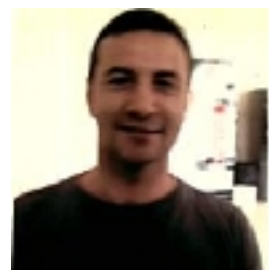


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## Sérgio Manuel Moço Nunes Mendes

**Professor Associado**  
Department of Mathematics (ISTA)



### Contacts

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<b>Post Box</b>	350

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

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

## Total Citations

<b>Web of Science®</b>	44
<b>Scopus</b>	54

## Publications

### • Scientific Journals

#### - Scientific journal paper

1	Bettencourt, G. & Mendes, S. (2026). Semigroup real characters generated by quasicharacters. <i>Georgian Mathematical Journal</i> . 33 (2), 221-231
2	Bettencourt, G. & Mendes, S. (2025). Ações de grupos finitos no toro n-dimensional: O exemplo do quociente estendido. <i>Gazeta de Matemática</i> . 206, 16-24
3	Carvalho, L., Diogo, C., Mendes, S. & Soares, H. (2025). Quaternionic essential numerical range of complex operators. <i>Linear and Multilinear Algebra</i> . 73 (7), 1332-1345
4	Carvalho, L., Diogo, C., Mendes, S. & Soares, H. (2024). On the relation between S-spectrum and right spectrum. <i>Complex Analysis and Operator Theory</i> . 19 (1) - Times Cited Google Scholar: 1
5	Carvalho, L., Diogo, C., Mendes, S. & Soares, H. (2024). On the convexity of the quaternionic essential numerical range. <i>Proceedings of the Edinburgh Mathematical Society</i> . 67 (3), 838-851 - Times Cited Web of Science®: 2 - Times Cited Scopus: 2 - Times Cited Google Scholar: 3

6	<p>Carvalho, L., Diogo, C., Mendes, S. &amp; Soares, H. (2024). A note on the essential numerical range of block diagonal operators. <i>Forum Mathematicum</i>. 36 (5), 1147-1157</p> <p>- Times Cited Web of Science®: 1</p> <p>- Times Cited Scopus: 1</p> <p>- Times Cited Google Scholar: 2</p>
7	<p>Bettencourt, G. &amp; Mendes, S. (2023). Metric functionals for the Hästö metric. <i>Australian Journal of Mathematical Analysis and Applications</i>. 20 (1)</p>
8	<p>Carvalho, L., Diogo, C. &amp; Mendes, S. (2023). S-spectrum and numerical range of a quaternionic operator. <i>Journal of Mathematical Analysis and Applications</i>. 519 (2)</p> <p>- Times Cited Web of Science®: 4</p> <p>- Times Cited Scopus: 4</p>
9	<p>Mendes, S. &amp; Bettencourt, G. H. (2023). Numerical representation of topological real algebras. <i>Revista Colombiana de Matemáticas</i>. 57 (1), 103-113</p>
10	<p>Carvalho, L., Diogo, C. &amp; Mendes, S. (2022). A new perspective on the quaternionic numerical range of normal matrices. <i>Linear and Multilinear Algebra</i>. 70 (20), 5068-5074</p> <p>- Times Cited Scopus: 4</p>
11	<p>Bettencourt, G. H. &amp; Mendes, S. (2021). On the stability of a quadratic functional equation over non-Archimedean spaces. <i>Filomat</i>. 35 (8), 2693-2704</p> <p>- Times Cited Web of Science®: 4</p> <p>- Times Cited Scopus: 3</p>
12	<p>Mendes, S., Soares, H. &amp; Miró-Roig, M. (2021). Vector bundles <math>E</math> on <math>P^3</math> with homological dimension 2 and <math>\chi(\text{End } E)=1</math>. <i>Forum Mathematicum</i>. 33 (3), 808-820</p>
13	<p>Carvalho, L., Diogo, C. &amp; Mendes, S. (2021). Quaternionic numerical range of complex matrices. <i>Linear Algebra and its Applications</i>. 620, 168-181</p> <p>- Times Cited Web of Science®: 6</p> <p>- Times Cited Scopus: 6</p>
14	<p>Soares, H., Miró-Roig, M. &amp; Mendes, S. (2020). A family of vector bundles on <math>P^3</math> of homological dimension 2 and <math>\chi(\text{End } E) = 1</math>. <i>Matemática Contemporânea</i>. 47, 171-181</p>
15	<p>Bettencourt, G. H. &amp; Mendes, S. (2020). A note on the minimal displacement function. <i>Matematicki Vesnik</i>. 72 (4), 297-302</p> <p>- Times Cited Web of Science®: 1</p> <p>- Times Cited Scopus: 1</p>
16	<p>Carvalho, L., Diogo, C. &amp; Mendes, S. (2020). The star-center of the quaternionic numerical range. <i>Linear Algebra and its Applications</i>. 603, 166-185</p> <p>- Times Cited Web of Science®: 5</p> <p>- Times Cited Scopus: 6</p>
17	<p>Carvalho, L., Diogo, C. &amp; Mendes, S. (2019). A bridge between quaternionic and complex numerical ranges. <i>Linear Algebra and its Applications</i>. 581, 496-504</p> <p>- Times Cited Web of Science®: 7</p> <p>- Times Cited Scopus: 7</p>

