundles E on P^3 with homological dimension 2 and chi(End E)=1. Forum Mathematicum. 33 (3), 808-820
13	Carvalho, L., Diogo, C. & Mendes, S. (2021). Quaternionic numerical range of complex matrices. Linear Algebra and its Applications. 620, 168-181 - Times Cited Web of Science®: 6 - Times Cited Scopus: 6
14	Soares, H., Miró-Roig, M. & Mendes, S. (2020). A family of vector bundles on P3 of homological dimension 2 and X (EndE) = 1. Matemática Contemporânea. 47, 171-181
15	Carvalho, L., Diogo, C. & Mendes, S. (2020). The star-center of the quaternionic numerical range. Linear Algebra and its Applications. 603, 166-185 - Times Cited Web of Science®: 5 - Times Cited Scopus: 6

16	Bettencourt, G. H. & Mendes, S. (2020). A note on the minimal displacement function. Matematicki Vesnik. 72 (4), 297-302 - Times Cited Web of Science®: 1 - Times Cited Scopus: 1
17	Carvalho, L., Diogo, C. & Mendes, S. (2019). A bridge between quaternionic and complex numerical ranges. Linear Algebra and its Applications. 581, 496-504 - Times Cited Web of Science®: 7 - Times Cited Scopus: 7
18	Carvalho, L., Mendes, S. & Diogo, C. (2019). On the convexity and circularity of the numerical range of nilpotent quaternionic matrices. New York Journal of Mathematics. 25, 1385-1404 - Times Cited Web of Science®: 6 - Times Cited Scopus: 7
19	Mendes, S. & Plymen, R. (2017). Functoriality and K-theory for GLn(R). Munster Journal of Mathematics. 10 (1), 39-58 - Times Cited Web of Science®: 1
20	Aubert, A.-M., Mendes, S., Plymen, R. & Solleveld, M. (2017). On L-packets and depth for SL2(K) and its inner form. International Journal of Number Theory. 13 (10), 2545-2568 - Times Cited Web of Science®: 6 - Times Cited Scopus: 7
21	Bettencourt, G. & Mendes, S. (2016). Homomorphisms to R generated by quasimorphisms. Mediterranean Journal of Mathematics. 13 (5), 3205-3219 - Times Cited Web of Science®: 1 - Times Cited Scopus: 1
22	Bettencourt, G. & Mendes, S. (2015). Homomorphism to R of semidirect products: a dynamical construction. Applied Mathematics and Information Sciences. 9 (5), 2395-2401 - Times Cited Scopus: 1
23	Mendes, S. (2014). Base change and K-theory for orbits of p-adic GL(n). Libertas Mathematica (new series). 34 (2), 59-77
24	Mendes, S. & Plymen, R. (2007). Base change and K-theory for GL(n). Journal of Noncommutative Geometry. 1 (3), 311-331 - Times Cited Scopus: 4

• Books and Book Chapters

- Book chapter

1	Mendes, S. (2017). On the K-Theory of the Reduced C*-Algebras of GL(n,R) and GL(n,C). In Bebiano, Natália (Ed.), Springer Proceedings in Mathematics & Statistics: APPLIED AND COMPUTATIONAL MATRIX ANALYSIS.: Springer Verlag.
2	Mendes, S. (2014). On the Dynamics of a Cubic p-adic Polynomial. In Clara Grácio, Daniele Fournier-Prunaret, Tetsushi Ueta, Yoshifumi Nishio (Ed.), Nonlinear Maps and their Applications. (pp. 141-148). New York: Springer.

3	Mendes, S. (2014). Arithmetic aspect of C_r* SL(2). In M. Amélia Bastos, Amarino Lebre, Stefan Samko, Ilya M. Spitkovsky (Ed.), Operator Theory, Operator Algebras and Applications. (pp. 261-278). Basel / Suiça: Birkhäuser.
4	Mendes, S. (2009). On the Weil group of local fields. In Maria de Fátima Salgueiro, Diana A. Mendes, Luís F. Martins (Ed.), Temas em Métodos Quantitativos. (pp. 211-222). Lisboa: Sílabo.
5	Mendes, S. (2008). Galois-fixed Points and K-theory for GL(n). In Maria Amélia Bastos, Amarino Brites Lebre, Frank-Olme Speck, Israel Gohberg (Ed.), Operator Algebras, Operator Theory and Application: Advances and Applications . (pp. 309-320). Basel / Suiça: Birkhäuser.

• Conferences/Workshops and Talks

- Publication in conference proceedings

1	Gastão Bettencourt & Mendes, S. (2015). Homomorphism to R generated by abstract length functions: a dynamical construction. In Elena Blokhina, Orla Feely (Ed.), NOMA'15 International Workshop on Nonlinear Maps and Applications. Dublin: IOP Publishing.
2	Mendes, S. (2015). On the K-theory of the reduced C*-algebras of GL(n,) and GL(n,). In Bebiano, N. (Ed.), Springer Proceedings in Mathematics & Statistics. (pp. 93-103). Coimbra, Portugal: Springer.