18	Carvalho, L., Mendes, S. & Diogo, C. (2019). On the convexity and circularity of the numerical range of nilpotent quaternionic matrices. <i>New York Journal of Mathematics</i> . 25, 1385-1404 - Times Cited Web of Science®: 6 - Times Cited Scopus: 7
19	Mendes, S. & Plymen, R. (2017). Functoriality and K-theory for $GL_n(\mathbb{R})$ . <i>Munster Journal of Mathematics</i> . 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 $SL_2(K)$ and its inner form. <i>International Journal of Number Theory</i> . 13 (10), 2545-2568 - Times Cited Web of Science®: 6 - Times Cited Scopus: 7
21	Bettencourt, G. & Mendes, S. (2016). Homomorphisms to $\mathbb{R}$ generated by quasimorphisms. <i>Mediterranean Journal of Mathematics</i> . 13 (5), 3205-3219 - Times Cited Web of Science®: 1 - Times Cited Scopus: 1
22	Bettencourt, G. & Mendes, S. (2015). Homomorphism to $\mathbb{R}$ of semidirect products: a dynamical construction. <i>Applied Mathematics and Information Sciences</i> . 9 (5), 2395-2401 - Times Cited Scopus: 1
23	Mendes, S. (2014). Base change and K-theory for orbits of p-adic $GL(n)$ . <i>Libertas Mathematica (new series)</i> . 34 (2), 59-77
24	Mendes, S. & Plymen, R. (2007). Base change and K-theory for $GL(n)$ . <i>Journal of Noncommutative Geometry</i> . 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 $GL(n, \mathbb{R})$ and $GL(n, \mathbb{C})$ . In Bebiano, Natália (Ed.), <i>Springer Proceedings in Mathematics &amp; Statistics: APPLIED AND COMPUTATIONAL MATRIX ANALYSIS</i> .: 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.), <i>Nonlinear Maps and their Applications</i> . (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.), <i>Operator Theory, Operator Algebras and Applications</i> . (pp. 261-278). Basel / Suíça: Birkhäuser.
4	Mendes, S. (2009). On the Weil group of local fields. In Maria de Fátima Salgueiro, Diana A. Mendes, Luís F. Martins (Ed.), <i>Temas em Métodos Quantitativos</i> . (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.), <i>Operator Algebras, Operator Theory and Application: Advances and Applications</i> . (pp. 309-320). Basel / Suíça: Birkhäuser.

## • Conferences/Workshops and Talks

**- Publication in conference proceedings**

1	Gastão Bettencourt & Mendes, S. (2015). Homomorphism to $\mathbb{R}$ 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 $GL(n, \mathbb{C})$ and $GL(n, \mathbb{H})$ . 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	Soares, H., Diogo, C., Mendes, S. & Carvalho, L. (2022). Quaternionic Numerical Range. Encontro Anual do CIMA.

15	Soares, H. & Mendes, S. (2022). Vector bundles $E$ on $P^3$ with homological dimension 2 and $\chi(\text{End}E) = 1$ . Encontro Conjunto Brasil-Portugal em Matemática.
16	Soares, H., Diogo, C., Mendes, S. & Carvalho, L. (2022). Quaternionic Numerical Range. Encontro Nacional da Sociedade de Matemática Portuguesa 2022.
17	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.
18	Mendes, S. (2022). Langlands functoriality: a view from $C^*$ -algebras. Workshop on Operator Theory, Complex Analysis, and Applications 2022 - WOTCA 2022.
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 $SL_2(K)$ 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 $SL_2(K)$ 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 quasiomorphisms 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 $\mathbb{R}$ 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 $F_q((t))$ 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-packets 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 $SL_n$ . Higher Rank Automorphic Forms and L-functions.
45	Mendes, S. (2013). Noncommutative summands of the $C^*$ -algebra $C_r^*SL_2(F_2((t)))$ . 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 Applications.
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 $\{\rm mod\}\backslash,p$ representations of division algebras. Mathscinet.
2	Mendes, S. (2024). The Arens-Michael envelopes of the Jordan plane and $U_q(\mathfrak{sl})$ . 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