- Talk

1	Diogo, C., Carvalho, L., Mendes, S. & Soares, H. (2025). FROM COMPLEX TO QUATERNIONIC NUMERICAL RANGE. IX International Workshop on Non-Associative Algebras in Lisbon.
2	Diogo, C., Carvalho, L. & Mendes, S. (2025). NUMERICAL RANGE IN THE REALM OF QUATERNIONS. NTQO 2025.
3	Soares, H., Carvalho, L., Diogo, C. & Mendes, S. (2025). On the relation between S-spectrum and right spectrum. IWOTA2025.
4	Soares, H., Mendes, S., Diogo, C. & Carvalho, L. (2025). The right spectrum and the S-spectrum. Workshop on New Trends in Quaternions and Octonions - NTQO 2025.
5	Soares, H., Diogo, C., Mendes, S. & Carvalho, L. (2024). Quaternionic essential numerical range of complex operators. 35th International Workshop on Operator Theory and its Applications.
6	Mendes, S., Carvalho, L., Diogo, C. & Soares, H. (2024). S-spectrum and Numerical Range of Bounded Operators on Quaternionic Hilbert Spaces. Eighth Workshop New Trends in Quaternions and Octonions - NTQO 2024.
7	Diogo, C., Carvalho, L. & Mendes, S. (2024). Characterizing quaternionic numerical range through complex numerical range. IWOTA 2024.
8	Diogo, C., Carvalho, L. & Mendes, S. (2024). On quaternionic numerical range and its relation with S-spectrum. International Conference on Hypercomplex Analysis and its Applications.
9	Soares, H., Carvalho, L., Mendes, S. & Diogo, C. (2023). On the convexity of the quaternionic essential numerical range. 16th Workshop on Numerical Ranges and Numerical Radii.

10	Diogo, C., Carvalho, L. & Mendes, S. (2023). Quaternionic numerical range. Seminar - Center for Research Development in Mathematics and Applications Functional Analysis and Applications Group.
11	Diogo, C., Carvalho, L. & Mendes, S. (2023). S-spectrum and numerical range of a quaternionic operator. 16th Workshop on Numerical Ranges and Numerical Radii.
12	Mendes, S. (2023). Reciprocity laws: from Euler to Langlands. Jornadas da Matemática (Núcleo de Estudantes de Matemática do Instituto Superior Técnico).
13	Mendes, S., Carvalho, L. & Diogo, C. (2023). Aspects of quaternionic linear operators: S-spectrum and numerical range. Workshop on Operator Theory, Complex Analysis, and Applications 2023 - WOTCA 2023.
14	Mendes, S. (2022). Langlands functoriality: a view from C*-algebras. Workshop on Operator Theory, Complex Analysis, and Applications 2022 - WOTCA 2022.
15	Soares, H., Diogo, C., Mendes, S. & Carvalho, L. (2022). Quaternionic Numerical Range. Encontro Anual do CIMA.
16	Soares, H. & Mendes, S. (2022). Vector bundles E on P3 with homological dimension 2 and chi(EndE) = 1. Encontro Conjunto Brasil-Portugal em Matemática.
17	Soares, H., Diogo, C., Mendes, S. & Carvalho, L. (2022). Quaternionic Numerical Range. Encontro Nacional da Sociedade de Matemática Portuguesa 2022.
18	Mendes, S. (2022). Número e derivada: uma digressão pelos bastidores da matemática. Orador convidado pela Academia Júnior do Centro de Matemática e Aplicações da UBI.
19	Mendes, S. (2021). What is the Langlands Program?. What is...? mathematics seminars.
20	Mendes, S. & Bettencourt, G. H. (2021). On a Fréchet functional equation over non-Archimedean normed spaces . Conferência Internacional.
21	Diogo, C., Mendes, S. & Carvalho, L. (2020). A bridge between quaternionic and complex numerical ranges. New Trends in Quaternions and Octonions.
22	Mendes, S., Carvalho, L. & Diogo, C. (2020). The star-center of the quaternionic numerical range. New Trends in Quaternions and Octonions.
23	Mendes, S. & Bettencourt, G. H. (2019). Semigroup homomorphism generated by quasimorphism. VI Workshop on Computational Data Analysis and Numerical Methods (WCDANM).
24	Mendes, S. (2019). L-PACKETS AND A GEOMETRIC CONJECTURE FOR SL2(K) WITH K A LOCAL FUNCTION FIELD OF CHARACTERISTIC 2. p-adics.2019 Seventh International Conference on p-Adic Mathematical Physics and its Applications.
25	Mendes, S. & Bettencourt, G. H. (2019). Metric functionals: a new class of examples. VI Workshop on Computational Data Analysis and Numerical Methods.
26	Mendes, S., Carvalho, L. & Diogo, C. (2019). On the convexity and circularity of the numerical range for quaternionic matrices. New Trends in Quaternions and Octonions.

27	Mendes, S. & Bettencourt, G. H. (2018). On the Fréchet functional equation over nonarchimedean spaces. Encontro Nacional Sociedade Portuguesa de Matemática.
28	Mendes, S. (2018). On L-packets and depth for SL2(K) and its inner forms. K-Theory, Hecke Algebras and Representation Theory .
29	Mendes, S., Anne-Marie Aubert, Plymen, R. & Maarten Solleveld (2017). On L-packets and depth for SL(2,K) and its inner form. Journées Arithmétiques 2017.
30	Mendes, S. & Plymen, R. (2017). Automorphic induction for GL(n,R) from the point of view of K?theory. 18 th ANNUAL WORKSHOP on APPLICATIONS AND GENERALIZATIONS OF COMPLEX ANALYSIS.
31	Mendes, S. & Bettencourt, G. H. (2016). Homomorphism to R obtained from quasiorphisms with an application to the reduced group C*-algebra. WOTCA 2016.
32	Mendes, S. (2016). Langlands functoriality and K-theory for the reduced C*-algebra of GL(n). Encontro Nacional da Sociedade Portuguesa de Matemática.
33	Mendes, S., Plymen, R. & Anne-Marie Aubert (2015). On L-packets and depth for SL(2,K). Around Langlands Correspondences.
34	Mendes, S. (2015). Functoriality for the reduced C* algebra of GL(n,R). MAT TRIAD 2015.
35	Gastão Bettencourt & Mendes, S. (2015). Homomorphisms to R generated by quasi-morphisms: a dynamical construction. The NOMA'15 International Workshop on Nonlinear Maps and Applications.
36	Mendes, S. (2015). K-theory for C_r^*SL(2,K) and a geometric conjecture, K a local function field with characteristic 2. AMS-EMS-SPM International Meeting 2015.
37	Mendes, S. (2015). Quadratic and biquadratic extensions of Fq((t)) and the local Langlands correspondence. Seminário de Matemática da Universidade da Beira Interior.
38	Mendes, S. (2014). Base change and K-theory for Galois orbits of p-adic GL(n). Seminário do grupo de Análise e Aplicações do CMAT-UM, na Universidade do Minho.
39	Plymen, R. & Mendes, S. (2014). The local Langlands correspondence for inner forms of SL(N). SCMS Seminar.
40	Mendes, S. (2014). Arithmetic aspect of C_r* SL(2). Meeting on Functional Analysis and its Applications Universidade do Algarve.
41	Mendes, S. (2014). 2 by 2 matrices and formal degree for SL_2 . Matrices & Operators Workshop with Abraham Berman .
42	Mendes, S. (2014). Base change and K-theory for the Iwahori-Hecke algebra of GL(n). 5th annual Workshop of Functional Analysis and Applications Group.
43	Mendes, S. (2014). L-packtes and depth for SL(2,K) with K a local fields of characteristic 2. 16th Annual Workshop on Applications and Generalizations of Complex Analysis.
44	Mendes, S. & Plymen, R. (2013). Local Langlands correspondence for inner forms of SLn. Higher Rank Automorphic Forms and L-functions .

45	Mendes, S. (2013). Noncommutative summands of the C*-algebra C*rSL2(F2((t))). Operator Theory, Complex Analysis and Applications Seminar.
46	Mendes, S. (2012). Base change for the reduced Iwahori-Hecke C*-algebra of GL(n). WOAT 2012: Operator Algebras, Operator Theory and Aplications.
47	Mendes, S. (2012). The Aubert-Baum-Plymen conjecture and the principal series of SL(2). XXth Oporto meeting on Geometry, Topology and physics.
48	Mendes, S. (2011). Dynamics of the nonarchimedean shift in positive characteristic. NOMA11.

• Other Publications

- Recensions in journals

1	Mendes, S. (2025). Dylan Extensions of ${\rm mod}\,p$ representations of division algebras. Mathscinet.
2	Mendes, S. (2024). The Arens-Michael envelopes of the Jordan plane and $U_q(\germ{sl}$. Mathscinet.
3	Mendes, S. (2023). Irreducibility criteria for the generalized principal series of unitary groups. MathSciNet.
4	Mendes, S. (2022). AF-embeddability for Lie groups with T1 primitive ideal spaces. MathSciNet.
5	Mendes, S. (2021). A property of the lamplighter group. MathScinet.
6	Mendes, S. (2019). Self-dual representations of $SL(2,F)$: an approach using the Iwahori-Hecke algebra. MathSciNet.
7	Mendes, S. (2018). On the Wiener-Hopf compactification of a symmetric cone. MathScinet.

Academic Management Positions

Membro (Docente) (2021 - 2025)
Unit/Area: Comissão Científica

Membro (Docente) (2021 - 2025)
Unit/Area: Plenário da Comissão Científica

Membro (Docente) (2017 - 2021)
Unit/Area: Plenário da Comissão Científica

Membro (Docente) (2017 - 2021)
Unit/Area: Comissão Científica